

# Understanding Education for the Visually Impaired



Edited by

Ronél Ferreira & Maximus M. Sefotho

Opening Eyes  
Volume 1

# Understanding Education for the Visually Impaired



higher education  
& training

Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA

Co-funded by the European Union



This publication has been developed as part of the Teaching and Learning Development Capacity Improvement Programme which is funded and being implemented through a partnership between the Department of Higher Education and Training and the European Union. The content is based on a research project undertaken by the University of Pretoria, focusing on visual impairment. The contents of the publication are the sole responsibility of the respective authors of the chapters and cannot be taken to reflect the views of the European Union.



Faculty of Education

Fakulteit Opvoedkunde  
Lefapha la Thuto



Published by AOSIS Books, an imprint of AOSIS Publishing.

### **AOSIS Publishing**

15 Oxford Street, Durbanville 7550, Cape Town, South Africa  
Postnet Suite #110, Private Bag X19, Durbanville 7551, South Africa  
Tel: +27 21 975 2602  
Website: <https://www.aosis.co.za>

Copyright © Ronél Ferreira & Maximus M. Sefotho (eds.). Licensee: AOSIS (Pty) Ltd  
The moral right of the authors has been asserted.

Cover image: Original design created with the use of provided image. The image is [https://cdn.pixabay.com/photo/2020/02/09/07/03/eye-4832129\\_1280.jpg](https://cdn.pixabay.com/photo/2020/02/09/07/03/eye-4832129_1280.jpg), released under Pixabay License.

Impression: 1

ISBN: 978-1-928523-76-5 (print)  
ISBN: 978-1-928523-77-2 (epub)  
ISBN: 978-1-928523-78-9 (pdf)

DOI: <https://doi.org/10.4102/aosis.2020.BK179>

How to cite this work: Ferreira, R. & Sefotho, M.M. (eds.), 2020, 'Understanding Education for the Visually Impaired', in Opening Eyes Volume 1, pp. i-414, AOSIS, Cape Town.

Opening Eyes

ISSN: 2710-0979

Series Editors: Ronél Ferreira and Maximus M. Sefotho



Printed and bound in South Africa.

Listed in OAPEN (<http://www.oapen.org>), DOAB (<http://www.doabooks.org/>) and indexed by Google Scholar. Some rights reserved.

This is an open access publication. Except where otherwise noted, this work is distributed under the terms of a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International license (CC BY-NC-SA 4.0), a copy of which is available at <https://creativecommons.org/licenses/by-nc-sa/4.0/>. Enquiries outside the terms of the Creative Commons licence should be sent to the Rights Department, AOSIS, at the above address or to [publishing@aosis.co.za](mailto:publishing@aosis.co.za)

The publisher accepts no responsibility for any statement made or opinion expressed in this publication. Consequently, the publishers and copyright holder will not be liable for any loss or damage sustained by any reader as a result of his or her action upon any statement or opinion in this work. Links by third-party websites are provided by AOSIS in good faith and for information only. AOSIS disclaims any responsibility for the materials contained in any third-party website referenced in this work.

Every effort has been made to protect the interest of copyright holders. Should any infringement have occurred inadvertently, the publisher apologises and undertakes to amend the omission in the event of a reprint.

Opening Eyes  
Volume 1

# Understanding Education for the Visually Impaired

Editors  
Ronél Ferreira  
Maximus M. Sefotho



# Social Sciences, Humanities, Education & Business Management domain editorial board at AOSIS

## Commissioning Editor

**Andries G. van Aarde**, MA, DD, PhD, D Litt, South Africa

## Board Members

**Jan Botha**, Professor in the Centre for Research on Evaluation, Science and Technology, University of Stellenbosch, South Africa

**Joan Hambidge**, Deputy Dean at the Faculty of Humanities for the University of Cape Town and Professor for the School of Languages and Literatures, South Africa

**Sakari Häkkinen**, Dean of the Diocese of Kuopio, Finland

**Glenna Jackson**, Associate Editor, Professor Chair, Department of Religion and Philosophy, Otterbein University, Westerville, OH, United States of America

**Gregory C. Jenkins**, Dean-elect, St George's College, Jerusalem, Israel

**Reina-Marie Loader**, Director and Filmmaker, CinémaHumain, Vienna, Austria

**Christopher Mbazira**, Professor of Law and Coordinator of the Public Interest Law Clinic, Makerere University, Kampala, Uganda

**Piet Naudé**, Professor Ethics related to Politics, Economics and Business and Director, University of Stellenbosch Business School, Stellenbosch, South Africa

**Charles O'Neill**, Professor Department of Business Administration, The British University in Egypt, El Sherouk, Cairo Governorate, Egypt

**Cornelia Pop**, Full professor at the Department of Business, Faculty of Business, Babes-Bolyai University, Cluj-Napoca, Romania

**Michael Schratz**, Professor, Institut für LehrerInnenbildung und Schulforschung, Dekan der School of Education, Leopold-Franzens-Universität Innsbruck, Austria

**Johann Tempelhoff**, Professor, Research Niche for Cultural Dynamics of Water (CuDyWat), School of Basic Sciences, Vaal Triangle Campus of North-West University, Vanderbijlpark, South Africa

**Anthony Turton**, Professor Centre for Environmental Management and Director TouchStone Resources, University of Free State, South Africa

**Willie L. van der Merwe**, Professor and Chair Philosophy of Religion, Apologetics and Encyclopaedia of theology and Professor Extraordinary Stellenbosch University, South Africa, Vrije Universiteit Amsterdam, Amsterdam, the Netherlands

**Christi van der Westhuizen**, Associate Professor, Department of Sociology, Faculty of Humanities, University of Pretoria, South Africa

**Joke van Saane**, Professor, Amsterdam Center for the Study of Lived Religion, Vrije Universiteit Amsterdam, the Netherlands

**Paul van Tongeren**, Professor Department Philosophy, Radboud University Nijmegen, the Netherlands

**Robert G. Varady**, Deputy Director and Research Professor of Environmental Policy, Udall Center for Studies in Public Policy, The University of Arizona, Tucson, United States of America

**Anné H. Verhoef**, Associate Editor, Professor, Faculty of Arts: School of Philosophy, North-West University, Potchefstroom, South Africa

**Xiao Yun Zheng**, Professor and Assistant President of Yunnan Academy of Social Sciences (YASS) and Director International Center for Ecological Culture Studies (ICECS-YASS), Yunnan Academy of Social Sciences, Kunming City, China

## Peer review declaration

The publisher (AOSIS) endorses the South African 'National Scholarly Book Publishers Forum Best Practice for Peer Review of Scholarly Books.' The manuscript was subjected to rigorous two-step peer review prior to publication, with the identities of the reviewers not revealed to the author(s). The reviewers were independent of the publisher and/or authors in question. The reviewers commented positively on the scholarly merits of the manuscript and recommended that the manuscript be published. Where the reviewers recommended revision and/or improvements to the manuscript, the authors responded adequately to such recommendations.

## Research Justification

This series of books, titled '*Opening eyes*', is based on a study conducted in South Africa, involving scholars from various institutions who have been involved in the broad research study or have alternatively conducted research in the field of visual impairment as part of their academic research careers. In addition, selected experts in the field of visual impairment with years of experience contributed to the publication, based on their experience and case study research over the years. As such, this series of books makes a significant contribution to the existing knowledge base on inclusive education policy and its implementation, more specifically within the context of quality education provision to learners with visual impairment. Currently, no South African authored book is available which can be regarded as equivalent to this series of books. As such, the contribution that this book makes to scholarship is regarded as ground-breaking, as it is based on recent research conducted with teachers on the ground level as well as on research and experiences of practitioners, gained over many years. In this volume, *Understanding education for the visually impaired*, the focus falls on understanding visual impairment within the South African context, more specifically on what the education of these learners entails. In addition to the contribution to existing literature in the fields of inclusive education and visual impairment, the publication has practical application value for teachers and practitioners who work with and support such learners.

Despite the prevalence of visual impairment being high in South Africa, the existing body of knowledge in this field is limited and requires ongoing research. Similarly, even though the White Paper 6 on Inclusive Education came into effect more than a decade ago, stipulating the inclusion of learners with special needs (such as those with visual impairment) in all schools, teachers still seem hesitant to accommodate these learners, and in this way implement the inclusive education policy. Against this background, a broad research study was undertaken by the University of Pretoria in 2017 and 2018, exploring teachers' understanding of inclusive education policy and its implications; teachers' understanding of learners with visual impairment and what the teaching of these learners implies; teachers' needs and expectations in terms of the knowledge, skills and resources required to implement inclusive education in all schools and teachers' and expert stakeholders' views on suitable content for a postgraduate qualification to equip teachers to better support learners with visual impairment. For this project, 252 teachers from 17 schools in five provinces throughout South Africa and 43 expert stakeholders in the field of visual impairment participated. Based on the research project, an advanced diploma was developed, being the first formal qualification of this nature in South Africa. The research results prevalent in the book are original and the volume editors declare that there is no plagiarism in the manuscript.

**Ronél Ferreira**, Department of Educational Psychology, Faculty of Education, University of Pretoria, Pretoria, South Africa

**Maximus M. Sefotho**, Department of Educational Psychology, Faculty of Education, University of Johannesburg, Johannesburg, South Africa



# Contents

Abbreviations, Figures and Tables Appearing in the Text and Notes	xix
List of Abbreviations	xix
List of Boxes	xx
List of Figures	xx
List of Tables	xxii
Notes on Contributors	xxv
Acknowledgements	xxxiii
Preface	xxxv

## Section 1: Contextualising visual impairment

---

### **Chapter 1: Visual impairment as a disability and/or diversity** 3

*Tony Mays*

Introduction and overview of the chapter	3
Definition of key concepts	4
Everybody can learn	5
Ability versus disability	5
A spectrum of visual impairment	7
Disability as diversity	9
Expanding the curriculum to embrace diversity	10
Universal design for learning	12
Implications or applications in the classroom	16
Conclusion	19

### **Chapter 2: Visual impairment in the global south** 21

*Maximus M. Sefotho*

Introduction	21
Overview of the chapter	23
Definition of key concepts	24

Teacher competencies for inclusion	24
Traditional teaching methods	24
Visual impairment pedagogy	25
Case study	25
South African context	25
Inclusive education and visual impairment	29
Challenges of learning	33
Traditional teaching methods	33
Teacher competencies for inclusion	34
Learning material availability and relevance	36
Expertise in visual impairment pedagogy	37
The use of technology as pedagogical tools	40
Implications for inclusive teaching or instructional strategies	41
Reading strategies for students with visual impairment	43
Paper strategies	43
e-Text strategies	44
Oral strategies	44
Conclusion	45
<b>Chapter 3: Human rights and visual impairment</b>	<b>47</b>
<i>Juan Bornman</i>	
Introduction	47
Overview of the chapter	48
Definition of key concepts	50
Human rights	50
Inclusion	50
Visual impairment	50
Case study	51
Contemporary views on disability	52
Prevalence figures: Numbers matter	53
Five prominent disability models	53
Moral and/or religious model	53
Charity model	54
Medical model	55

Social model	55
Human rights model	56
What are human rights and why are they important?	57
International legislation	57
Regional (African) legislation	59
National (South African) legislation	59
Implementation of legislation in South Africa	61
Role of parents of children with disability in the implementation of legislation	63
Practical examples of supporting the human rights of people with visual impairment	65
Creating awareness and visibility	65
Mobile technology and persons with visual impairments	66
Accessible material in appropriate formats	67
Infringements of rights and suggested reforms	68
Implications of human rights issues for the classroom	75
Conclusion	77

## **Chapter 4: Visual impairment and the inclusive education policy** **79**

*Judite Ferreira-Prevost*

Introduction	79
Overview of the chapter	81
Definition of key concepts	82
Inclusion	82
Inclusive education	82
Disability and impairment	82
The right to be included	83
Contextualising inclusive education	84
Human and children's rights	85
Other forces behind the movement towards inclusion	87
Exploring the dimensions of inclusive education	88
What inclusive education is	88
What inclusive education is not	90
South African policy on inclusive education	92

Challenges with implementing the inclusive education policy	94
Moving towards more efficient policy implementation	96
A positive attitude as basis for advocating inclusive education policy	96
Putting plans and good intentions into action plan and action	98
Implications for educators accommodating learners with visual impairment in the classroom	100
Conclusion	101

## **Section 2: Contextualising support for learners with visual impairment**

---

### **Chapter 5: Supporting learners who are multiply impaired with a visual impairment** **105**

*Juan Bornman & Ann Heard*

Introduction	106
Overview of the chapter	106
Definition of key concepts	107
Augmentative and alternative communication	107
Autism spectrum disorder	108
MIVI	108
Multiple impairment	108
Visual impairment	109
The right to learn	109
Special considerations for learners who are multiply impaired with visual impairment	110
Following a team approach	110
Supporting parents with the challenges they face	112
Assessment of learners with visual impairment who have multiple disabilities	113
Observation as key to assessment	113
Recording observations	115
Communication with learners who are multiply impaired with visual impairment	117

Education and support for learners who are multiply impaired with visual impairment	121
Current schooling options in South Africa	121
Making adaptations for individual learners	124
Case study 1: James (passed away in his thirties)	124
Case study 2: Janet (passed away in her twenties)	125
Case study 3: Susan (age 40 years)	127
Case study 4: Johannes (age 5 years)	129
Case study 5: Wandile (age 12 years)	133
Implications for teachers and practitioners who support learners who are multiply impaired with visual impairment	139
Practical guidelines for teachers of learners who are multiply impaired with visual impairment	140
Encouraging learners who are multiply impaired with visual impairment to use functional vision	142
Supporting learners who are multiply impaired with visual impairment and who use wheelchairs	142
Conclusion	145
<b>Chapter 6: Enabling full-service and special school teachers working with visually impaired learners</b>	<b>147</b>
<i>Maesala Manis</i>	
Introduction	148
Overview of the chapter	149
Definition of key concepts	149
Full-service school	149
Inclusive education	149
Special school	150
Enabling	150
Case study	150
Understanding inclusive education within the context of visual impairment	151
Conceptualising visual impairment	151
Educational needs of learners with a visual impairment	156
(Non)Inclusion of learners with visual impairment	158

Theoretical framework	160
Undertaking research in the field of visual impairment	163
Purpose of the research	163
Paradigmatic perspectives	164
Epistemological paradigm	164
Methodological approach	165
Research design	166
Selection of participants	167
Data generation, documentation and analysis	168
Participatory reflection and action-based workshops	168
Observation-as-context-of-interaction	169
Semi-structured interviews	169
Field notes	169
Visual and audio-visual data generation and documentation	169
Data analysis and interpretation	170
Attending to ethics	170
Challenges experienced by teachers who work with learners with visual impairment	171
Challenges related to the implementation of inclusive education	171
Insufficient understanding of visual impairment	173
Limitations for having and using resources	174
Importance of a support structure	175
Implications for teachers	177
Finding solutions to challenges	178
Conclusion	183
<b>Chapter 7: The value of the orientation and mobility profession in the lives of learners and teachers</b>	<b>185</b>
<i>Ann Heard</i>	
Introduction	186
Overview and objectives of the chapter	187
Definition of key concepts	188

Blindness	188
Functional vision	188
Legal blindness	189
Low vision	189
Orientation and mobility	189
Orientation and mobility practitioner	189
Visual impairment	190
Understanding the profession of orientation and mobility	190
Developmental history of the orientation and mobility profession internationally and nationally	190
Essence of orientation and mobility	192
The importance of providing orientation and mobility training	192
Understanding blindness and low vision	197
Statistics pertaining to blindness and low vision	197
Classification of vision impairment	198
Clinical testing of vision	198
Functional assessment of vision	202
Blindness and low vision	203
Functional vision	205
Case Study: Siphon	206
Causes and physical effects of vision loss	207
Case Study: Joe	207
Group 1: Reduced vision without significant field loss	208
Group 2: Central field loss	208
Group 3: Peripheral field loss	209
Unique needs and experiences of learners affected by blindness and low vision	209
Teaching learners with vision impairment	212
Value of a support network	215
Collaboration between the orientation and mobility practitioner and the teacher	215
Implications for classroom practice	218
Lighting	220
Reading	221

Writing	221
Chalk board or white board work	222
Seating	222
Classroom environment and support	223
Optimising assistive devices	223
Case Study 3: Polla	224
Conclusion	225

**Chapter 8: Higher-order emotion identification by children with visual impairment: Developing emotional competence** **227**

*Inneke Greyvenstein*

Introduction	227
Overview of the chapter	229
Definition of key concepts	230
Emotion(s)	230
Emotional competence	231
Emotion identification	231
Primary emotion(s)	231
Higher-order emotion(s)	232
Mind-reading	232
Social constructionism	232
Theory of Mind	232
Understanding the construct of emotion	233
Contextualisation of the theories of emotion	233
Conceptualisation of the construct of emotion	234
Classification of emotions	237
Primary emotions	237
Higher-order emotions	238
Development of emotions in learners	240
Emotional competence as an outcome of successful emotional development	241
Higher-order emotion identification as an emotional competency skill	243

The effect of visual impairment on the emotional development of a learner	244
Visual impairment and Theory of Mind development	247
Identification of higher-order emotions in others by learners with visual impairment	249
Implications for the classroom	251
Conclusion	255
Acknowledgement	255

### **Section 3: Providing support beyond the school and classroom**

---

<b>Chapter 9: Promoting a collaborative partnership approach to support families of learners with visual impairment</b>	<b>259</b>
---	------------

*Karien Botha*

Introduction	260
Overview of the chapter	261
Definition of key concepts	261
Collaboration	261
Communities	261
Families	262
Partnerships	262
School-family-community partnerships	262
Schools	263
Stakeholders	263
Fostering successful school-family-community partnerships with families of learners with visual impairment	264
Principles for building a collaborative school-family-community partnership in practice	265
Practical implementation of the key principles in building collaborative school-family-community partnerships	265
Key principle 1: Collaboration	265
Key principle 2: Participation	269

Key principle 3: Planning	272
Building a collaborative school-family-community partnership	274
The process of building school-family-community partnerships	275
Practical steps in building a supportive school-family-community partnership	276
Step 1: Awareness of the asset-based approach and focusing on assets	277
Step 2: Community profiling – Assessment and formation of a starting group for a school-family-community partnership	278
Step 3: Identify and map the available school-community assets – Involve community members	280
Step 4: Identifying and mapping school-community strengths – The role of professionals	283
Step 5: Ensuring sustainability	283
Step 6: Continuously reflecting, revising and reconsidering	285
Step 7: Result mapping	285
Practical guidelines for teachers to form and maintain effective school-family-community partnerships	286
Conclusion	287

**Chapter 10: Role of the family in the life of a learner with visual impairment** **289**

*Boitumelo M. Diale*

Introduction	289
Overview of the chapter	291
Definition of key concepts	292
Care and support	292
Family	292
Parent(s)	292
Learner	293

Teachers	293
Community	293
Case study: Differently gifted, misunderstood by the system	293
Bio-ecological theoretical framework as a basis to understand the case of Gift	295
Family perspectives on visual impairment	298
African systems perspective	301
Role players in the care and support of learners with visual impairment	304
Application to the case of Gift	305
Support at microsystem level	307
Support at meso- and exosystems levels	308
Support at the macrosystem level	309
Implications for teachers	310
Conclusion	312
<b>Chapter 11: Transition, entrepreneurship and decent work</b>	<b>315</b>
<i>Maximus M. Sefotho</i>	
Introduction	315
Overview of the chapter	316
Definition of key concepts	317
Decent work	317
Entrepreneurship	317
Transition	317
Case study	317
Transition in the context of visual impairment	319
Life changes and adjustments required by people with visual impairment	320
Relevance of the experiences of change to transition	323
Career development for learners with visual impairment	324
Transition education and self-determination	326
Entrepreneurship in support of empowerment	328
Application of self-determination to the case of Thuso	329

Decent work and visual impairment	330
Preparing learners to search for employment	331
Discussion	332
Implications for the classroom	333
Conclusion	335
<b>Chapter 12: Transition from school to tertiary education</b>	<b>337</b>
<i>Ann Heard</i>	
Introduction	337
Overview of the chapter	339
Governance of education in South Africa	340
Transitioning into the higher education arena	340
Challenges often experienced when transitioning to higher education contexts	341
Value of early intervention and support for a successful transition	344
Coping with challenges	345
Case studies of learners or students with visual impairment	346
Case study 1: Thandile (age 18 years, matriculant)	347
Case study 2: Ridhaan (age 30 years, postgraduate university student)	349
Case study 3: Luke (age 56 years, retired graduate)	351
Case study 4: Thabo (age 23 years, final undergraduate year)	352
Case study 5: Ricus (age 25 years, Master's student)	353
Discussion	355
Case study 6: Tiaan (age 9 years, Grade 3)	357
Implications, guidelines and recommendations for teachers	359
Conclusion	360
<b>References</b>	<b>363</b>
<b>Index</b>	<b>407</b>

# Abbreviations, Boxes, Figures and Tables Appearing in the Text and Notes

## List of Abbreviations

AAC	Augmentative and Alternative Communication
ADHD	Attention-deficiency Hyperactivity Disorder
ASD	Autism Spectrum Disorder
ASHA	American Speech-Language-Hearing Association
ATM	Automated Teller Machine
BBBEE	Broad Based Black Economic Empowerment
CAT	Computer Applications Technology
CRC	Convention on the Rights of the Child
CRPD	Convention on the Rights of Persons with Disability
CSTL	Care and Support for Teaching and Learning
CVI	Cortical Visual Impairment
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DoE	Department of Education
DSD	Department of Social Development
DWCPD	Department of Women, Children and People with Disabilities
ECC	Expanded Core Curriculum
HOE	Higher-order Emotion
ICEVI	International Council for Education of the Visually Impaired
ISP	Individual Support Plan

JAWS	Job Action with Speech
MIVI	Multiply Impaired with Visual Impairment
NGO	Non-governmental Organisation
O&M	Orientation and Mobility
ODeL	Open, Distance and e-Learning
PRA	Participatory Reflection and Action
PSET	Post-school, Education and Training
RNIB	Royal National Institute for the Blind
SAMBT	SA Mobility for the Blind Trust
SANCB	South African National Council for the Blind
SBST	School-based Support Team
SIAS	Screening, Identification, Assessment and Support
SLD	Specific Learning Disorders
ToM	Theory of Mind
TPACK	Technological Pedagogical and Content Knowledge
UDI	Universal Design in Instruction
UDL	Universal Design for Learning
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization

### List of Boxes

Box 5.1: Aims for teachers concerning learners who are MIVI.	107
Box 9.1: Checklist for facilitator regarding participation.	270
Box 9.2: Possible framework for action planning.	273

### List of Figures

Figure 2.1: Overview of the chapter.	24
Figure 2.2: Universal design in instruction for visual impairment pedagogy.	38

Figure 3.1: Overview of the chapter.	49
Figure 4.1: Welcome to school?	80
Figure 4.2: Differentiating inclusion, exclusion, segregation and integration.	91
Figure 4.3: Putting inclusive education into practice.	98
Figure 5.1: A child with strabismus similar to Janet.	126
Figure 5.2: Susan educating students about cortical visual impairment.	128
Figure 5.3: Child trailing wall.	131
Figure 5.4: The use of a shopping trolley for mobility.	132
Figure 5.5: Wandile making breakfast.	135
Figure 5.6: Wandile playing ball with Ann.	136
Figure 5.7: Wandile using his cane in the street.	137
Figure 5.8: Wandile using his toy computer.	138
Figure 5.9: Encouraging visual responses from learners who are multiply impaired with visual impairment.	143
Figure 6.1: Different colour perceptions as per the types of colour blindness.	154
Figure 6.2: Societal barriers for people with disability.	162
Figure 7.1: Illustration of the visual spectrum from normal to blind.	188
Figure 7.2: Examples of mobility assistance.	195
Figure 7.3: Sample of human guide skills.	196
Figure 7.4: Snellen chart in feet.	199
Figure 7.5: Selection of specialised (a) low vision near and (b) distance charts, with the Feinbloom number chart showing the large seven.	200
Figure 7.6: Images of what a low vision person may actually see.	201
Figure 7.7: Result of Goldman field test (right eye).	201
Figure 7.8: Images demonstrating what a person with (a) normal vision and (b) one with cataracts see.	208

Figure 7.9: Images demonstrating what a person with (a) normal vision and (b) one with macular degeneration see.	209
Figure 7.10: Tunnel vision as a result of glaucoma.	210
Figure 7.11: Adaptations that the teacher can implement.	213
Figure 7.12: Developing orientation and mobility skills.	217
Figure 7.13: (a) Illumination and (b) colour and contrast.	218
Figure 7.14: Selection of optical devices for magnification.	219
Figure 7.15: (a) Traditional braille and (b) new braille with screen.	219
Figure 8.1: Overview of the chapter.	230
Figure 8.2: Classification of emotions.	238
Figure 9.1: Decisions during collaboration.	268
Figure 9.2: Bonding and bridging social capital.	275
Figure 9.3: Steps in the asset-building support process for families of learners with visual impairment.	277
Figure 10.1: Overview of the chapter.	291
Figure 10.2: Viewing Gift and his family from a bio-ecological perspective.	296
Figure 10.3: Spider web model for possible components in the care and support of learners with visual impairment.	303
Figure 10.4: Circle of support networks for Gift and his family.	306
Figure 11.1: Experiences of life changes in transition.	321

### List of Tables

Table 1.1: Expanded core curriculum.	11
Table 2.1: Categories of visual impairment.	42
Table 3.1: Specific rights set out in the Convention on the Rights of Persons with Disability and their application to persons with visual impairment in the South African context.	69
Table 5.1: Visual functioning indicated by certain behaviours.	115

Table 5.2: Questions to consider when assessing the vision of a learner who is multiply impaired with visual impairment.	117
Table 5.3: Beginning communication strategies for learners who are multiply impaired with visual impairment.	119
Table 7.1: Classification of vision impairment.	198
Table 7.2: Approximate functional visual acuity for given size objects and distances.	202
Table 7.3: Near functional vision acuity screening using cheerios and sprinkles.	203
Table 7.4: Losses associated with blindness and low vision.	211
Table 8.1: The universal features of emotions.	235
Table 8.2: Categorisation of emotions.	240
Table 9.1: Principles for building a collaborative school-community partnership.	266
Table 9.2: Example of a planning guide for participation.	272
Table 9.3: Example of data (information) collection plan.	279
Table 9.4: Sustainability plan checklist.	284
Table 9.5: Result mapping for community change events.	286
Table 9.6: Practical guidelines for teachers to form and maintain effective school-family-community partnerships.	287



# Notes on Contributors

## **Ronél Ferreira**

Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa  
Email: ronel.ferreira@up.ac.za  
ORCID: <http://orcid.org/0000-0003-2518-7839>

Ronél Ferreira is a full professor in the Department of Educational Psychology at the University of Pretoria, South Africa. In her research, she focuses on psychosocial support, coping and resilience, with specific reference to the effect of school or community-based participatory intervention research on the holistic well-being and functioning of children and communities in at-risk contexts. She furthermore conducts research and programme development work in promotion of the implementation of inclusive education policy in all South African schools, more specifically in the field of visual impairment. Ronél has extensive experience as a primary investigator and project leader of funded research projects, many of which involve international, interinstitutional and interdisciplinary collaborations. She has published numerous articles in national and international accredited journals, authored and edited several scholarly books and book chapters and supervised more than 60 postgraduate students to completion of their studies. Her research accomplishments are signified, among others, by her being the recipient of the Samuel Henry Prince Best Dissertation Award of the International Sociological Association (2009), the University of Pretoria Young researcher award (2009), the Faculty of Education (University of Pretoria) best PhD dissertation award (2006 -NRF postdoctoral fellowship) and the Education Association of South Africa (EASA) Young Researcher Award (2007). She is also the past chairperson of the Education Association of South Africa (2014 and 2019) and is currently the Executive editor of the South African Journal of Education.

**Maximus M. Sefotho**

Department of Educational Psychology,  
Faculty of Education, University of Johannesburg,  
Johannesburg, South Africa  
Email: msefotho@uj.ac.za; max.sefotho@gmail.com  
ORCID: <http://orcid.org/0000-0003-0704-1983>

Maximus Monaheng Sefotho is an associate professor in the Department of Educational Psychology at the University of Johannesburg. His current research focuses on career guidance, disability and philosophy of education; and he includes the excluded through *hephapreneurship*, a neology he coined for people who are neither in education, employment or training. Professor Sefotho's work represents a socio-political act geared towards transformation and social change. He chooses to use the phrase 'differently abled' instead of 'disability' because he encourages 'seeing abilities in disability'. He spans extensive experience in career guidance and visited CEDEFOP, a European Centre for Career Guidance in Greece, Universidad de A Coruna in Spain and Morelia in Mexico recently, all in the name of career guidance and disability. Professor Sefotho edited a book: 'Philosophy in education and research: African perspectives' on which his workshops on philosophy and research are based. Of particular interest is the inclusion of a chapter on the philosophy of disability: African perspectives.

**Juan Bornman**

Centre for Augmentative and Alternative Communication,  
Faculty of Humanities, University of Pretoria,  
Pretoria, South Africa  
Email: [juan.bornman@up.ac.za](mailto:juan.bornman@up.ac.za)  
ORCID: <http://orcid.org/0000-0001-9685-3750>

Juan Bornman is a registered speech-language therapist and audiologist. She is also a professor in augmentative and alternative communication (AAC) at the University of Pretoria, and the President Elect for the International Society for AAC (ISAAC). For the past 30 years, she has actively worked as trainer, researcher and activist for one of the most vulnerable groups within the disability spectrum: those who are unable to speak. Her training and research focus on rehabilitation as a human rights issue for

people with disability and how evidence-based strategies that increase participation can be implemented in a sustainable manner. She has published more than 75 peer-reviewed papers and book chapters as well as three books; a children's book aimed at demystifying disabilities, a textbook on increasing classroom participation by learners with special needs in inclusive settings, and co-authored an international book to raise awareness about abuse against people with disabilities. Professor Bornman is frequently invited as keynote presenter and visiting professor – both nationally and internationally. She has participated in a number of large-scale internationally funded research projects on issues related to participation, cultural and linguistic adaptation in AAC assessment and intervention, and human rights. She has been recognised for her work as an ISAAC Fellow, a member of the Academy of Science of South Africa, an Academic Achiever at the University of Pretoria and one of the Ten women who change South Africa (Education) by the Mail and Guardian.

**Karien Botha**

Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa  
Email: [karien.botha@up.ac.za](mailto:karien.botha@up.ac.za)  
ORCID: <https://orcid.org/0000-0003-2519-5206>

Karien Botha is a lecturer in the Department of Educational Psychology at the University of Pretoria. She has been involved in various research projects, some of which involve international affiliations. Her research focus areas include school-based health promotion interventions, psychosocial support in resource-constrained communities and the use of participatory reflection and action research in support of vulnerable communities in South Africa. Ms Botha is currently in the process of completing a PhD, with a focus on a school-based intervention in support of the health and well-being of primary school learners, through enrichment of the national school curriculum. Prior to being appointed by the University of Pretoria, Ms Botha was employed as a teacher at a school for learners with disabilities, gaining extensive experience in the field of special needs education and

working with learners with disabilities, including learners with visual impairment.

**Boitumelo M. Diale**

Department of Educational Psychology,  
Faculty of Education, University of Johannesburg,  
Johannesburg, South Africa  
Email: tumid@uj.ac.za  
ORCID: <https://orcid.org/0000-0002-2007-4416>

Boitumelo Molebogeng Diale is an associate professor and currently head of the Department of Educational Psychology at the University of Johannesburg. She furthermore chairs the Faculty of Education Transformation Committee and plays an advisory role in the University Transformation Unit. Professionally, she is a registered educational psychologist at the Health Professions Council of South Africa and has a private practice at a private hospital in Soweto. Professor Diale holds various leadership positions within academic and professional bodies in her field. She is the President of the Convocation at the University of Johannesburg, chairperson of the South African Career Development Association (SACDA) and an Academic Board member of the South African College of Applied Psychology (SACAP). She also holds an international position as visiting associate professor at the University of Nigeria, Nsukka. As a community member, Prof. Diale is an active member of her church and fulfils various leadership roles in it. Her passion for women and children has seen her being involved in various community development projects within her work environment as well as the community.

**Judite Ferreira-Prevost**

Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa  
Email: judite.f@absamail.co.za  
ORCID: <https://orcid.org/0000-0001-8767-8954>

Judite Ferreira-Prevost qualified as a teacher and later an educational psychologist. She initially worked at a technical college as lecturer and liaison officer for six years, at the same

time deciding to further her studies. She completed her Master's degree in Educational Psychology in 2005, which included an internship at a school for learners with special needs. Judite has 14 years of private practice experience as an educational psychologist supporting children and families who experience learning, emotional and behavioural challenges. She also has more than six years' experience working at the University of Pretoria, as lecturer of students in Education and also as developer of accreditation applications for teacher training programmes. She was recently appointed by SANTS Private Higher Education Institution as a lecturer for students in distance education and has co-authored programme materials for this purpose.

**Inneke Greyvenstein**

Centre for Augmentative and Alternative Communication,  
Faculty of Humanities, University of Pretoria,  
Pretoria, South Africa  
Email: innekegreyvenstein@yahoo.com  
ORCID: <https://orcid.org/0000-0003-0936-6001>

Inneke Greyvenstein holds a PhD, as a part of which she investigated the identification of higher-order emotional states as a central constituent in achieving emotional competence in children with blindness and visual impairment. She currently works as a clinical psychologist at a public health institution in Limpopo, South Africa, where she has functioned as head of the Clinical Psychology department for the past decade. She is trained in numerous sub-specialisation fields of psychology including developmental and educational assessment or intervention as well as forensic psychology. As a result, she is frequently requested by prosecutors and magistrates to act as expert consultants pertaining to psychological matters of varying nature. Dr Greyvenstein furthermore has expertise in the supervision and external examination of academic, clinical and forensic work of postgraduate students in the medical and psychology fields. In addition, she is involved in volunteer-based community service work, providing specialised services to those who do not readily have access to this.

**Ann Heard**

Private practice,  
Pretoria, South Africa;  
Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa  
Email: [lowvisionsupport@annheard.co.za](mailto:lowvisionsupport@annheard.co.za)  
ORCID: <https://orcid.org/0000-0002-0156-7952>

Ann Heard's initial qualification was obtained from the University of Lancashire in special education. On immigrating to South Africa in her early twenties she started the first school for Autistic children in Pretoria which later became the UNICA School. At a later stage, she trained as an orientation and mobility practitioner at the South African Guide Dogs College for Orientation and Mobility. She has subsequently had a long career of almost 51 years in assisting people with cognitive challenges, with autism, of which 29 years have included people affected by low vision and blindness to achieve independence. In her private practice, Ms Heard assists people of all ages and capabilities. Currently, she has a special interest in people who experience visual difficulties and/or are multiply challenged. Based on her expertise and years of experience in the field, Ms Heard has been invited to present papers at national and international conferences and workshops. In addition, she has taken part in many outreach projects in South Africa, focusing on people affected by low vision and blindness especially in rural areas. Most recently, she has been involved as a consultant in the development of an Advanced Diploma in visual impairment studies by the University of Pretoria.

**Maesala Manis**

Free State Department of Basic Education, Fezile Dabi district,  
Kroonstad, South Africa;  
Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa  
Email: [pm.thabe@gmail.com](mailto:pm.thabe@gmail.com)  
ORCID: <https://orcid.org/0000-0002-4172-6209>

Maesala Manis is currently completing a PhD in Educational Psychology at the University of Pretoria, where she also obtained

her undergraduate and preceding postgraduate qualifications. She completed her internship in Educational Psychology at the Department of Basic Education and then worked as a primary school teacher and later a Health and Wellness practitioner at the Department of Education. In 2017, she was appointed as a lecturer at the University of Pretoria and formed part of the core project team of a research study in visual impairment, within which she is conducting her doctoral study. A year later she was appointed by the Free State Department of Basic Education as an educational psychologist. In this capacity, she focuses on supporting learners with severe to profound intellectual disabilities. Based on her involvement in the project on visual impairment, Ms Manis has co-authored and presented two research papers locally and internationally.

**Tony Mays**

Open Schooling, Commonwealth of Learning,  
Vancouver, Canada  
Email: [tmays@col.org](mailto:tmays@col.org)  
ORCID: <https://orcid.org/0000-0003-3506-8497>

Tony Mays holds a DEd in curriculum studies and is a former Director of the Unit for Distance Education at the University of Pretoria, South Africa. His current position is that of Education Specialist for Open Schooling at the Commonwealth of Learning (COL) in Canada. His work entails the conceptualisation, development and management of the Open or Innovative Schooling initiative to promote secondary education using open, distance and technology-based approaches in accordance with COL's Strategic Plan. He is passionate about contributing to universal access to educational opportunities by using open educational resources, as well as employing Open, Distance and e-Learning (ODEL) methods and working collaboratively through open educational practices. Dr Mays is a former secondary school teacher and has been involved in teacher development through ODeL for many years.



# Acknowledgements

This publication has been developed as part of the Teaching and Learning Development Capacity Improvement Programme which is being implemented through a partnership between the Department of Higher Education and Training and the European Union. The content is based on a research project undertaken by the University of Pretoria, focusing on visual impairment. The contents of the publication are the sole responsibility of the respective authors of the chapters and cannot be taken to reflect the views of the European Union.



# Preface

**Ronél Ferreira**

Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa

Despite inclusive education policy and the related theoretical framework being in place worldwide, many countries still face the challenge of the implementation of policy not meeting the expected outcomes. More often than not, inclusive education is propagated in theory, yet in practice, many teachers seem hesitant to implement the policy for various reasons. In this regard, existing studies indicate that teachers often do not feel knowledgeable or sufficiently skilled to accommodate all learners with special needs in one class. Teachers may furthermore perceive the available resources to be too limited for this task, or may not even be convinced of the merit of inclusive education and the accommodation of all learners in one class. Despite some learners with disabilities being catered for in special needs schools, many of these learners therefore still do not receive equal opportunities in terms of quality education and access to schools in close vicinity of their homes, more specifically in developing countries.

One form of disability that has often been neglected in the past is visual impairment, despite fairly high prevalence rates worldwide. For example, in South Africa, with a population of over 56 million people and a relatively high prevalence rate of visual impairment, there are a mere 22 schools specifically catering to learners affected by visual impairment. This lack of sufficient support at the school level has resulted in many learners

**How to cite:** Ferreira, R., 2020, 'Preface', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. xxxv-xxxvii, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.00>

with visual impairment<sup>1</sup> simply not attending school or not being able to access the support they require. The scarcity of specialised training programmes in the field of visual impairment further emphasises the need for ongoing research in this field.

In this book, which is the first volume of an envisioned series of publications in the field of visual impairment, leading scholars and practitioners draw on years of research and practical experience to unpack visual impairment in terms of what the phenomenon entails, yet more specifically on how learners with visual impairment can be better understood and supported in schools by all teachers who work with such learners. As such, the purpose of the publication is not only to build on existing theory but to also provide guidelines on how to put theory into practice in support of learners with visual impairment, within the context of education.

As a background to the development of this publication, a research project was undertaken by the University of Pretoria, funded by the Department of Higher Education and Training (DHET) in collaboration with the European Union, with the aim of developing a postgraduate qualification for teachers in visual impairment studies. To this end, 252 teachers and 43 expert stakeholders were involved as participants in a study conducted in five of the nine provinces of South Africa. In addition to relying on the findings of this study, contributors to this book have undertaken smaller scale research projects in the field over the years and/or have practical experience in working with learners with visual impairment. In this way, this book combines research with practical experience and case studies in unpacking the phenomenon of what the education of learners with visual impairment entails.

---

1. Throughout this publication, the concept 'learners with visual impairment' is used as synonym for 'learners with vision impairment' and 'learners affected by blindness and low vision'.

In the first section of the publication, the phenomenon of visual impairment is unpacked and the rights of all learners foregrounded, with a specific focus on South Africa and what has been found in this context, as this may potentially be comparable with similar or other developing contexts. The second section of the publication focuses on support to learners with visual impairment; drawing on research in this field, with a specific focus on the role of the teacher who may be supported by other specialists such as orientation and mobility (O&M) practitioners. In addition to a discussion on learning support, attention is paid to the emotional and social needs of these learners and how teachers can attend to these. The final section of the book investigates the transition processes of learners with visual impairment throughout their lives and developmental stages, attending to an area often neglected when discussing the needs of these learners.

Based on the scarcity of South African publications in the field of visual impairment, this book paves the way for theory building in the field as well as for the education of learners who are affected by this condition. In addition, this publication can serve as a valuable resource for teachers and practitioners who are responsible to support learners with visual impairment, with the aim of enabling the learners to excel and make valuable contributions to society as well-functioning adults in future. Finally, based on the content put forward in this publication, additional research projects may be undertaken to add to this emerging field of knowledge.



**SECTION 1**

**Contextualising visual  
impairment**



# Visual impairment as a disability and/or diversity

**Tony Mays**

Open Schooling, Commonwealth of Learning,  
Vancouver, Canada

**Keywords:** Teaching; Learning; Assessment; Design; Inclusion.

## ■ Introduction and overview of the chapter

This chapter aims at contextualising provision of education for learners with visual impairment. It should be read in conjunction with the other chapters in 'Definition of key concepts', which all provide the necessary background for reading the chapters included in 'Expanding the curriculum to embrace diversity' and 'Universal design for learning'. There are three main parts to the discussion in this chapter: curriculum differentiation, universal

**How to cite:** Mays, T., 2020, 'Visual impairment as a disability and/or diversity', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 3-19, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.01>

design for learning and implications or application in the classroom.

In this chapter, it is argued for an approach that is positively focused on design for diversity rather than being focused on trying to 'fix' (or perhaps more likely to ignore) perceived 'deficits' created by social constructions of ability and disability in education systems designed for provision of mass education. It can be argued that in designing learning resources, we are more likely to improve the learning experience of all learners if the experiences and assessments, in various ways, are taken into consideration to accommodate the special educational needs of certain identified learners. In most cases, the average teacher will probably only pick up on the most obvious forms of visual impairment, although impaired vision of varying degrees is common (Cumberland & Rahi 2016). As such, by creating an enabling environment for the most obvious examples of visual impairment, the teacher will probably be having a positive impact on more learners than targeted originally. Extrapolating further, by becoming more conscious about how learners with visual impairment can be enabled to engage meaningfully with the curriculum, teachers will likely become more conscious of other individual learning needs and will, hopefully, according to the needs, pre-emptively plan for diverse learning and teaching resources and processes.

## ■ Definition of key concepts

This section introduces key concepts which inform the discussion that follows. The discussion explores four key sub-themes:

- recognition that visual impairment is not necessarily a barrier to learning – everybody can learn
- preference for a focus on differential ability rather than disability
- clarification of a range of visual impairments
- differences in ability as part of diversity.

## ■ Everybody can learn

A few years ago, a group of researchers conducted an interesting study in which they told a group of sighted and blind people several stories orally. They found that both groups of participants were able to pick up on the oral cues and to engage with the stories in similar ways. They concluded (selected and re-sequenced from Bernstein 2014):

As long as the information is coming in, it doesn't really matter how it's coming in ... It can be coming in through your eyes, or it can be coming in through your nose. ... The human brain is ... a device that really evolved to get important information out of the world by hook or by crook. (n.p.)

Building from the same assumption that is illustrated by the above study, the starting point for the discussion in this chapter is that visual impairment is not a barrier to successful learning, or other achievements, if the person with a visual impairment receives appropriate support in an appropriate way at an appropriate time (Argyropoulos et al. 2017; Fichten et al. 2016; Palmer 2005), but it can be a barrier if the necessary support is not provided timeously (Bruce et al. 2016; White et al. 2017). This viewpoint raises questions about the use of words such as disability.

## ■ Ability versus disability

In a presentation to the American Psychological Association, Mona and Williams (n.d.) observe that whether explicit or not, there is always some form of model which underpins how members of society engage with notions of disability. They identify three historically dominant models, which they classify as moral, medical and minority. The moral model assumes that disability is a consequence of moral wrong, which may or may not be curable through some form of atonement. The medical model assumes that there is a norm and that any deviation from the norm needs to be fixed or corrected where possible or coped with if not possible. The minority model assumes that the notion of 'disability' is a social construction and that individual differences

are both natural and normal. We should assume ability and empower the differently abled to build on their strengths and address any barriers that they encounter by finding appropriate strategies working in consultation with them. This chapter focuses primarily on the latter model whilst accepting that where medical intervention might be able to assist, the possibilities should be part of the consultation process.

Related to the latter approach, the National Institute on Disability, Independent Living, and Rehabilitation Research<sup>1</sup> has adopted less of a deficit or barrier orientation, instead undertaking and promoting research to improve the ability of individuals to perform activities of their choice in their communities, but also to try to expand society's capacity to provide opportunities and accommodations for persons living with visual impairment in pursuit of longer term goals such as independence, community participation and employment.

The practical advice summarised above can be seen as part of a wider move to recognise and build on strengths of individuals and the assets available to them in their social networks based on emerging research and theory from diverse fields of enquiry such as developmental psychology, education, positive psychology, resilience studies, school counselling and social work (Galassi & Akos 2015). It involves a move away from banking models of education towards models that empower people to manage their own lives and contexts (Miller, McIntyre & McKenna 2018). It involves identifying individual strengths, as well as available support or assets within the learners' immediate school context, family, community and wider society, that can be galvanised coherently to address challenges and potential barriers (Ferreira & Ebersöhn 2012; Malekane 2009). It is this more inclusive, systems-orientated and forward-looking orientation that is advocated in this chapter.

---

1. See <https://acl.gov/about-acl/about-national-institute-disability-independent-living-and-rehabilitation-research>.

Despite this proposed focus on strengths and abilities, and extant policies on ‘inclusion’ in many countries, by and large, ordinary public institutions are not well-equipped to address the needs of learners with visual impairment in terms of issues such as access to appropriate technology, appropriately modified teaching methods, appropriate learner support nor flexibility in how the curriculum is mediated (Luque et al. 2018; Maguvhe 2015; Okonkwo et al. 2016; Tom, Mpekoa & Swart 2018) and therefore it is necessary to create awareness about these challenges and how they might be addressed. It is recognised that teachers may be hesitant to implement policy based on their own uncertainty and lack of experience in the field (an issue explored later in ch. 6 by Manis). This may mean that learners with visual impairment may not be able to fully access their right to a quality education because society and its schools are not being adequately prepared; or are not embracing the idea of diversity and the opportunity to learn collaboratively by harnessing a diverse range of skills and experiences, including a diverse range of visual abilities (Sefotho in press).

## ■ A spectrum of visual impairment

Appropriate interventions regarding when and how to provide support, or to withdraw it, require an understanding of the learner’s changing needs. Various kinds of eye disorders can lead to various degrees of visual impairment or loss of vision; thus, the visual impairment is a description of the consequence of the disorder, rather than the disorder itself. Whilst acknowledging that other terms may be used in the field, in this publication the term ‘learner with visual impairment’ has been deliberately chosen so that the focus is on the learner rather than the impairment (Mason & McCall 1997:xv). It is further understood that the term ‘visual impairment’ covers a range of vision loss from normal vision to low vision (ranging from short- or long-sightedness, which may be corrected by wearing spectacles or

contact lenses, through colour blindness for which no treatment currently exists), to blind (but with some sight) to total blindness (Davis 2013:2–3). Where it is necessary to distinguish, the term ‘blind’ can be used to refer to children who learn primarily through touch, and ‘low vision’ to refer to children who still learn primarily through sight (Mason & McCall 1997:xv). In addition, it is important to recognise that a person with visual impairment may have experienced the condition from birth or may have acquired the impairment later in life, for example, because of illness or an accident. In most cases, learners with visual impairment would have developed ways of addressing some of the challenges they face in a society that often assumes full vision. We might therefore refer to such learners as ‘differently abled’.

As we can infer from the above, different forms of visual impairment result from different causes. Total vision loss, whether from birth or because of injury, may result in complete darkness in the visual field. Often, however, there may be some vision, of variable degree, as illustrated by the following examples:

- **Glaucoma:** This results from an increase in fluid pressure in the eye. This reduces vision to a ‘tunnel’ with intact vision in the centre but lessening vision towards the edges. Without intervention, the tunnel reduces in size, with the possibility of total vision loss in time.
- **Age-related macula degeneration:** The central vision becomes increasingly unclear, although vision at the edges may stay the same. This interferes with activities such as driving, sewing and reading which require strong near vision.
- **Cataract:** A cataract is a general clouding or blurring of vision which affects the whole eye lens. It may result in double vision or other challenges.
- **Diabetic retinopathy:** Diabetes damages the small blood vessels and arteries at the back of the eye. The damage often results in black spots or shapes that impair vision. It can result in total vision loss if left untreated.

- **Near-sightedness or myopia:** Here it is possible to see nearby objects clearly, but distant objects are blurred.
- **Retinitis pigmentosa:** This is a genetic condition. It starts with night blindness. It may subsequently result in tunnel vision and then complete blindness.

## ■ Disability as diversity

The website, Disabled World,<sup>2</sup> suggests the need to explore and celebrate individual differences, including socially constructed notions of ‘disability’, in addition to the more traditional focus on gender and race, in embracing a commitment to recognising diversity. It notes that including disability as an aspect of diversity in teaching could involve deliberate interventions such as making classes more accessible for learners experiencing barriers to learning, accommodating the teacher’s own learning challenges in the classroom as well as explicitly incorporating disability or learning barriers studies perspectives into course content. It is an approach that focuses on creating more enabling, socially, emotionally and academically supportive environments, rather than on trying to ‘fix’, or perhaps, more likely, ignore individual differences, and doing so increasingly with the support of technology-enhanced learning approaches (Jones & Kahn 2017; Kwok et al. 2016; Sullivan & Bers 2015).

Again, the practical advice provided above can be rooted in a wider discourse. Whereas historically people with disabilities have been seen as ‘other’ in various ways in terms of both medical and social models (Haegele & Hodge 2016; Valle & Connor 2019), contemporary thinking sees all people as uniquely individual, and people with visual impairment as ‘another characteristic among the broad range of traits present in society’ and able to recognise and build on their strengths and take control of their own lives (Mackelprang & Salsgiver 2016:21). It is also understood that

---

2. See <https://www.disabled-world.com/disability/diversity.php>.

notions of ability or disability intersect with other forms of identity such as race or ethnicity, age, gender and sexual orientation amongst other aspects in a complex view and self-view of a whole person (Perrin 2019). As a logical consequence, educators need to consider the inter-relationship between human diversity, accessibility and universal design for learning (UDL) (Sørensen & Rhyll 2018), as a focus on learners' perceived disabilities alone will tend to cause us to overlook their strengths and possible assets and the extent to which they may be 'dis'-abled primarily by their context. As Boroson (2017) observes, the discourse has evolved from exclusion to inclusion, from judgement to acceptance and from disability to difference.

This chapter and the discussion that follows subsequently in the book, therefore, focuses on addressing the intrinsic, extrinsic and combined barriers that could otherwise affect the quality of learning of different learners in diverse classrooms.

Within the context of schooling, a logical starting point is to consider how the curriculum embraces and supports difference and diversity, including the needs and contributions of learners with visual impairment. How well do standardised curricula help to nurture adventurers like TofiriKibuuka; actors like Jack Birkett; musicians like Stevie Wonder; writers like Aldous Huxley; mathematicians and scientists like Leonhard Euler; medical professionals like Dr Satish Amarnath; politicians like Abdurrahman Wahid; political activists like Chen Guancheng; financial traders like Ashish Goyal, and many others?

## ■ **Expanding the curriculum to embrace diversity**

The move towards more inclusive education practices and the growing trends towards integrating learners with visual and other impairments or barriers to learning into mainstream classrooms has given rise to the notion of an expanded core curriculum (ECC), which is a curriculum approach that addresses all the

outcomes, standards, competencies and concepts of the school curriculum, but in ways that allow mediated approaches and differentiated learning for those with visual impairment who are unable to learn systematically or incidentally by observing others (Allman, Lewis & Spungin 2014). The Texas School for the Blind and Visually Impaired<sup>3</sup> identifies nine key areas in which the school curriculum can be expanded usefully. These are summarised in Table 1.1, with some practical examples.

The argument here is then not for a different core curriculum, but rather for approaches to mediate the core school curriculum

**TABLE 1.1:** Expanded core curriculum.

<b>Key area</b>	<b>Description</b>	<b>Examples</b>
Compensatory or functional skills	These relate to issues involving literacy, communication and specialised instruction.	Helping learners with appropriate study skills and using multiple formats of communication such as braille, large print, tactile symbols and audio material.
Sensory efficiency	This relates to the likely need for scaffolded support in listening, speaking and touch skills which can be employed across the curriculum.	Helping learners to make the best use of the sight they have or the individual coping skills they have developed.
Orientation and mobility support	Training is needed from birth in navigating safe and efficient movement through the diverse environments which learners must traverse.	Helping learners to move safely and independently using a cane or maybe a guide dog.
Social interaction skills	Amongst the sighted many social cues are non-verbal and this can lead to isolation of learners unable to pick up on these cues.	Helping learners to pick up on auditory signals of how other people feel.
Assistive technology	Learners need access in 'real time' to any necessary information using technology.	Helping learners to access and use computer screen readers, use of braille devices for reading, writing and note-taking.

Table 1.1 continues on the next page→

3. See <https://www.tsbvi.edu/tb-ecc>.

**TABLE 1.1 (Continues...):** Expanded core curriculum.

<b>Key area</b>	<b>Description</b>	<b>Examples</b>
Independent living skills	If learners cannot learn life skills from observing others, they will then likely need a different form of support to develop personal, financial or self-care skills.	Helping learners to manage personal hygiene, food, money and household chores.
Recreation and leisure skills	Development of these skills may again require structured engagement and modifications because they may not happen incidentally as with sighted learners.	Helping learners to dance, sing and participate in sports.
Career education	If learners are unable to learn about different kinds of work through direct observation, they would likely need to be taught about different career options.	Creating opportunities for learners to listen to working adults and having tactile experiences of work places.
Self-determination	This includes the ability to make own decisions, advocate for oneself and take personal responsibility to avoid 'learned helplessness'.	Helping learners to recognise their own contributions they can make to society and engaging with appropriate role models.

Source: Adapted from Watermeyer (2019).

in ways that enable every learner in the classroom to engage meaningfully, and to develop knowledge and skills that will lead to enhanced independence, community participation and employment (Khan, Khusro & Alam 2018; Shahed, Ilyas & Hashmi 2016; Yuan et al. 2017). A useful approach to consider in making this possible is provided by the notion of UDL.

## ■ Universal design for learning

According to Center for Applied Special Technology (CAST 2017), 'Universal design for learning (UDL) is a framework to improve and optimise teaching and learning for all people based on scientific insights into how humans learn'.

The UDL framework is based on the work of Anne Meyer and David Rose in the 1990s. The framework has the following three key components:

- **Engagement:** This is concerned with the WHY of learning. It is argued that if we want learners to be engaged purposefully with their learning and to be motivated to persevere even when the learning becomes challenging, then we need to stimulate their interest in motivation for learning.
- **Representation:** This is concerned with the WHAT of learning. It is argued that if we want to develop learners who are resourceful and knowledgeable, then we need to present information and content in different ways to suit different learners' needs and dominant learning styles.
- **Action and expression:** This is concerned with the HOW of learning. It is argued that if we want to develop learners who are strategic- and goal-directed in their decision-making and actions, we need to provide opportunities for learners to demonstrate what they have learned in a variety of ways.

As an example of what can be carried out, Hutchinson and Martin (2012) used these principles to inform the design of a website providing a resource kit for teachers of learners with visual impairment that simultaneously seeks to be accessible to users with visual impairment.<sup>4</sup> Apart from providing useful content on issues such as differentiating the curriculum, the site is easily navigable, makes use of high-contrast text that can be magnified for those with low vision, and is accessible to users with no vision through screen readers with image captions for diagrams and videos.

There is some research evidence for the efficacy of employing UDL approaches and the appropriate use of the appropriate technology to enhance inclusiveness (Black, Weinberg & Brodwin 2015; Gorlewicz et al. 2018; Hartman 2015; Lozano et al. 2018), although it is acknowledged that most teachers will require

---

4. See <https://teachvisimpstudents.wordpress.com/udl/>.

training and support to work in this way (Evmenova 2018; Navarro et al. 2016; Quirke, McCarthy & McGuckin 2018). It is also noted that in an increasingly digital and online environment, these skills will also increasingly apply to effective use of social media (Vie 2018). In designing appropriate learning experiences, it can only be useful to also involve some of the learners themselves in the process (Magnusson, Hedvall & Caltenco 2017).

In considering how to build learners' motivation and resilience for improved *engagement*, there is a need to invest time and effort in building their self-concept and self-esteem, and for learners with visual impairment; this can be linked directly to independence in mobility, supportive parenting, social support mechanisms and friendships (Augustad 2017). Prior learning experiences and flexibility about what is learned and how, are likely to result in greater engagement (Seo & Richard 2018). Teachers need to explore a variety of different strategies involving a range of visual, verbal, manual and mechanical techniques to find approaches appropriate to maximise the engagement of individual learners (Ishmael 2015). It may be necessary, for example, for teachers to plan for some pre-teaching to facilitate concept development by building foundational knowledge in advance of other learners and to prepare for inclusion later (Conroy 2016). Pre-teaching can result in more productive use of time in the later mainstream class as the learner with visual impairment will be able to function more independently, having had an opportunity to practice knowledge and skills in a non-threatening environment before demonstrating them amongst peers.

A key aspect of ensuring appropriate *representation* is that learners with visual impairment gain access to appropriate learning resources and support as early in the process as possible and this may well require advanced collaboration between general classroom teachers and specialist teachers of learners with visual impairment (Hommer 2018). In addition, awareness of individual learner needs, including visual impairment, should

determine classroom seating arrangements (Negiloni, Ramani & Sudhir 2019) and the exploration of creative ways of substituting one sensory input with another, for example creating opportunities to explore by touch as opposed to vision (Ahn et al. 2017; Dhafer & Clements 2017).

In considering issues related to *action and expression*, teachers need to think very carefully about what learners will be doing to show they are learning and when and why they might do these things individually, in pairs, in small groups or in whole class activities, as well as what the teacher can learn by observing and engaging with learners during the process (Abrahamson et al. 2018). The use of mobile devices as a form of assistive technology, even in resource-limited environments, when combined with the possibilities for building and maintaining communities of practice using such devices, may be one way to assist learners with visual impairment to move from beyond simply accessing educational opportunities towards more active participation in both educational and everyday life contexts (Foley & Masingila 2015). However, it has been suggested that currently, research on the development and use of mobile technologies to support learners with visual impairment is nascent and requires further strengthening for improved cohesion between theory and practice (Hayhoe 2018).

So far the discussion has focused on classroom-based teaching. However, the UDL principles can also inform the ways in which open, distance and e-learning (ODEL) provision is designed and implemented. A useful exploration of this issue with respect to the design of Massive Open Online Courses is provided by Ngubane-Mokiwa (2016), whilst Baker, Ramos and Turner (2019) explore some of the possibilities and challenges of virtual reality games. It seems clear that, as with classroom practices, appropriate use of appropriate technologies in the ODeL context, requires conscious thought and preparation for how diverse learners will access and engage with, and then produce evidence of learning.

## ■ Implications or applications in the classroom

It should be clear that interventions will result in using different forms for different levels of development. For example, early childhood care and development where interventions will be informed by educational forms of play and emergent literacy, through to adolescence where the physical and emotional development of learners, and their social support network will impact strongly on the kinds of engagement that will be appropriate, through to high school and beyond. This is where interventions will be increasingly influenced by the disciplinary base and intended learning outcomes of the subjects which the learners are taking (but which generally assume high levels of literacy; De Verdier 2016; Narayanasamy et al. 2016). Learners' needs for accommodation and support will also likely change over time (Hewett et al. 2016) and positive staff attitudes towards creating more inclusive and responsive enabling environments will be critical (Bhalalusesa 2018; Lee et al. 2015).

In terms of curriculum coverage, it can probably be anticipated that at early childhood development and Foundation Phase levels, learners with visual impairment may be a little slower to progress than other children in these phases. However, with appropriate support, it can be anticipated that by senior and further education and training phases these learners should be engaging comparatively with their peers.

It is important to understand that factors outside the classroom can be as important for ensuring the success of learners with visual impairment as what happens inside the classroom, and an ecosystemic lens which considers the inter-related nature of these different factors at family, school, community and society levels may be useful (Kocyigit & Artar 2015; McLinden et al. 2016). In addition, ongoing monitoring and evaluation of enabling interventions is necessary as sometimes the results may be contrary to what was expected (Heppe et al. 2017).

This raises questions about how teachers are trained and supported to work effectively with learners with visual impairment. Ravenscroft (2015) highlights the expectations set out in policy in Scotland, which includes guidelines related to assessment, partnerships, language and communication, medical or disability knowledge, specialised technology, legislation and policy and teaching and learning.

Similar guidelines exist elsewhere. For example, Canada has identified 14 standards as follows: school-based teams, parent or caregiver involvement, assessment, appropriate instruction, individual programme plans, equal access, alternate formats, assistive technology, accessible digital information, options for ECC, early intervention services, transition planning, student empowerment and stakeholder collaboration (Standards Revision Committee 2017). The state government of Wisconsin (n.d.) identifies the following responsibilities for teachers: conduct assessments; provide instructions, communication, collaboration and consultation and acquire materials, environmental considerations and professional development.<sup>5</sup> In a similar vein, Mitchell (2015) argues that inclusive education practices require attention ‘to placement, vision, curriculum, assessment, teaching, acceptance, access, support, resources and leadership’. These issues are explored in more detail in chapters on assessment and support and classroom practice later in this publication.

This long list of expectations seems a tall order to be expected of an individual teacher, even with an additional specialist qualification, but it may be that several teachers could work together to explore and develop these kinds of competences as a team. In fact, Florian (2017) argues that collaboration is essential for inclusive educational practice. It will require creative ways to reimagine well-established classroom methodologies such as question and answer, exposition, group discussion, demonstration and inquiry (Annie, Ndhlovu & Kasonde-Ng’andu 2015). It is

---

5. See <https://dpi.wi.gov/sites/default/files/imce/sped/pdf/vi-tvi-om-role-resp.pdf>.

important that we share stories of how teachers are rising to the challenge of creating inclusive classrooms in which differently abled learners are able to both contribute and be supported (Valente & Danforth 2016). The relationship between inclusive education policy and supporting learners with visual impairment is explored in a later chapter by Ferreira-Prevost.

In general, interventions such as the following may be considered for making classrooms more inclusive for learners with visual impairment (Ahn et al. 2017; Lozano et al. 2018; Palmer 2005; Willings 2016; Wong & Cohen 2015):

- ensuring good lighting
- moving a short-sighted learner closer to the chalkboard or whiteboard or presentation screen
- moving a learner with albinism away from a window
- increasing the size and contrast of text on the chalkboard or whiteboard or presentation screen
- talking to learners to help them make connections between their real world experiences, their future aspirations and the content of the lesson
- providing auditory information as an alternative to information shared with the rest of the class as a graphic
- allowing the learner with visual impairment to provide spoken rather than written feedback
- facilitating tactile engagement
- facilitating the use of braille and braille devices
- providing access to a range of assistive technologies as a complementary aid to teaching and learning
- providing more time for task completion
- encouraging movement around the classroom and keeping floors clear of obstructions
- teaching an expanded curriculum
- referring for additional support when needed.

Several of these approaches could be adapted to support inclusion of learners with other learning support needs. However, the fact that something can be enacted and is mandated in policy

does not mean it necessarily will be carried out: it requires a deliberate decision and concerted action (Morelle 2016).

## ■ Conclusion

In a connected and increasingly digitised world, increasing amounts of information are shared in a visual format – such as pictures, animations and videos. Teachers seeking to nurture more inclusive classrooms can use the principles of UDL to create a more enabling learning environment for learners with visual impairment, using alternative resources and embracing more diverse pedagogical approaches. However, the fact that something is possible and may even be advocated in policy, does not mean it will necessarily be enacted in practice. Teachers need to make a conscious decision to embrace diversity, including the differently abled, and to accommodate varied needs in an inclusive way.



# Visual impairment in the global south

**Maximus M. Sefotho**

Department of Educational Psychology,  
Faculty of Education, University of Johannesburg,  
Johannesburg, South Africa

**Keywords:** Visual impairment pedagogy; Inclusive education; Teacher competencies; Pedagogical tools; Instructional strategies.

## ■ Introduction

Visual impairment is a major public health problem in developing countries (Darge et al. 2017). In Latin America, visual impairment has a significant negative impact on the quality of life (Grigera et al. 2013). Brazil became a target country where the World Health Organization (WHO) conducted an extensive population-based eye survey to investigate prevalence of visual impairment (Salomão, Mitsuhiro & Belfort 2009). In sub-Saharan African

**How to cite:** Sefotho, M.M., 2020, 'Visual impairment in the global south', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 21–45, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.02>

countries, including Ethiopia, visual impairment compromises development (Bezabih, Abebe & Fite 2017). Nigeria is a part of sub-Saharan Africa with an estimated 21.4 million people who are visually impaired (Achigbu & Ezeanosike 2017). In South Africa, visual impairment has far-reaching implications regarding social, economic and quality of life for individuals, families and the society at large (Sacharowitz 2005). Undoubtedly, visual impairment is regarded as a leading cause of disability in South Africa (Naidoo et al. 2015). However, 'Vision 2020: The Right to Sight' launched in 1999 by the WHO set in motion focused initiatives for active participation in addressing issues of vision (Sacharowitz 2005). Visual impairment, however, is a grossly neglected area in academia, especially within Africa. Visual impairment is essentially an umbrella term used to describe the loss of sight that can be a consequence of a number of different medical conditions. Visual impairment signifies a continuum of vision deterioration and loss from moderate visual impairment to blindness (Maake & Oduntan 2015; cf. Popel 2017:14).

Vision is one of the most critical senses without which human beings are deprived of the complete meaning of what the world they inhabit constitutes. Visual impairment as inherent to human diversity has become a global challenge (Naipal & Rampersad 2018) in society, education and the world of work (Silva et al. 2014) and a leading type of disability (Stevens et al. 2013). Despite its prevalence, society remains ill-equipped to address the various needs of people with visual impairment, such as accessibility, equity, participation in the labour market and socio-political life. Education systems around the world were caught unprepared when education for all was introduced in the year 2000. It appeared as if 'all' in education for all, excluded learners with disabilities in general and those with visual impairment in particular. Equally, the world of work is not sufficiently prepared for workers with visual impairment and the estimates of visual impairment remain unclear.

The WHO is responsible for global estimations of blindness and visual impairment. Notably, the landscape of visual impairment around the world displays disparate statistics. More specifically, in 2010, 285 million people were estimated to be visually impaired (Stevens et al. 2013). Massiceti, Hicks and Van Rheede (2018) note that indeed more than 250 million people are visually impaired globally. According to Ackland, Resnikoff and Bourne (2017), the problem of visual impairment is growing globally, despite many successes over the past 30 years. This trend compromises the efforts to prevent vision loss; however, the positive developments concerning programmes and projects on improvement of vision health need to be acknowledged. Founded in 1952, the International Council for Education of People with Visual Impairment (ICEVI) (see Tang 2015) operating in seven regions – Africa, East Asia, Europe, Latin America, North American or Caribbean, Pacific and West Asia – is a world body with a mission to ‘promote access to inclusive, equitable, and quality education for all people with visual impairment’ (cf. Hoffmann 2003:199–202).

This chapter provides a brief context of visual impairment in South Africa. It addresses prevalence and services provided by different stakeholders. Inclusive education and visual impairment form part of the discussion in this chapter. Fundamentally, the chapter addresses challenges of learning faced by visually impaired learners, teacher competencies and availability or relevance of learning material. It proposes a visual impairment pedagogy and provides a Universal Design in Instruction (UDI) for a visual impairment framework to assist teachers. Finally, it concludes by addressing implications of inclusive teaching or instructional strategies.

## ■ Overview of the chapter

Figure 2.1 provides an overview of the main aspects discussed and dealt with in this chapter.



## ■ Visual impairment pedagogy

‘Pedagogic dialogue’ provides inputs from learners with visual impairment (Nind & Lewthwaite 2018:402).

## ■ Case study

Botle grew up in a rural area before the advent of the Internet. Born with sight, she lost her vision at a tender age of 13. Although disability was negatively perceived in her village, Botle’s mother was very supportive. In Botle’s transition from having complete vision to total blindness, her mother guided her and empowered her to be independent. When she started high school, her mother walked to the school with her to introduce her to the teacher and explain to her how best to support Botle. With so much support, Botle never felt different from her sighted peers. She was only aware of the fact that she is differently abled and that she goes about life in different ways from others. She passed her final year in high school with very good marks and thereafter went to university to study to be a teacher. Her passion for teaching was ignited by the support she received from some of her teachers who were positive about her success. Botle struggled through her university education but was resolved to qualify as a teacher despite negative attitudes from some teachers.

## ■ South African context

The history of the education of people with visual impairment in South Africa started in 1929 with the founding of the Worcester Institute, the South African National Council for the Blind (SANCB) as well as the South African Institute of Race Relations (Smith 2014). Since then, many developments led to the founding of other schools for the blind (presently estimated at 22) around the country, which became more diverse in their intake of learners. Associations and organisations working with blind people also developed in large numbers. Developments in the blind sector embraced changes over time and blindness became subsumed

under visual impairment. In this chapter, visual impairment includes blindness and refers to mild or no visual impairment to complete blindness. Visual impairment encompasses functional limitations of the eye(s) or the visual system manifesting in reduced visual acuity (Colenbrander 2001).

The prevalence of vision impairment in South Africa is the highest of all barriers to learning at 32% (Naipal & Rampersad 2018), and it is estimated that 97% of all blind and partially sighted people in the country are unemployed (Maake & Oduntan 2015). The SANCB (2011) corroborates that 32% of the 724 000 of self-reported people in South Africa may be experiencing vision impairment. These numbers could have changed because of population growth and other factors. According to Naidoo et al. (2015), 11.1% of the general population with barriers to learning indicated that they had difficulties with their vision. This is a worrying factor, given the advances in technology and developments in the health sector. However, the prevalence points towards the need for education and more widespread information sharing about eye healthcare and disease prevention.

Visual impairment is considered as one of the key factors preventing people from accessing education and employment (Naidoo et al. 2015). The South African context of disability is immersed within the discourse of transformation and inclusion in order to redress the inequalities of the past. Disability in South Africa strongly attracts being perceived as part of diversity, and visual impairment is equally perceived as part of a variety of barriers to learning. This diversity compounds an already complex situation of diversity related to other parts of livelihoods in South Africa. Historically, the education system of the country has been battling with issues of equity of access to education. There are currently 23 special schools for the blind in South Africa. These schools are dispersed throughout the nine provinces, with a peculiarity of Limpopo province having the maximum number of persons with visual impairment. Generally, learners with barriers to learning are known to be not involved in education, employment or training (Holte, Swart & Hiilamo 2019). According to Donohue

and Bornman (2014:1): 'In South Africa, up to 70% of children of school-going age with barriers to learning are out of school', especially 'on farms and in the former homelands' (Gordon & Wang 2000:17). There are many reasons why these learners are out of school. Rural schools in South Africa suffer from lack of resources such as qualified special education teachers and material and financial resources. Hlalele (2012) notes that there are vast disparities and inequalities affecting the provision of education between urban and rural schools within South Africa. The rural schools are usually out of reach, in terms of distance, for learners with barriers to learning. There are usually vast distances, which cannot be easily managed by learners with visual impairment. Learners such as Botle in the previously discussed case study usually find it difficult to attend school because of the need to travel long distances, and it is more often than not, on lonely dirt roads.

Disability in South Africa also smacks of a history of discrimination, which is currently being addressed through the targeted implementation of inclusive education. However, teachers in general were not prepared for inclusion of learners with barriers to learning within their classrooms. Learners with visual impairment ironically still suffer exclusion despite the founding of the Worcester Institute and the SANCB. Naidoo et al. (2015) indicate that in South Africa, 724 000 self-reported people may be experiencing vision impairment. The population of South Africa mostly comprises young people, many of whom may be found in the school system trying hard to obtain an education. A cross-sectional study conducted in economically disadvantaged districts indicates that visual impairment is the leading cause of barriers to learning in South Africa (Naidoo et al. 2015).

In light of the above, eye healthcare services are generally inaccessible to the majority of South Africans who are indigent. Advanced services such as ophthalmology and optometry are expensive and out of reach for the majority of the population who need them (Naidoo et al. 2015). Basic and required assistive devices such as spectacles and newly developed technologies are

equally inaccessible to the poorest of the poor in South Africa (Maguvhe, Dzapasi & Sabeya 2012). Support services for persons with visual impairment vary, but orientation and mobility (O&M) take the centre stage. These services are mainly provided by non-governmental organisations (NGOs) (Maguvhe et al. 2012). The Phelophepa mobile healthcare clinic, which means ‘good, clean health’, includes trains that bring health and hope to thousands of rural South Africans, addressing various health issues. The Phelophepa train of hope was a transnet initiative that started in 1994 and was supported by the University of KwaZulu-Natal’s School of Health Sciences. Persons with visual impairment greatly benefitted from the eye health services provided by the Phelophepa mobile health clinic (Bulbulia 1997; Sacharowitz 2005).

According to the SANCB (2011), currently, there are various associations and organisations concerned with the issues of visual impairment in South Africa. The SANCB is a national organisation that comprises nine provincial structures with a network of about 100-member organisations. The SANCB has the following six core divisions:

- preventing blindness
- facilitating community development
- training
- rehabilitation
- education
- assistive devices and technology.

Whilst all the divisions are important, the education division is fundamental to this chapter. The SANCB education desk’s mandate covers the following:

- South Africa’s special needs schools
- early childhood development centres
- adult basic education training programmes.

The education desk is assisted by an education committee elected by the national executive committee and assists the Department of Education (DoE) in implementing inclusive

education. The committee comprises specialists and professionals in visual impairment. The SANCB also runs the Optima College which was established in 1985 in Pretoria in the Northern Gauteng province of South Africa, and it is a training arm of the council. Optima is an educational and training college that focuses on the youth and adult training of persons with visual impairment. These efforts are designed to respond to visual impairment in South Africa, the prevalence of which lends itself to controversy as it is mixed with other forms of barriers to learning. These services exist to support people such as Botle, who may not have been fortunate enough to have accessible and affordable services available to them.

In an attempt to rectify this anomaly, the Department of Higher Education and Training (DHET), in partnership with the European Union found it fitting to implement inclusive education through targeting specific clusters of barriers to learning. The objective to implement inclusion by focusing on developing centres of excellence for targeted types of disability as well as courses to train teachers became a long-awaited and welcome development for South Africa. The University of Pretoria is one of the universities assigned with implementing inclusion by developing a centre of excellence and an advanced diploma in visual impairment studies. This is to address a teacher training gap identified by Boas et al. (2012), Brown and Beamish (2012), Haakma, Janssen and Minnaert (2018) and Maguvhe (2015). The following section provides a review of inclusive education and visual impairment.

## ■ Inclusive education and visual impairment

Inclusive education for learners with visual impairment could be equated to giving sight to the sightless in order to participate effectively within the society. Whilst still a developing area, inclusive education has attracted much attention for transformation of education systems around the world. The central goal of inclusive education is education for all (Kalyanpur 2011).

In this regard, inclusive education addresses important issues such as access, equity, quality and transition. Lately, access has become a thorny issue in education as its attainment seems elusive, as many children; for example, in sub-Saharan Africa, still remain out of school (Lewin 2009). Equity is an ethical principle of inclusion for the attainment of quality education, understood as a human rights imperative for fair distribution of opportunities. Ainscow et al. (2012:42), propose that ‘...there is a complicated ecology of equity in and around schools, so there needs to be multidimensional strategies to tackle equity issues ... aimed at creating a fairer society’. Equity is intrinsically linked to the quality of education, which should not be compromised at the expense of the equity. Whilst equity is a right, it should not be allowed to compromise the quality of education. Quality nonetheless proves to be a complex concept to define; however, within the context of education, quality may be described through approaches to quality of education depending on ideology, epistemology and disciplinary composition (Jain & Prasad 2018). For the purposes of this chapter, quality is espoused through two approaches as cited below (Jain & Prasad 2018):

- **Quality in Critical Approach:** Sociologists and critical pedagogues tend to equate good quality education as one that prompts social change, includes a curriculum and teaching methods that encourage critical analysis of social power relations and ways in which formal knowledge is produced and transmitted and involves the active participation by learners in the design of their own learning experience.
- **Quality in Indigenous Approach:** Indigenous approaches reassert the importance of education’s relevance to the socio-cultural circumstances of the nation and the learner. In terms of these approaches, all learners have rich sources of prior knowledge, accumulated through a variety of experiences, which educators should draw out and nurture. Learners should play a role in defining their own curriculum. Learning should move beyond the boundaries of the classroom through non-formal and lifelong learning activities. (p. 14)

Quality education begs for a specialised conceptualisation within the barriers to learning field in general and visual impairment in particular. In this regard, we view quality education to be geared towards social change that encourages the consultation of learners with visual impairment and how they could be supported in order to learn effectively. Quality should be based on learners' experiences of learning and allowing the learning process to draw from non-formal and lifelong learning which could have been beneficial to them. Linking from the indigenous approach, we establish relevance from lifelong learning activities to relate to transition as an extremely important issue to address in inclusive education, especially for the visually impaired learners. Preparing students with disabilities for transition into the world of employment has not been a deliberate and well-planned activity in many educational contexts. Hewett, Douglas and Keil (2014:211) indicate that there is also a gap in research on visual impairment in relation to 'transition from compulsory education into further and higher education, and employment'. As an aspect of quality, transition becomes important in as far as it tests whether learners with visual impairment are adequately skilled and competent to enter employment effectively. It challenges the impact of learning for learners with visual impairment. In the case of Botle, she also struggled to adapt to the university life and pace, as most things were different from what she had previously experienced. Whilst she was used to taking notes using a braille device, she had to change this as other students complained about the noise from her machine. Most of the lecturers were ill-equipped to support Botle. There was hardly any curriculum differentiation for her or any accommodations as she was expected to operate at the same pace and intensity as the students with full vision despite her visual impairment.

Consequently, the challenge extends further to the implementation of inclusive education in South Africa (also refer to ch. 4 by Ferreira-Prevost). The South African White Paper 6 (DoE 2001) has been a fundamental policy document guiding the

implementation of inclusive education. A critical aspect of the policy is empowerment of teachers by enabling them to implement inclusive education. This is extensively treated in Chapter 4 of this book. The White Paper 6 on inclusive education emphasises the following critical areas (Du Plessis 2013):

- Acknowledging that all children and youth can learn and that all children and youth need support.
- Accepting and respecting the fact that all learners are different in some way and have different learning needs that are equally valued and are an ordinary part of our human experience.
- Enabling education structures, systems and learning methodologies to meet the needs of all learners.
- Acknowledging and respecting differences in learners because of age, gender, ethnicity, language, class, disability or HIV status.
- Changing attitudes, behaviour, teaching methodologies, curricula and the environment to meet the needs of all learners.
- Maximising the participation of all learners in the culture and the curricula or educational institutions and uncovering and minimising barriers to learning.
- Empowering learners by developing their individual strengths and enabling them to participate critically in the process of learning.
- Acknowledging that learning also occurs in the home and community, and within formal and informal modes and structures.

Although implementation of this policy has met a plethora of challenges from different contexts, significant progress has been made. In order to address these and other challenges as reported by teachers in relation to ‘the implementation of inclusive practices in their classrooms as stressful and the contextual dilemmas such as the lack of formal support structures’ (Nel et al. 2016:2), which further compromise the efforts of implementation, the DHET, supported by the European Union, has provided funding to support quality teaching and learning. The approach

has been to develop learning programmes in specialised areas such as visual impairment, hearing impairment and neurodevelopmental learning needs that are to be implemented through three universities. Centres of excellence are to be developed and used as national hubs. This targeted approach is believed to provide effective ways of implementing inclusive education in South Africa, despite the various continuing challenges.

## ■ Challenges of learning

Learners with visual impairment are more likely to experience challenges with learning than their counterparts who have no visual impairment. Such challenges impact the progress and transition within a school. In this chapter, the following challenges of learning, typically experienced by learners with visual impairment, are addressed: traditional teaching methods, teacher competencies for inclusion, learning material availability and relevance, subject-specific teaching methods and inaccessible technology.

## ■ Traditional teaching methods

Traditional teaching methods are compared with methods used in inclusive pedagogies in the 21st century. The traditional teaching methods usually use techniques that are meant for learners with no visual impairment. These methods do not take into account the challenges faced by learners with visual impairment. The assumptions are that all learners will have to fit the strategies used for teaching. This is an exclusionary approach that discriminates against learners with visual impairment. Teaching is unarguably considered both an art and science (Balliu 2017). This means that people inherently have the art to teach others as a natural way of imparting knowledge, but they also have to learn scientifically how best to teach others over and above just the natural tendency to share knowledge. Both are

important and must be applied to teaching equally in a conscious manner. However, the science part of teaching requires lifelong learning on the part of the teacher as knowledge is ever changing in terms of new information, skills and techniques.

The traditional methods comprise lecturing, listening and observation, with the teacher at the centre of the learning activities (Balliu 2017). However, these methods generally pose problems for learners with visual impairment. Whilst lecturing, many examples used assume that explanations provided can be easily related to what is perceived in the natural day-to-day life settings. However, learners with visual impairment perceive the world differently. For instance, their sense of colour may not be visionary, their perception of shapes may be tactile and how they interpret and understand numbers may not be similar to learners who can read the written numbers. The greater part of lecturing from which learners with visual impairment usually benefit mostly is through listening if they do not have comorbid hearing impairment. Observation, as part of learning, may prove to be difficult for learners with visual impairment as it is carried out mainly through sight. Teaching methods have to cater for different types of accessible educational or instructional material such as large print books, braille materials, photocopy enlargements, font legibility, increased contrast, pictures and worksheets, tactual books and tactile graphics. The most preferable are materials made by teachers for students with visual impairment as the teachers know the students and the context better. The challenges presented by traditional teaching point towards a need for the inclusion of teacher competencies.

## ■ **Teacher competencies for inclusion**

Teaching as an art and science implies possession of competencies that promote effective teaching, which addresses the learning needs of all learners without discrimination. Since the advent of inclusive education, teacher competencies have been under the spotlight to establish whether the teachers have requisite

competencies in order to address learning needs of learners with barriers to learning in general. In this chapter, it is important to examine the competencies of teachers of learners with visual impairment in order to include them effectively in the learning process. Teacher training in the 21st century calls for competency-based models as more relevant to inclusion (Holland & Hornby 1992). 'Competencies ... and positive attitudes can invaluablely reinforce the principles of inclusion and inclusive curricula' (Dipace 2013:156). Thus, inclusive teachers should acquire cross-curricular inclusive teaching competencies in order to address diverse learning needs of learners with visual impairment.

Teachers are believed to be competent if the following four characteristics form part of their competencies base: Pedagogical, professional, social and personal (Hasan, Martono & Susilaningih 2018:220). In South Africa, the main framework is provided by the South African Council of Educators as a set of professional teaching standards for use in the South African context. Kimathi and Rusznyak (2018:8) synthesised teacher competencies across several education policies into practical competencies, foundational competencies and reflexive competencies. However, these competencies are perceived to be too general for the purposes of inclusive education. Magare, Kitching and Roos (2010) recommended a more in-depth study of the types of competencies required by an inclusive teacher in South Africa. Majoko (2019:1) suggested the following as key competencies of teachers for inclusive education: screening and assessment, differentiation of instruction, classroom and behaviour management and collaboration. Malan (2018:72) suggested a framework of competencies specific to teachers of learners with visual impairment. The framework includes the following key competencies: know the learner, facilitate transition from home to school, provide appropriate access to literacy, ensure curriculum access in a visual impairment friendly environment, employ sensory methodology and be an inspiration and holistic enabler. In order for the competencies of the teachers to be effective, learning material that is relevant and available should accompany the teaching process.

## ■ Learning material availability and relevance

Ordinarily, learning material for the visually impaired learners is virtually not available in most mainstream schools, except specialised ones. This is an enormous challenge for teachers who need to support learners to achieve their goals. In a less resourced context, learners with visual impairment have to rely on sighted people to read what is in their books for them. The education system does not produce enough learning material for learners with visual impairment as these are said to be expensive. Most times, schools experience insufficient hard copy braille textbooks and workbooks, and this often happens across all grades. Recently, the South African government showed positive political will towards developing learning material for the visually impaired learners. Section 27, an NGO has been instrumental in bringing awareness for the need to develop learning material and not leave learners with visual impairment in the dark anymore. The target was set to have textbooks printed in braille and delivered to schools by November 2019.

Currently in South Africa, besides braille, most learning materials lack augmented reality solutions to visual impairment in the classroom (Billinghurst & Duenser 2012), where augmented reality can be blended with traditional teaching (Taketa et al. 2007). Currently, literature on visual impairment is very scarce in South Africa. The situational analysis conducted for the period 2001–2011 covers all disabilities amongst children in a very generic manner with nothing specific on visual impairment (Department of Social Development [DSD], Department of Women, Children and People with Disabilities [DWCPD] & UNICEF 2012). This approach assumes that there is ‘universality across disability categories’, yet this is not the case (Wehmeyer 2019:4). Although these may appear to be challenges faced by teachers of visually impaired learners,

they could also be seen as opportunities for innovation that are context-specific. Teachers could take advantage and create relevant learning material for their schools, which addresses the needs of the learners and will be aligned to the country's core curriculum.

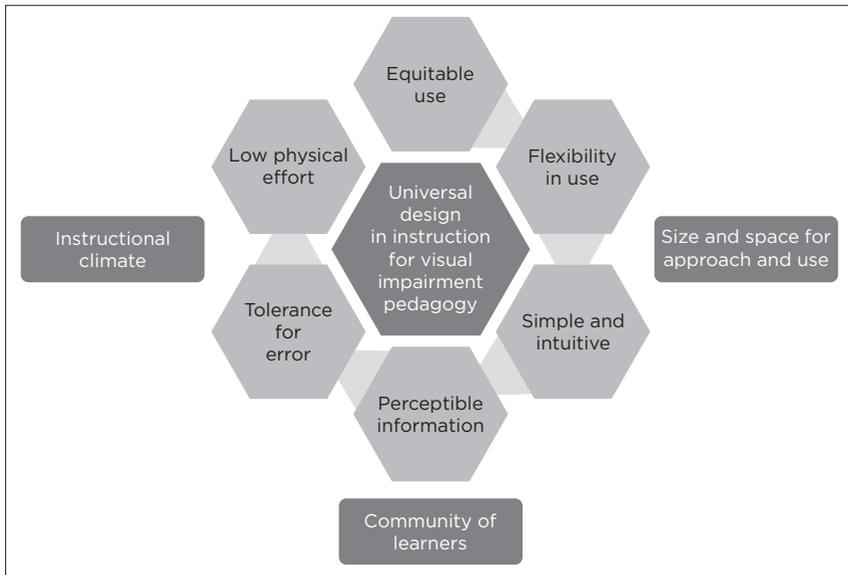
Relevance of learning material for visually impaired learners continues to be a challenge in education within South Africa. Although the government is making in-roads into the provision of learning material, its relevance to the learning needs of learners with visual impairment is yet to be thoroughly researched in order to respond to barriers to learning (Johnson-Jones 2017). Emphasis is mainly placed on the disciplines of science, technology, engineering and mathematics at the expense of humanities and social sciences (Fraser & Maguvhe 2008). Therefore, it is critical that teachers of learners with visual impairment become competent in subject-specific teaching pedagogy. Learning material for Botle was inaccessible. All the university-prescribed books were in print format, and none were available in braille to accommodate Botle. Despite efforts to have her notes in braille, most lecturers made no effort to support the learning material for a student with visual impairment. This pointed out to lack of relevant inclusive pedagogy, specifically, visual impairment pedagogy.

## ■ Expertise in visual impairment pedagogy

Visual impairment requires a specific pedagogy relevant to the needs of visually impaired learners within inclusive pedagogies. Today's knowledge-based society requires individuals who possess competencies that allow them to function at the highest levels in order to address job requirement needs in the labour market. A visual impairment pedagogy ought to rely on 'methods that teach, [anchored on] ...pedagogic dialogue', providing inputs from learners with visual impairment (Nind & Lewthwaite

2018:402). However, in South Africa, this may not be easily achieved as there has to be a complete change of the mindset of the teacher. In general, the traditional teacher-centred approach still prevails within the South African setting. Attitudes towards inclusion present challenges of implementation as a learner with visual impairment is perceived to be more of a problem than the teacher’s lack of relevant competencies.

The visual impairment pedagogy promoted in this chapter is based on the principles of UDI as promoted by Taylor (2016). The following is an adapted model based on Taylor’s nine UDI principles that cater for the learning needs of learners with visual impairment. Visual impairment pedagogy can be described as visual impairment-specific modes of teaching that cater to



Source: Adapted from Taylor (2016).

**FIGURE 2.2:** Universal design in instruction for visual impairment pedagogy.

effective learning despite the lack of visual perception of the learning material.

Below, these principles are briefly described in order to guide teachers working with learners with visual impairment. Whilst reading the principles, the teachers are encouraged to reflect on how they see each of them applied in their own classroom:

- **Equitable use** requires instructions to be accessible in different formats in order to cater for varied learning needs of visually impaired learners.
- **Flexibility in use** refers to various instructional methods that cater for multiple learning styles. Learners with visual impairment learn differently and their learning styles must be catered for.
- **Simple and intuitive** instructions must be used. All instructions must be simple and straightforward without any complexities.
- **Perceptible information** refers to instructions that can be read through various means; for instance, if it is a picture, it must be accompanied by alternative methods of accessing information about it.
- **Tolerance for error** should be treated as fundamental and learning must be scaffolded in order to introduce information in an accessible manner.
- **Low physical effort** can be addressed through requiring learners to engage in activities which are only relevant to meeting learning goals. These should also not strain learners physically; for example, if they have to listen to some information, nothing should strain them physically.
- **Size and space for approach and use** fundamentally refers to multiple ways in which teaching is provided in order to cater for multiple learning needs.
- **Community of learners** is based on peer teaching and learning where students can support one another.
- **Instructional climate** must be inviting and encouraging students to look forward to learning in order to meet their learning goals. It should be a climate of positiveness that

allows space error and correction thereof, but never space for giving up.

These principles seem to be compatible with the spirit of teaching learners with visual impairment who need learning material to be accessible. Although they are expected to make as much effort as anyone else, learners with visual impairment already make extra effort to access learning material; thus assisting them to access learning material would be much more beneficial. The visual impairment pedagogy challenges traditional ways of teaching through the introduction of three critical principles of the 21st-century instruction such as personalisation, participation and productivity (McLoughlin & Lee 2008). Personalisation implies learning that is tailor-made to meet individual learning needs. Participation provides for active learning, where learners are not spectators but creators of knowledge. Productivity promotes an approach of allowing learners to be creators and entrepreneurs of their knowledge products. These principles generally promote the learner as taking responsibility for the decisions that have to be taken in order to foster quality and up-to-date knowledge relevant to the 21st century. Thus, technology becomes important in such a learning context.

## ■ The use of technology as pedagogical tools

The ubiquity of technology in the teaching space presents challenges and opportunities in the 21st century for both teachers and learners alike in South Africa. Whilst there is a general inclination to use technologies as pedagogical tools, great care must be taken to ensure that effective quality learning is achieved. From pedagogical perspectives, technologies must be perceived as epistemological tools emerging from socio-cultural spaces (Oliveira et al. 2019:149). In the space of visual impairment in South Africa, technologies as pedagogical tools for teaching and learning play a critical role of augmenting the learning experience

for learners with visual impairment as a teacher's professional toolbox (Eady & Lockyer 2013). Technologies disrupt the traditional ways of teaching and learning and provide opportunities for the transformation of the pedagogy to accommodate learners with visual impairment. Technology must advance the quality of learning of learners with visual impairment.

In advancing quality, Koehler and Mishra (2009) promoted a framework for teacher knowledge for technology integration called technological pedagogical and content knowledge (TPACK). Teaching with technology can be a challenge to many teachers who have not traditionally been using technology, especially the digital technologies that change almost daily. Koehler and Mishra (2009) further caution that digital technologies must be used and planned for in specific classroom contexts based on the learning needs. This means that there are no general ways to remedy challenges faced by teachers which may be outside the specific teaching and learning contexts. The TPACK framework (Koehler & Mishra 2009:62) emphasises three main aspects important to teaching and learning: content, pedagogy and technology, with special aspects targeted at technological content knowledge and technological pedagogical knowledge. The important aspect of technology is digital provisioning for learning which presents opportunities for use of multimedia elements, including text, image, video and audio to present information (Eady & Lockyer 2013). Teachers of the 21st century should use technologies as pedagogical tools for transformative learning experiences (Mishra, Koehler & Henriksen 2011). In light of this, it is important to examine the implications of technologies as pedagogical tools for teaching strategies for learners with visual impairment.

## ■ Implications for inclusive teaching or instructional strategies

At the intersection of technology and pedagogy lies fertile ground for technology-based, student-centred learning

environments (Gibson 2001). Learners with visual impairment are diverse in their disability and as human beings. Their learning needs are also as diverse, and accommodation for learning poses many challenges. The move from traditional methods of teaching towards technology-based methods is welcomed in order to facilitate access. However, the ever-evolving technology presents application-based challenges that might compromise opportunities if not used effectively to accommodate individual needs and styles of learning. Teaching strategies for learners with visual impairment have to be deliberate and well planned to accommodate the diversity of learning needs amongst learners with visual impairment. Self-made indigenous technologies developed between the teachers, learners and families should also be encouraged. The first step is to understand the nature of the visual impairment in order to implement relevant learning accommodations. Classification and categorisation of visual impairment assists teachers to plan lessons in all-inclusive ways that accommodate relevant needs of learners. Whilst there are many detailed classifications whose scopes are beyond the aims of this chapter, a description of visual impairment is further provided. The WHO (2016) definition of visual impairment provides categories that cover a continuum between low vision and being totally blind.

These classifications provide a platform for teachers to understand and align teaching and learning strategies in order to

**TABLE 2.1:** Categories of visual impairment.

<b>Classification</b>	<b>Snellen visual acuity</b>
Mild vision loss or near-normal vision	20/30 to 20/60
Moderate visual impairment or moderately low vision	20/70 to 20/160
Severe visual impairment or severe low vision	20/200 to 20/400
Profound visual impairment or profound low vision	20/500 to 20/1000
Near-total visual impairment or near-total blindness	Less than 20/1000
Total visual impairment or total blindness	No light perception

Source: International Council for Education of People with Visual Impairment (2019; cf. Kiarie 2002).

address learning needs' diversity amongst learners with visual impairment. With a view to encourage independence, reading strategies become important as one of the skills critical for learners with visual impairment. Teaching and instructional strategies must address particular learning needs of learners with visual impairment. Below is a discussion of how teachers can best use the identified strategies to support learners to optimise their learning experience.

## ■ Reading strategies for students with visual impairment

Fundamental to the teaching or instructional strategies for learners with visual impairment is adaptation of material and curriculum differentiation (Marishane, Marishane & Mahlo 2015). The educational team comprising the classroom teacher, family and a support person must collaborate to ensure that learners develop the skills needed to become proficient readers through paper, e-text and oral strategies.

### ■ Paper strategies

The three most important paper strategies used for learners with visual impairment are print, magnification and braille. Literacy, the ability to read, write and use numbers, is a key skill in the fourth industrial revolution. Rapid reading techniques have been found to result in higher reading rates (Pattillo, Heller & Smith 2004). For print, use of enlarged print, masking to reduce visual clutter and coloured acetate overlays to enhance contrast or reduce glare are useful techniques (Special Education Technology British Columbia 2008). Braille still occupies a critical role as it promotes competence, independence and equality (Schroeder 1996), and will remain useful to personal and professional lives of people with visual impairment (Wells-Jensen, Wells-Jensen & Belknap 2005). For teachers who are visually impaired, such as Botle, reading cannot be avoided. Teachers could use braille as a transitional tool to access computer literacy required in higher

institutions of learning. This replaces or moves towards paperless strategies to be adopted by teachers through migrating to e-text strategies.

## ■ e-Text strategies

The fourth industrial revolution has ushered in technology-orientated teaching and learning strategies across education systems. However, education systems must always cater to those marginalised learners with no access to technology. Tracking, auditory support and refreshable braille are fundamental to learning strategies for learners with visual impairment (Special Education Technology British Columbia 2008). e-Text provides new text formats, that is, nonlinear, interactive and multiple media (Cohen 2006). The advantages of e-text include its versatility that allows multiple ways to access it. e-Text provides easy access for learners with visual impairment and teachers must explore the most suitable ways to maximise reading for comprehension (Magnusson, Roe & Blikstad-Balas 2019). Learners with visual impairment can manipulate e-text to suit their learning needs, most of the times without the aid of the teacher. However, teachers should ensure that learners with visual impairment read for deeper understanding in their manipulation of e-text (Magnusson et al. 2019).

## ■ Oral strategies

Oral strategies form part of a tradition of learning akin to indigenous societies, yet also relevant in the 21st century for learners with visual impairment. Readers and auditory books are becoming the alternative to printed text for learners with visual impairment. These provide for the learners with visual impairment to access information through listening. However, readers and auditory material can only be accessed by learners with resources. In less resourced areas, technology that supports reading and learning through auditory means, if available, could be

benchmarked on the oral tradition of storytelling around fires in African villages. Traditional learning strategies converge with digital learning using a recorded or artificial voice. These sometimes cause problems as accents differ around the world. For most disadvantaged learners, stories might be better presented in their own languages, but this is not the case.

## ■ Conclusion

Visual impairment in South Africa is a leading barrier to learning, with serious socioeconomic consequences for learners and the society at large. Because of its complexity, visual impairment requires a more focused pedagogy and teachers need to acquire relevant visual impairment teaching competencies. The prevalence and services provided for visual impairment need to be addressed, especially in rural contexts. Teachers require more relevant training in order to obtain competencies to address visual impairment.



# Human rights and visual impairment

**Juan Bornman**

Centre for Augmentative and Alternative Communication,  
Faculty of Humanities, University of Pretoria,  
Pretoria, South Africa

**Keywords:** Accessibility; Autonomy; Equality; Justice; Non-discrimination.

'Just because a man lacks the use of his eyes doesn't mean he lacks vision... Blind don't mean you can't, you know, listen.' – Stevie Wonder (n.d.a, n.d.b)

## ■ Introduction

Of the 7.3 billion people alive in 2015, 253 million people were visually impaired, of whom 36 million (14.2%) were blind (a 17.6% increase since 1990) (Bourne et al. 2017). Individuals like Stevie Wonder, Helen Keller, Louis Braille, Andrea Bocelli and Claude

**How to cite:** Bornman, J., 2020, 'Human rights and visual impairment', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 47-77, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.03>

Monet, who painted his famous water lilies when he was almost completely blind, are individuals not defined by their blindness but by the impact they made on society. How much poorer would this world have been if these individuals were not enabled to reach their full participation and become contributing members of society? What would have been lost if these individuals had not been granted human rights such as the right to life, respect, education, health, social justice and so on?

Creating a disability inclusive (or disability friendly) society has enjoyed increasing attention in the 21st century. However, we would be mistaken if we were to assume that this focus on inclusion has only been highlighted in the field of education. By its very existence, inclusion suggests multidisciplinary involvement of a plethora of academic disciplines, amongst others, but not limited to law, sociology, social work, therapeutic sciences, psychology, theology, ethics, philosophy, art and education.

## ■ Overview of the chapter

In this chapter, the construct human rights and its relevance in the disability field are described. Aspects specifically related to visual impairment are emphasised throughout. This chapter commences with a definition of key concepts, followed by a case study, which runs through the chapter like a golden thread. Different disability models are then described along a developmental continuum, ending with the contemporary human rights model. Various pieces of legislation (international, regional and local) based on the human rights model are then discussed, as illustrated in Figure 3.1.

After discussing the importance of human rights for individuals with visual impairments, some risks for persons with visual impairment (in other words their rights infringed) as well as positive change (possible solutions) that can be brought about through reform are highlighted.

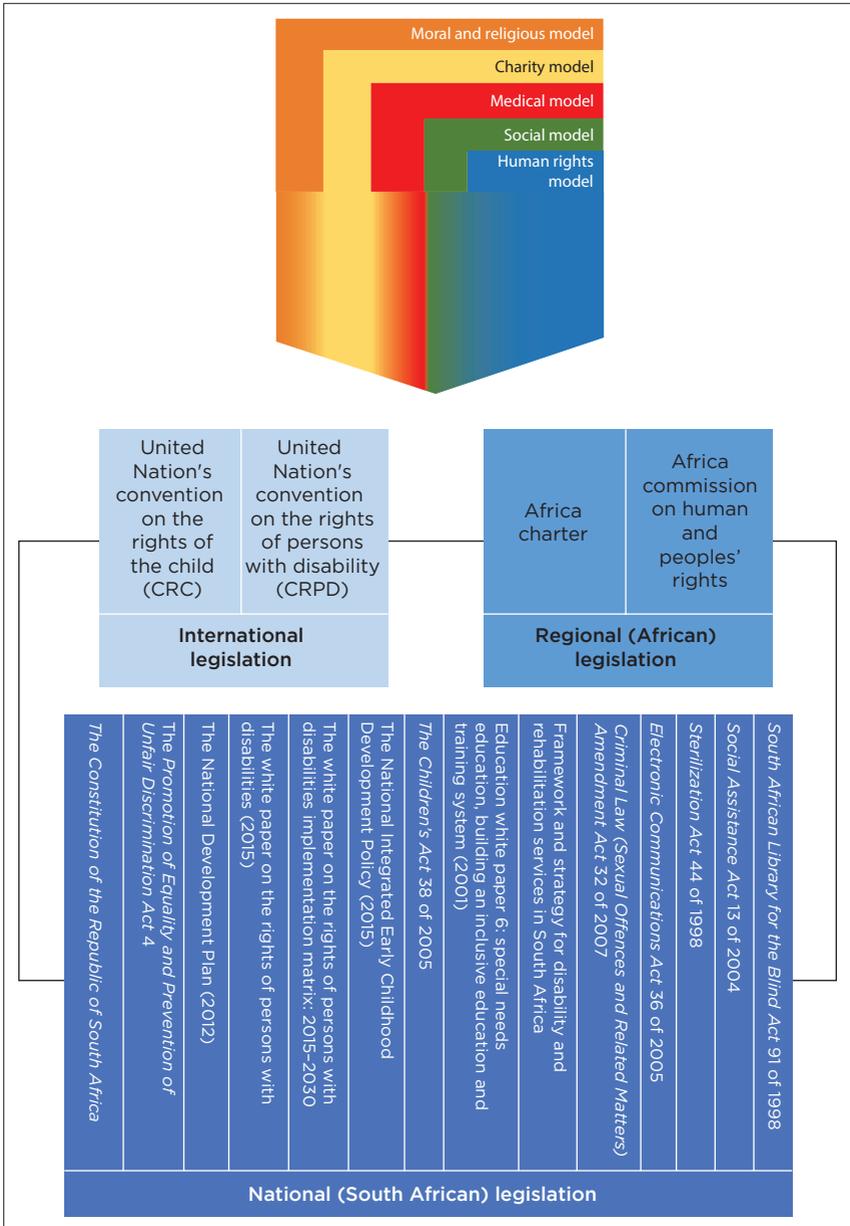


FIGURE 3.1: Overview of the chapter.

## ■ Definition of key concepts

### ■ Human rights

Rights inherent to all humans, irrespective of race, religion, language, age, gender, nationality, disability or any other status. These basic rights belong to all, from birth to death, and are defined and protected by law.

### ■ Inclusion

In this chapter, inclusion is viewed as a broad term. It goes beyond the classroom and the education system although it includes all efforts made by teachers, principals, administrators and broader school communities to ensure that potential learners and their parents feel welcome and valued. Inclusion ensures participation for all, irrespective of ability, gender, behaviour, culture, economic status or any other reason in all spheres of life: in the health system, in social development, in the job market and so on. It has far-reaching implications and ranges from transport to housing, from public facilities to the court system and from printed media to the television. Inclusion goes straight to the heart of how we, as a community of human beings, wish to live with one another, and therefore it should not simply be seen as an externally driven process (typically performed by disability advocates), but rather as something that each one of us should take responsibility for.

### ■ Visual impairment

Visual impairment constitutes a significant loss of visual capability and affects visual acuity (the sharpness or clarity of vision), visual field (the area which a person can see without turning one's head) and colour. Visual impairment can be the result of disease, trauma, a congenital or degenerative condition, and it cannot be corrected by means of refractive correction (e.g. spectacles or contact lenses), medication or surgery.

## ■ Case study

Nic is a 61-year-old physiotherapist who lost his vision when he was approximately one year old following a surgery necessitated by cancer. Despite his whole family living in Pretoria, Gauteng, South Africa, he had to attend the Worcester School for the Blind (now Pioneer School) from the age of 6, which is located in the town of Worcester in the Western Cape. It was then regarded as the only appropriate school that could cater to his specific needs. After completing Grade 12, Nic obtained a bursary from the Department of Manpower, which enabled him to study in London at The North London School of Physiotherapy, the only institute at the time offering physiotherapy training to individuals with visual impairment. The bursary did not cover his air ticket, resulting in many fundraising initiatives, spearheaded by his family. After working at the Prince of Wales Hospital in London and at a private practice in Chesterfield in Derbyshire, he returned to South Africa in 1988. He joined a private practice and in 1990 opened his own physiotherapy practice where he still practices. This is how Nic thinks about his human rights as a blind person:

‘I have never viewed the challenges posed to me through my disability as a loss of my human rights. Because of my belief system, I believe that Satan, as the bearer of all bad things, has tried to steal from me. The loss of independence has often been an immense frustration and irritation ... the ability to read print, to drive my own car, to ride a motor cycle, to see my wife and family... The feeling of powerlessness that I often experienced as a teenager at school started to change after I left school when I started to discover that if I put my mind to the solution of a problem very often, the problem would be solved. Often in a roundabout way but solved nonetheless. Later when I qualified as a physiotherapist and was working for myself and I was in a reasonable financial position, the improved finances helped me to overcome obstacles, buying my own vehicle and employing my own driver, buying a computer and a program that could convert text to speech, paying people to read to me and to guide me, or if I wanted to go to a concert paying for myself and a guide. So, in a nutshell, I am saying that improved problem-solving skills, improved self-confidence and improved finances helped me, to a large degree, to deal with the challenges of my blindness, not eliminating the

challenges, but to deal with them to a large degree.’ (Nic, male, physiotherapist)

In the remainder of this chapter, we will come back to Nic’s unique story and the implications it has for a contemporary view on human rights and visual impairment.

## ■ Contemporary views on disability

All over the world, persons with disabilities – especially children with disabilities – are challenged by significant barriers to their human rights (Erasmus, Bornman & Dada 2016). They have often been denied their human rights in the past, which include the ‘right to live in the community, marry, procreate, work, receive an education and, in some cases, receive life-saving medical treatment’ (Connolly & Ward 2008:96). Some of these practices remain today. Persons with a disability are routinely denied their rights to quality education, which later impacts on employment, social assistance (including the Care Dependency Grant for children and the Disability Grant for adults), healthcare systems (including prevention, early identification, rehabilitation and assistive devices) as well as care and protection against abuse, neglect and exploitation (Centre for Child Law 2017).

Although this chapter will refer to disability as an umbrella term encompassing a range of disabilities (including congenital and acquired disability) across the severity spectrum (ranging from low vision to blindness) as well as a range of age groups (from infancy through adolescence to adulthood), it will focus specifically on school-aged learners with visual impairment. Preparing teachers to work with learners with visual impairment has become increasingly complex and challenging because of the fact that their needs are diverse and unique. Furthermore, it requires teamwork involving a range of professional disciplines: from ophthalmology, through education, law, engineering and information technology to the therapeutic sciences.

## ■ Prevalence figures: Numbers matter

The 2011 census measured disability prevalence using the six domains of functioning: seeing, hearing, communication, remembering or concentration, walking and self-care, and despite known limitations with the census methodology, loss of sight was the most common type of disability at 32.1% followed by hearing impairment (20.1%) (Statistics South Africa 2014). It should be clarified that this 32.1% would include individuals who have refraction errors (loss of visual acuity) and who would therefore benefit from sight correction with spectacles or contact lenses. However, as explained in Chapter 7, the 2011 census showed that 1.7% of these individuals had ‘severe difficulty in seeing’, which would amount to approximately 1 million people of whom the majority reside in rural areas.

## ■ Five prominent disability models

Before embarking on an ‘inclusion’ journey, it is imperative to clarify contemporary thinking around specific disability models as these models provide definitions of disability, guide the development and implementation of policy and inform how academic disciplines study and learn about disability (Retief & Letšosa 2018). Chapter 1 also discusses these various models.

## ■ Moral and/or religious model

One of the oldest models of disability is the moral and/or religious model, which attests to the fact that disability is not a modern-day phenomenon, but that it has existed since ancient times, when the philosophers of the day and the early church fathers had already debated it as a cultural construct that had to be understood in a particular community (Stander 2013). In this model, disability was regarded as a punishment from God for a particular sin committed by the person with the disability and his or her family. For example, in some of the Bible

interpretations, 'blindness' (and other forms of disability) are equated with sin, evil or spiritual incompetence (Retief & Letšosa 2018). According to this model, disability is also sometimes viewed as a test of faith. If a person does not experience the physical healing of the disability, they are accordingly regarded as lacking faith (Black 1996). Likewise, in Islamic theology, disability was also seen as a test (*ibtilāʾ*) of faith and trust in God (Ghaly 2016).

As individuals with a disability form part of a larger family unit, 'disablement by proxy', came about, which led to families of individuals with disabilities experiencing inequality, discrimination and, in some cases, even rejection and exclusion from their local communities (Murray 2007). On the other hand, disability can also be regarded in a positive light in this model. In this regard, Black (1996) explains that persons with disability may be regarded as 'blessed' as they have the opportunity to learn some important life lessons, or in some cases, persons with disability are viewed as saintly representatives of God (Möller 2012). Although this model is not as prevalent as it was premodern times, this underlying thinking – in some way or another – is still encountered in certain cultures and communities.

## ■ Charity model

Closely related to the moral and/or religious model is the charity model that regards disability as victimhood. This model emphasises that persons with disabilities deserve to be pitied, as they are seen as helpless, suffering, depressed and dependent on others for care and protection (Retief & Letšosa 2018). This model seeks to benefit persons with a disability and encourages able-bodied persons to assist individuals who have a disability in any way possible as they are in need of 'special services' (including special schools) as they are 'different'. Some religious texts also exemplify society's duty to care for persons with disabilities (Al-Aoufi, Al-Zyoud & Shahminan 2012).

## ■ Medical model

From the mid-1800s, the medical model, which regards disability as a 'disease', replaced the moral or religious model of disability. The medical model is individualistic, strongly normative and based on an impairment perspective (Mitra 2006). It therefore sees disability (i.e. blindness in this case) as a medical problem, that is the result of a defect on the body function or structure level, within the individual. Thus, this model regards persons with disabilities as deviating from what is regarded as 'normal' and was the prevailing model when Nic (whom we met in the case study) was attending school. Therefore, it is unsurprising that some authors also refer to this model as the 'personal tragedy model' (Retief & Letšosa 2018). This model has frequently been critiqued for its focus on disability as a condition that should be pitied and that all attempts should be made to cure and prevent it (the best possible scenario), and if that is not possible, to hide it, all the whilst ignoring the role of social and physical environments in the disabling process (Beukelman, Bornman & Light 2016).

## ■ Social model

Dissatisfaction with the medical model gave rise to the social model of disability, which regards disability as a socially constructed phenomenon - thereby seeing disability as a challenge originating within society. This model started developing in the 1960s and became prominent in the 1980s, stating that individuals are regarded as having a disability when the 'physical, cultural, political, and economic structure of their everyday society does not accommodate their impairment' (Anastasiou & Kauffman 2013, cited in Beukelman et al. 2016:233-240). Disability is therefore regarded as a socially constructed disadvantage, which is imposed on persons with disability by the environment that is not adapted to support these individuals, thereby creating barriers than hinder their participation in

everyday activities. The social model of disability has had a profound influence on how disability is understood in our time and has played a crucial role in the development of Education White Paper 6 (Department of Basic Education [DBE] 2001), which frames inclusion in the South African context.

## ■ Human rights model

The social model formed the basis upon which a human rights model was built, which regards disability as a human rights issue. This model implies that the so-called ‘problem of disability’ does not lie with the person with the disability but rather with the absence of equal protection, which must be afforded to all (Grobbelaar-du Plessis & Van Reenen 2011). The human rights model also incorporates both first- (civil and political rights such as the right to life and equality before the law) and second-generation (socioeconomic rights such as right to healthcare, employment and social security) human rights (which are also sometimes referred to as blue and red rights, respectively). The model simultaneously advocates for social justice in cases where persons with disability have been confronted by challenging life situations and that their human rights need to be protected (Degener 2017). One such example is when children are denied education as a result of their visual impairment, strategic litigation is needed. Likewise, the Kenya Legal and Ethical Issues Network on HIV and AIDS (KELIN) report ‘Robbed of choice’ (2010) illustrates this by means of a case study. Nancy, a 29-year-old woman who is infected with HIV was sterilised without her consent when she was 25 years old:

‘The doctor told me: “You have not only been tested positive for HIV, but you are also blind. You cannot continue to have children...” He ignored the fact that I was married at the time and had one other child and so I could take care of children despite my condition.’  
(Nancy, 29, unknown occupation)

Within the human rights model, not only should ‘appropriate legislation (statutory law that is enforceable) and policy (documents that set out a course of action to be taken by a

government or organisation)' (Ramaahlo, Tönsing & Bornman 2018:3) be in place, but their effective implementation should also be monitored. Furthermore, the fact that disability is often seen as both a cause and a consequence of disability (Groce et al. 2011) also underscores the relevance of the human rights model which offers constructive proposals for improving the living conditions of persons with disability (Degener 2017).

Although viewing disability through a human rights lens provides a fresh look at some of the misconceptions of the preceding models, whilst underscoring the valuable shifts in focus and understanding of disability, caution should be applied. It is imperative to resist a monochromatic 'either/or' view of the disability models - otherwise, the baby is thrown out with the bathwater. As disability is a multidimensional construct, a nuanced approach, in which elements from all five of the models are regarded, is proposed in this chapter, as demonstrated in Figure 3.1.

## ■ What are human rights and why are they important?

Human rights are those rights that an individual enjoys because of being human - therefore, they are considered universal to humanity, regardless of citizenship, residency status, ethnicity, gender, disability or any other considerations. No government, body, group or person can take another person's human rights away (as Nic also alluded to in the case study). However, these rights can sometimes be restricted, for example, when a person breaks the law. South Africa has a progressive rights-based legal system to prevent unfair discrimination based on race, gender and/or disability. As such, it is guided by international, regional and local legislation, as shown in Figure 3.1.

## ■ International legislation

Given South Africa's internationally praised progressive human rights legal system, it should come as no surprise that South Africa ratified both the United Nation's Convention on the Rights

of the Child (CRC) (United Nations 1989) and the subsequent Convention on the Rights of Persons with Disability (CRPD) (United Nations 2006). The CRC seeks, in Article 2, to (United Nations 1989):

[R]espect and ensure the rights of each child without discrimination of any kind, irrespective of the child or their parent's or legal guardian's race, colour, sex, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status. (p. 2)

Whilst those are the aims of Article 2, the main aim of the CRPD, as stated in Article 1, is to 'promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity' (United Nations 2006).

Both these conventions have brought disability issues into the mainstream of development policy and practice, and therefore resonate well with inclusion. These conventions establish a set of eight foundational principles that could be used as a guideline for teachers to ensure that true inclusion is occurring:

- respect for the inherent dignity and individual autonomy, including the freedom to make one's own choices and be independent
- non-discrimination
- full and effective participation and inclusion in society
- respect for difference and acceptance of persons with disabilities as part of human diversity and humanity
- equal opportunities
- accessibility
- equality between men and women (boys and girls), which includes equity, fairness and being treated as having equal worth
- respect for the evolving capacities of learners with disabilities and for the rights of learners with disabilities to preserve their identities.

It is important to note that these conventions do not establish new rights for persons with disability, but rather elaborate on which human rights already exist whilst also clarifying what the role and the obligation of the state is in promoting and protecting the rights of this vulnerable group of individuals.

## ■ Regional (African) legislation

Apart from these two international conventions, a number of other regional instruments such as the African Charter (also known as the Banjul Charter) and the African Commission on Human and Peoples' Rights also protect persons with disabilities in Africa. The African Charter is set out in four chapters: Chapter I focuses on Human and Peoples' Rights (comprising art. 1-26) and Duties (art. 27-29), Chapter II focuses on Measures of Safeguard (comprising art. 30-45), Chapter III focuses on the Procedure of the Commission (comprising art. 46-50) and Chapter IV focuses on Applicable Principles (art. 60-62).

For example, in Article 18 (ch. I), the role of the family as the natural unit and basis of society is reaffirmed. Furthermore, Article 18 recognises the duty of the state to assist families to ensure that the rights of their children (including their children with disability) are protected and that all forms of discrimination are addressed and eliminated.

## ■ National (South African) legislation

South Africa does not have comprehensive disability legislation that deals exclusively with matters related to disability or persons with disability, choosing to rather enact different pieces of legislation that addresses disability-related issues (Grobbelaar-du Plessis & Grobler 2013). Some examples of South African legal instruments are listed below:

- The Constitution of the Republic of South Africa guarantees the rights of all persons with disability to freedom from discrimination and equal access to services (South Africa 1996).

- The *Promotion of Equality and Prevention of Unfair Discrimination Act* No. 4 of 2000 obligates the adoption of special measures to overcome barriers and ensures that all persons with disabilities have meaningful access to all their rights (South Africa 2000).
- The National Development Plan (2012) recognises the importance of disability prevention and ensures that equal enjoyment of rights by persons with disability is critical to eliminating poverty and inequality. It requires integration of disability into all government policies, programs and budgets, and guarantees access to all services (South Africa 2012).
- The White Paper on the Rights of Persons with Disabilities (2015) obligates the adoption of laws, policies and programmes to secure survival and development of the full potential of all persons with disability by increasing access to services (South Africa 2015a).
- The White Paper on the Rights of Persons with Disabilities Implementation Matrix: 2015–2030 commits the government to take concrete measures (including policies and budgets) to meet the requirements set out in the White Paper 6 (South Africa 2015b).
- The National Integrated Early Childhood Development Policy (2015) ensures a plethora of methods in the earliest years of a child’s life to prevent disability and developmental delays and ensures that children’s rights are met (South Africa 2015c).
- The *Children’s Act* No. 38 of 2005 compels the establishment and funding of a comprehensive child protection system, prioritising prevention and early intervention for children with disability (South Africa 2005a).
- Education White Paper 6: Special Needs Education. Building an Inclusive Education and Training System (2001) recognises the right of all children to quality education whilst also providing steps needed to build an inclusive education system (South Africa 2001).
- Framework and Strategy for Disability and Rehabilitation Services in South Africa 2015–2020 recognises that all persons, including individuals with disability, have the right to develop

to their full potential and outlines how the public health system can be used to provide quality rehabilitation services (South Africa 2015d).

- *Criminal Law (Sexual Offences and Related Matters) Amendment Act 32 of 2007* includes provisions regarding legal matters related to sexual offences to protect children and adults with disability (South Africa 2007).
- *Electronic Communications Act 36 of 2005* provides for the regulation of electronic communications that cater for all, including persons with disability (South Africa 2005b).
- The *Sterilisation Act 44 of 1998* prohibits the forced sterilisation of persons with disability and emphasises the rights to reproductive health for this population (South Africa 1998a).
- The *Social Assistance Act 13 of 2004* regulates the eligibility for social grants (Care Dependency Grants and Disability Grants; South Africa 2004).
- *South African Library for the Blind Act 91 of 1998* ensures access to the library for blind and visually impaired persons (South Africa 1998b).

An important legal avenue through which inclusion can be achieved is to continually emphasise the duty to accommodate persons with disabilities in all sectors of society, including education, health, employment, access to justice and participation in political and public life to name but a few. Therefore, we need to continuously ask ourselves what we can do to ensure that our socioeconomic environment does not continue to exclude persons with disability. Inclusion should therefore not only be regarded as a value that should be taught but also be applied through an attitude that everyone deserves to be treated equally despite looking or thinking differently from others.

## ■ Implementation of legislation in South Africa

In order to achieve social justice, fulfil rights and ensure that the conventions, policies and laws do not remain abstract theoretical

documents, the State should adopt certain measures to guarantee that the rights-holders should have the means to realise their rights. This implies, at minimum, that rights-holders should have information about their rights (in an understandable format, such as braille) as well as knowledge about how to realise these rights. If this is not performed, their full and equal participation across different spheres of life is prevented. Concepts such as ‘normality’ and what it means to be ‘normal’ or ‘different’ need to be reconsidered and addressed in a transformative manner in order to achieve social justice (Nel 2013).

Policy implementation goes through several stages from inception to conclusion and should consider four distinct aspects (Walt & Gilson 1994). Firstly, the stakeholders who are involved throughout the different stages, including both state (e.g. the Ministry of Education) and non-state individuals and organisations (e.g. various NGOs, National Council of Churches, disability advocacy groups), influence the political agenda either locally, nationally, regionally and internationally. The power and authority of these stakeholders can influence the policy to a greater or lesser extent. Secondly, the context of the policy ought to be considered, in other words, the systemic political, economic and social factors that impact the policy (in this case Education Policy) both nationally and internationally (Buse, Mays & Walt 2005). These factors may be more or less transient and may be idiosyncratic to a specific context (e.g. the type of economy, the employment base and specific demographic features). Thirdly, the content of the policy, in other words the substance of the specific policy, whether it be Education White Paper 6: Special Needs Education, which focuses on inclusive education, or the *Sexual Offences and Related Matters Amendment Act*, which includes specific provisions to protect child victims of sexual offences, including children who are blind. Fourthly, the processes of the policy should be considered, including how it was initiated, developed, negotiated, communicated, implemented and evaluated (Walt & Gilson 1994). Thus, to summarise, it is clear that the development and implementation requires a joint effort

and with responses on multiple levels from a variety of stakeholders, including community members.

Despite South Africa's progressive constitution (South Africa 1996) and the fact that Education White Paper 6: Special Needs Education (South Africa 2001) focuses on quality inclusive education for all, education is still not a reality for almost half a million South African learners with disabilities (DBE 2014). This department estimated that 8% of all 7- to 15-year-olds and 24% of 16- to 18-year-olds with disability were not enrolled in schools in 2011 as a result of schools being filled to capacity (DBE 2014). Despite some advancements in education for children with disability, policy implementation is still hindered by a lack of clarity in the policy (i.e. ambiguity about the goals for inclusion and the means through which they can be achieved) as well as many school-level and cultural barriers preventing inclusion (Donohue & Bornman 2014). For example, teachers may feel that they are ill-equipped to teach children with visual impairments, as they follow a pedagogy of writing large amounts of information on black- or whiteboards for children to copy, which is ineffective for this population.

## ■ **Role of parents of children with disability in the implementation of legislation**

Understanding the views of parents of learners with disability regarding their children's rights is crucial as parents can either be advocates for ensuring that their children's rights are recognised (Ruck, Peterson-Badali & Day 2002) and that those mandated rights are met (Austin 2000) or restrict their children's rights (Cherney & Shing 2008). In the case study, it was clearly demonstrated that Nic's family acted as empowered agents (advocates) on his behalf, ensuring that he received the education he needed to equip himself to optimise his skills, eventually leading to employment and financial independence.

Regrettably, Nic's story is not common. Families of learners with disabilities often have limited resources available to them particularly in rural areas where facilities for education and intervention are limited (Burke 2005). Yet, education (art. 24 of the CRPD, in particular) focuses on the development of inclusion as an essential and ongoing process, placing a legal obligation on ratifying states (Biermann 2016). Applying a human rights model to education requires the development of a comprehensive model that addresses all aspects of the education system (Schaeffer 2009), including an acknowledgement of the role of different stakeholders. For inclusion to be effective, the learner should be regarded as part of the community at large as well as part of the school context and home because true inclusion goes beyond the classroom. There should be a reciprocal relationship between the community in which a school is situated and the school; whilst the community should take ownership of the school, the school should aim to utilise all the possible resources in the community (Bornman & Rose 2017). Sustainability can only be ensured if both educational issues and community participation are integrated, for example, using the same building for school during the week and for church services over weekends, or community gardens.

In the school context, the role of both teachers and the school management team, which includes the principal, vice principal(s), heads of departments as well as representatives from the district office, should be considered. The school management team is responsible for decision-making related to financing, the way services are delivered, the placement of children and the in-service teacher training needs; hence, their commitment to inclusion is critical. Apart from teaching (which encompasses lesson planning, delivering and assessment), teachers are also required to support children's well-being in order to optimise learning – making it crystal clear that teachers require a wide range of knowledge and skills. Equipping them to also include learners with visual impairments in the classroom requires an expansion of this knowledge and skill set.

Inclusion also has to consider the home context and the role of parents and other primary caregivers. Parents carry the overarching responsibility for the learner, ensuring that their child feels nurtured and loved, as that is the basic premise for learning. If a learner experiences success at home, it provides a positive springboard for experiencing success in the classroom because children who feel safe and secure are more willing to participate in increasingly complex learning challenges.

Finally, issues of ‘availability, accessibility, acceptability and adaptability’ (Ramaahlo et al. 2018:31) do not only apply to primary education but are equally important to consider in higher education, and in the policies that govern this sector of education.

## ■ Practical examples of supporting the human rights of people with visual impairment

With the dawn of the Fourth Industrial Revolution, new technologies and strategies have become available to support persons with visual impairment in various ways. Some of these strategies are discussed in detail in the second volume of this series ‘Teaching learners with visual impairment’. Chapter 3 to Chapter 6 and Chapter 8 are of pertinence. In the next section, some practical examples are briefly shared.

## ■ Creating awareness and visibility

As alluded to earlier, awareness raising should be ensured at multiple levels, for example, in the wider community as well as in the school and home context, including and empowering a variety of stakeholders.

In order to track services for children with disabilities, it is also necessary to obtain accurate disaggregated prevalence data on the basis of disability, for example, visual impairment. This is also

a critical element of unmasking the invisibility of children with disability (Phillpott & McKenzie 2017).

Innovative ‘use of technology (e.g. podcasts, online videos and various forms of social media), as well as more traditional methods such as community meetings, radio, television, and newspapers’ (Goldbart & Sen 2013:n.p.) should be employed to raise disability awareness, focusing specifically on visual impairment.

## ■ **Mobile technology and persons with visual impairments**

The CRPD, especially Article 9, recognises the importance of mobile technology for providing equal opportunities to persons with disabilities as it notes that information and communication technologies (see Retief & Letšosa 2018:1), including mobile technology, enable persons with disability to live more independently and participate more fully in all aspects of life (United Nations 2006). The CRPD further calls for the promotion of accessible information and communications technologies and systems at an early stage, in terms of their design (i.e. using principles of universal design), development, production and distribution, so that these technologies and systems become accessible at minimum cost.

Current mobile technology (see Retief & Letšosa 2018) is generally used for searching information as well as online services such as banking, entertainment (books, news and video), education, health and safety, personal organisation tools such as an address book, calendar and clock and customer services such as airport check-in (Shane et al. 2012). Smartphones offer great opportunities for persons with visual impairments. On-screen magnifiers, large text options and high-contrast viewing mode all assist people with low vision to independently access their smartphones. Moreover, Apple’s ‘VoiceOver’ and its Android counterpart ‘TalkBack’ (see Van Roekel 2017) read the contents of a smartphone’s screen out loudly, thereby allowing the user to

browse apps, open links, type texts and emails with ease. Despite these benefits, the potential of mobile technology to improve the lives of people with disabilities, including those with visual impairments, remains largely untapped (Scope 2013).

## ■ Accessible material in appropriate formats

Globally, less than 5% of all books published annually are available in accessible formats for people with visual impairment, such as braille, audio and large print, creating a phenomenon referred to as 'Book Famine' or 'Knowledge Famine' (Ayoubi 2011). A case study performed by the Human Rights Watch (2015) exemplifies the challenge faced by schools for children with visual impairment caused by the lack of appropriate textbooks – in some cases, schools had been waiting for up to three years. In order to cover this gap, teachers at a Pretoria-based school decided to translate textbooks and other classroom materials into braille every evening of the term, thereby incurring high labour costs as this process takes time and uses a large number of resources. The master copy for a single braille textbook can be as high as R24 000.00 (\$1622 at an exchange rate of \$1 = R14.80), and in order to have them available, schools have started bearing the financial burden of purchasing these books, despite the fact that this is the clear obligation of the DBE. In order to measure and explain the purchasing power parity between two currencies, The Economist invented the Big Mac Index in 1986 (Cattlin 2018). In South Africa, R24 000.00 would buy 774 Big Macs (at R31.00 each), whilst in the United States, \$1622 will only buy 294 Big Macs (at \$5.50 each), showing the relative expense of braille textbooks in South Africa.

There is also a misperception amongst some teachers that certain subjects (e.g. mathematics, physical and life sciences, geography and music) are too 'visual', which makes it too complex to translate the material required for these subjects. This ultimately impacts on what these learners can study post-school, which in turn impacts on employment opportunities.

Donohue and Bornman's (2015) study reported that South African teachers expected that learners with Down Syndrome would make the maximum progress in reading and that learners who are blind would make the least. As braille is merely an alternative symbol set to traditional orthography, allowing learners who are blind to learn, read and write braille at the same time as their peers who are learning literacy skills by means of traditional orthography, this finding was unexpected. The low reading expectations for the learner who was blind in the study were almost surely related to the 'visual demands of learning to read (in the conventional manner) and teachers lack of knowledge of braille' (Donohue & Bornman 2015, in Bornman 2017:112). Therefore, this study highlights the important role of upskilling teachers to ensure realistic inclusive education. For a more comprehensive discussion on curriculum adaptation strategies, see Chapter 6 and Chapter 7.

The availability of materials in accessible format is, however, more than a human right; it is an essential component of learning – irrespective of how poor or rich a particular school, province or country is. Following a drawn out legal battle, a settlement was reached between the Minister of Basic Education and Section 27 (representing the SANCB, the National Braille Authority and School Governing Bodies of schools for visually impaired learners) to compel the State to provide braille textbooks for all visually impaired learners (Pikoli 2018). This judgement illustrates that specific steps have to be taken to ensure that everyone, including children with visual impairments, has equal enjoyment and benefit of the right to basic education.

## ■ Infringements of rights and suggested reforms

In Table 3.1, Articles 10–30 of the CRPD (United Nations 2006) are explored by underscoring the potential infringements of the rights of persons with visual impairments as well as possible reforms to address this. Persons living in less resourced areas

**TABLE 3.1:** Specific rights set out in the Convention on the Rights of Persons with Disability and their application to persons with visual impairment in the South African context.

<b>Art</b>	<b>Right</b>	<b>Risks for persons with visual impairment (rights infringed)</b>	<b>Possible solutions: Reform required to bring about change</b>
10	Right to life	<ul style="list-style-type: none"> <li>In some African regions, persons with albinism may be assaulted and killed in witchcraft-related rites or to make a 'lucky charm'</li> </ul>	<ul style="list-style-type: none"> <li>Develop holistic concept of rights for persons with albinism and awareness training to address attitudes and discrimination</li> </ul>
11	Situations of risk and humanitarian emergencies	<ul style="list-style-type: none"> <li>No assistance available to provide orientation and assist with getting out of danger in disasters, for example hurricanes and fires</li> <li>Emergency plans at schools and hostels in cases of fire are inadequate</li> <li>Occupational health and safety plans in high rise buildings are ineffective for independent evacuation by visually impaired workers</li> </ul>	<ul style="list-style-type: none"> <li>Independent training of person with visual impairment by O&amp;M practitioner on how to react in emergency situations</li> <li>Training teachers and other school staff on procedures</li> <li>Training coworkers and responsible health and safety officers on the needs of visually impaired persons and strategies and procedure</li> </ul>
12	Equal recognition before the law	<ul style="list-style-type: none"> <li>Social isolation and invisibility</li> <li>Lower status of these children in families and communities</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge and skill training of judicial system including police officers</li> <li>Mass media training in terms of awareness raising and advocacy</li> </ul>
13	Access to justice	<ul style="list-style-type: none"> <li>Lack of knowledge, opportunities and mechanisms to report violence and abuse</li> </ul>	<ul style="list-style-type: none"> <li>Development of information campaign with roll-out to demystify procedures for reporting violence and abuse</li> </ul>
14	Liberty and security of the person	<ul style="list-style-type: none"> <li>Persons with visual impairment are seen as vulnerable and easy targets by perpetrators and criminals who exploit their disability</li> </ul>	<ul style="list-style-type: none"> <li>Teach self-protection and awareness strategies (e.g. situations to avoid or when not to be on the streets) to reduce vulnerability or use a sighted-guide</li> </ul>
15	Freedom from torture or cruel, inhuman or degrading treatment or punishment	<ul style="list-style-type: none"> <li>Corporal punishment (especially of children with multiple disabilities and challenging behaviour)</li> <li>Mutilation and killing of persons with albinism in some contexts</li> </ul>	<ul style="list-style-type: none"> <li>Educate parents and teachers on the risk of physical punishment on survival and development</li> <li>Addressing myths around albinism and building knowledge</li> </ul>

Art, article; ATM, automated teller machine; BBBEE, Broad Based Black Economic Empowerment; DHET, Department of Higher Education and Training; O&M, orientation and mobility.

Table 3.1 continues on the next page→

**TABLE 3.1 (Continues...):** Specific rights set out in the Convention on the Rights of Persons with Disability and their application to persons with visual impairment in the South African context.

<b>Art</b>	<b>Right</b>	<b>Risks for persons with visual impairment (rights infringed)</b>	<b>Possible solutions: Reform required to bring about change</b>
16	Freedom from exploitation, violence and abuse	<ul style="list-style-type: none"> <li>• Pervasive culture of silence in schools around sexual assault or violence against learners</li> <li>• Children with disability are at greater risk of abuse, neglect and violence in their homes</li> <li>• Children rarely removed from abusive homes to safe alternatives because of lack of such facilities</li> <li>• Families exploit persons with disability and use their grants as a form of income for the family</li> <li>• Risk of not being provided correct change after a financial transaction</li> </ul>	<ul style="list-style-type: none"> <li>• Implement and monitor policies related to violence in schools and encourage whistle-blowing</li> <li>• Educate and provide psychosocial support to parents on parenting children with disability and on positive parenting</li> <li>• Establish alternative care facilities with appropriately skilled service providers</li> <li>• Putting stringent monitoring practices in place and implement broader poverty alleviation strategies</li> <li>• Teaching skills related to counting, money-identification and handling</li> </ul>
17	Protecting the integrity of the person	<ul style="list-style-type: none"> <li>• When using language to describe persons with disability, the focus is on the disability and not on the person (e.g. the blind)</li> </ul>	<ul style="list-style-type: none"> <li>• Teaching appropriate disability friendly language (e.g. using person first language) such as ‘persons with visual impairment’</li> </ul>
18	Liberty of movement and nationality	<ul style="list-style-type: none"> <li>• Persons with guide dogs are excluded from certain contexts, for example, restaurants, taxi’s, trains</li> </ul>	<ul style="list-style-type: none"> <li>• Implement national campaigns about the role of guide dogs and educate the broader public about the difference between pets and guide dogs</li> </ul>

Art, article; ATM, automated teller machine; BBBEE, Broad Based Black Economic Empowerment; DHET, Department of Higher Education and Training; O&M, orientation and mobility.

Table 3.1 continues on the next page→

**TABLE 3.1 (Continues...):** Specific rights set out in the Convention on the Rights of Persons with Disability and their application to persons with visual impairment in the South African context.

Art	Right	Risks for persons with visual impairment (rights infringed)	Possible solutions: Reform required to bring about change
19	Living independently and being included in the community	<ul style="list-style-type: none"> <li>Inadequate alternative and/or partial care facilities to provide care for these children</li> <li>Lack of community-based services for persons with visual impairment, for example, places of safety</li> <li>Despite progress with building regulations to accommodate the needs of persons with disability – the adaptations appear to cater for physical impairment (e.g. ramps) and not for visual impairment</li> <li>Names of buildings and elevators often do not have braille formats</li> </ul>	<ul style="list-style-type: none"> <li>Development of a resourced national plan for the establishment of foster homes and partial care facilities</li> <li>Relevant provincial government department should develop and publish plans and budgets.</li> <li>The <i>National Building Regulations and Building Standards Act 103 of 1977</i> provides specific guidelines to ensure safety and access (e.g. lifts) for persons with visual impairment.</li> <li>Increase the availability and use of braille in public places to enhance independence</li> </ul>
20	Personal mobility	<ul style="list-style-type: none"> <li>In the design of buildings (e.g. schools), the needs of persons with low vision are neglected, for example, shiny slippery high glare tiles, poor contrast (e.g. with steps)</li> <li>Uneven and unkept pavements make independent movement with a cane challenging</li> </ul>	<ul style="list-style-type: none"> <li>Encourage the acceptance and use of universal design guidelines</li> <li>Increase the independent mobility of persons with all forms of visual impairment (ranging from low vision to blindness) though O&amp;M practitioners</li> </ul>
21	Freedom of expression and opinion and access to information	<ul style="list-style-type: none"> <li>Accessibility of reading material and information for a variety of functions, such as education, leisure and work</li> <li>Watching visual material (e.g. YouTube or movies) in foreign languages is problematic</li> </ul>	<ul style="list-style-type: none"> <li>Increase the availability of assistive technology options, for example, screen readers and braille</li> <li>Expand the use of 'audio described' (a function available in Netflix) or availability of closed captioning as a text file</li> </ul>

Art, article; ATM, automated teller machine; BBBEE, Broad Based Black Economic Empowerment; DHET, Department of Higher Education and Training; O&M, orientation and mobility.

Table 3.1 continues on the next page→

**TABLE 3.1 (Continues...):** Specific rights set out in the Convention on the Rights of Persons with Disability and their application to persons with visual impairment in the South African context.

Art	Right	Risks for persons with visual impairment (rights infringed)	Possible solutions: Reform required to bring about change
22	Respect for privacy	<ul style="list-style-type: none"> <li>• Independent use of banking services (e.g. operating an ATM) to ensure autonomy and privacy</li> <li>• Others listen to private phone message leading to reduced confidentiality</li> </ul>	<ul style="list-style-type: none"> <li>• Change modality, for example, move to mobile banking or encourage the person to use the ATM inside the bank to avoid risk of criminal activity</li> <li>• Mobile phone adaptation (e.g. screen curtains)</li> </ul>
23	Respect for the home and the family	<ul style="list-style-type: none"> <li>• Discrimination and 'disability-by-proxy' where the whole family is wrongly treated and regarded as having a disability. In some cultures, the cause of visual impairment is misunderstood and mothers are blamed</li> </ul>	<ul style="list-style-type: none"> <li>• Increase respect for diversity and tolerance for difference in communities through running antistigmatisation campaigns and demystifying disability. Build communities based on values of social justice, equity and respect</li> </ul>
24	Education	<ul style="list-style-type: none"> <li>• Some learners with visual impairment are out of school - especially those who have multiple disabilities</li> <li>• Learners with multiple disabilities often start school late, with the added disadvantage of not having attended early intervention</li> <li>• Lack of teacher knowledge, training and skills (e.g. regarding braille)</li> <li>• Lack of appropriate textbooks</li> <li>• Limited range of subjects are offered (e.g. mathematics, physical sciences, life sciences and music)</li> <li>• Lack of preparation for life after basic education</li> <li>• Cost of education excludes many learners and compromises the quality of education</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that all learners (irrespective of their disability) of school-going age are accommodated at an appropriate school</li> <li>• A new law is required for setting the minimum age for compulsory basic education for learners with disability</li> <li>• Advanced Diploma in Education: Visual impairment studies to up-skill teachers</li> <li>• Timely printing and distribution of braille textbooks by State</li> <li>• Through curriculum differentiation and adaptation, these visual aspects can be addressed (see Chapter 6 and Chapter 7)</li> <li>• Include transitional training strategies to increase opportunities</li> <li>• Create alternative avenues (e.g. grants, tax reductions and rebates, etc.).</li> </ul>

Art, article; ATM, automated teller machine; BBBEE, Broad Based Black Economic Empowerment; DHET, Department of Higher Education and Training; O&M, orientation and mobility.

Table 3.1 continues on the next page→

**TABLE 3.1 (Continues...):** Specific rights set out in the Convention on the Rights of Persons with Disability and their application to persons with visual impairment in the South African context.

<b>Art</b>	<b>Right</b>	<b>Risks for persons with visual impairment (rights infringed)</b>	<b>Possible solutions: Reform required to bring about change</b>
25	Health	<ul style="list-style-type: none"> <li>Lack of access to early childhood intervention services (from birth)</li> <li>Care Dependency Grants are not integrated into antenatal and parent support programmes</li> <li>Lack of appropriate care, screening and early intervention leads to 'unnecessary disabilities', which could have been prevented</li> <li>Lack of autonomy regarding sexual and reproductive health – some individuals are sterilised without consent</li> <li>Road to Health booklet is not used effectively for routine development screening and referral</li> </ul>	<ul style="list-style-type: none"> <li>Early diagnosis and referral (after birth) for service delivery</li> <li>Revise the Road to Health booklet to educate moms about Care Dependency Grants and also revise current legislation to align acts</li> <li>Conditions, like vitamin A deficiency, glaucoma, cataracts, et cetera, can be prevented or their severity reduced with appropriate measures in place</li> <li>Knowledge training to allow individuals to make informed decisions about their own reproductive health</li> <li>Training of community health nurses regarding visual impairment and appropriate referral</li> </ul>
26	Habilitation and rehabilitation	<ul style="list-style-type: none"> <li>Risk of disability is increasing with decreasing mortality rates as surviving learners are exposed to increasing developmental risks</li> <li>Some genetic conditions result in visual impairment</li> <li>Assistive devices are not routinely available</li> <li>Uncertainty about which department (Department of Health and Department of Education) should be providing assistive devices to school age learners</li> </ul>	<ul style="list-style-type: none"> <li>Training medical professionals to provide preventative care to prevent retinopathy of prematurity in premature babies</li> <li>Genetic counselling for high school children with visual impairment regarding genetic predisposition for visual impairment</li> <li>Increase budgeting for assistive devices</li> <li>Integrated assistive device policy must be developed and better resourced and a clear referral protocol developed</li> </ul>

Art, article; ATM, automated teller machine; BBBEE, Broad Based Black Economic Empowerment; DHET, Department of Higher Education and Training; O&M, orientation and mobility.

Table 3.1 continues on the next page→

**TABLE 3.1 (Continues...):** Specific rights set out in the Convention on the Rights of Persons with Disability and their application to persons with visual impairment in the South African context.

<b>Art</b>	<b>Right</b>	<b>Risks for persons with visual impairment (rights infringed)</b>	<b>Possible solutions: Reform required to bring about change</b>
27	Work and employment	<ul style="list-style-type: none"> <li>Stigmatisation – for example persons with visual impairment are not offered a job interview despite relevant qualification</li> <li>Lack of infrastructure and resources for reasonable accommodations</li> <li>Isolation in workplace – coworkers might have limited knowledge and negative attitudes</li> </ul>	<ul style="list-style-type: none"> <li>Legislation is in place to incentivise companies (e.g. BBBEE status) to employ persons with disability</li> <li>Training of companies to provide skills and know-how in terms of strategies to provide reasonable accommodation</li> <li>Awareness training in the workplace to empower and equip coworkers</li> </ul>
28	Adequate standard of living and social protection	<ul style="list-style-type: none"> <li>Parents often do not access Care Dependency Grants in the first four years of their children’s lives</li> <li>University students are unaware of DHET Disability bursary to acquire assistive devices</li> <li>Adults experience challenges in accessing Disability Grants (e.g. knowledge and access barriers)</li> </ul>	<ul style="list-style-type: none"> <li>Raise awareness amongst mothers and medical practitioners (e.g. doctors) to complete relevant documents</li> <li>Create greater awareness amongst university students through disability units that bursaries are available</li> <li>Training of adults in terms of procedures and ensuring that application forms are in accessible formats</li> </ul>
29	Participation in political and public life	<ul style="list-style-type: none"> <li>Potential discrimination against voters in terms of registration process and voting</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring the implementation of South Africa’s progressive legislation, for example, <i>Electoral Act 73</i> of 1998 to assist voters with disability</li> </ul>
30	Participation in cultural life, recreation, leisure and sport	<ul style="list-style-type: none"> <li>Not all schools offer extramural sport or cultural activities to prepare learners for these activities</li> </ul>	<ul style="list-style-type: none"> <li>Guidelines for initiating and monitoring extramural sport and cultural activities at schools</li> </ul>

Source: Conceptualised from Centre for Child Law (2017); J. Erwee (pers. comm., 04 July 2019); Franklin, Lund, Bradbury-Jones & Taylor (2018); Grobbelaar-du Plessis & Grobler (2013); and Human Rights Watch (2015).

Art, article; ATM, automated teller machine; BBBEE, Broad Based Black Economic Empowerment; DHET, Department of Higher Education and Training; O&M, orientation and mobility.

such as rural South Africa are more vulnerable in terms of having their rights infringed than their peers from better resourced areas. As Articles 1–9 of the CRPD contain general principles and obligations, the purpose and definitions as well as a more in-depth focus on women and children with disabilities, these are not included in this discussion.

## ■ Implications of human rights issues for the classroom

Quality education is a basic human right in itself, mandated by Education White Paper 6: Building an Inclusive Education and Training System (South Africa 2001). It should also be noted that basic education is a non-progressive right, which makes it immediately realisable – hence, economic constraints may not prevent learners with disability from accessing education (United Nations 1989). Teachers have an explicit function and responsibility to fulfil in this drive towards inclusion and may arguably be the most important facilitators (or barriers) to inclusion as they have the opportunity to either implement or stymie the inclusive educational policies and practices (Bornman 2017). This makes them major game changers in inclusion.

Teachers should attempt to blend two educational approaches in the classroom, to ensure curriculum access for learners with visual impairments. On the one hand, learners should be taught ‘access skills’ (in other words, how to use technology aids, such as screen readers), and on the other hand, teachers should provide materials to optimise access (e.g. by providing large print material) depending on the degree of visual impairment (Bornman & Rose 2017). Teacher training should emphasise certain basic evidence-based strategies; for example, regular print with high contrast should be adequate for learners with less severe visual impairments, whilst those learners with more severe visual impairments may benefit from large print, braille or screen readers. Various other high- and low-tech vision devices, for

example, hand-held magnifiers, monoculars, talking low vision watches, talking low vision calculators and magnifying lamps, can also assist learners to cope in the classroom.

A number of easy physical adaptations will also enhance inclusion and ensure greater independence, such as ensuring clear, open walkways and teaching learners about certain familiar landmarks (inside and outside of the classroom). Consultation with an O&M practitioner about effective evidence-based strategies to do this is advisable.

Language has increased significance for persons with visual impairments as it acts as a substitute for the missing visual input, and therefore teachers should always use precise language with clear verbal descriptions and explanations (Morris 2017). Teachers should also be encouraged to always use descriptive language and narrate regarding what is happening in the classroom, for example, 'above your head', 'on your right' or 'before the door' (Bornman & Rose 2017). In Chapter 5 to Chapter 7, more detailed classroom strategies are included, which can be employed to ensure that all learners, including the most vulnerable ones, receive the instruction they require in order to meet their full potential.

As mentioned earlier, teachers have many different roles that expand beyond the classroom. For that reason, they need to have a broad-based understanding of various policies as described in the context of this chapter. They should be able to act if they expect that the learner might be a victim of abuse or make the necessary referrals if they are concerned about a learner's health. For learners about to transition from the school context to tertiary education, they need to make appropriate referrals and ensure that the necessary accommodations are in place, such as appropriate assistive technology.

## ■ Conclusion

Vision stirs our curiosity, invites us to explore and engage with people, objects and activities, and allows us to orientate and navigate the world around us. Based on this, vision is acknowledged as one of the primary senses for learning. This then begs the question – how should we regard the absence of vision? Should we feel only pity for persons with visual impairment and ‘protect’ them at all costs from the world around them as it is filled with danger? Should we attempt to make life easier for them and rather do everything for them? What should our expectations regarding persons with visual impairment be?

In this chapter, inclusion and independence were unpacked. Different models of disability were discussed and contemporary views provided. A case was made of how easily rights can be infringed, but potential solutions were also provided to ensure that all individuals, including those with visual impairments, are treated equally with respect and dignity. After all, it is everyone’s human right.



# Visual impairment and the inclusive education policy

**Judite Ferreira-Prevost**

Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa

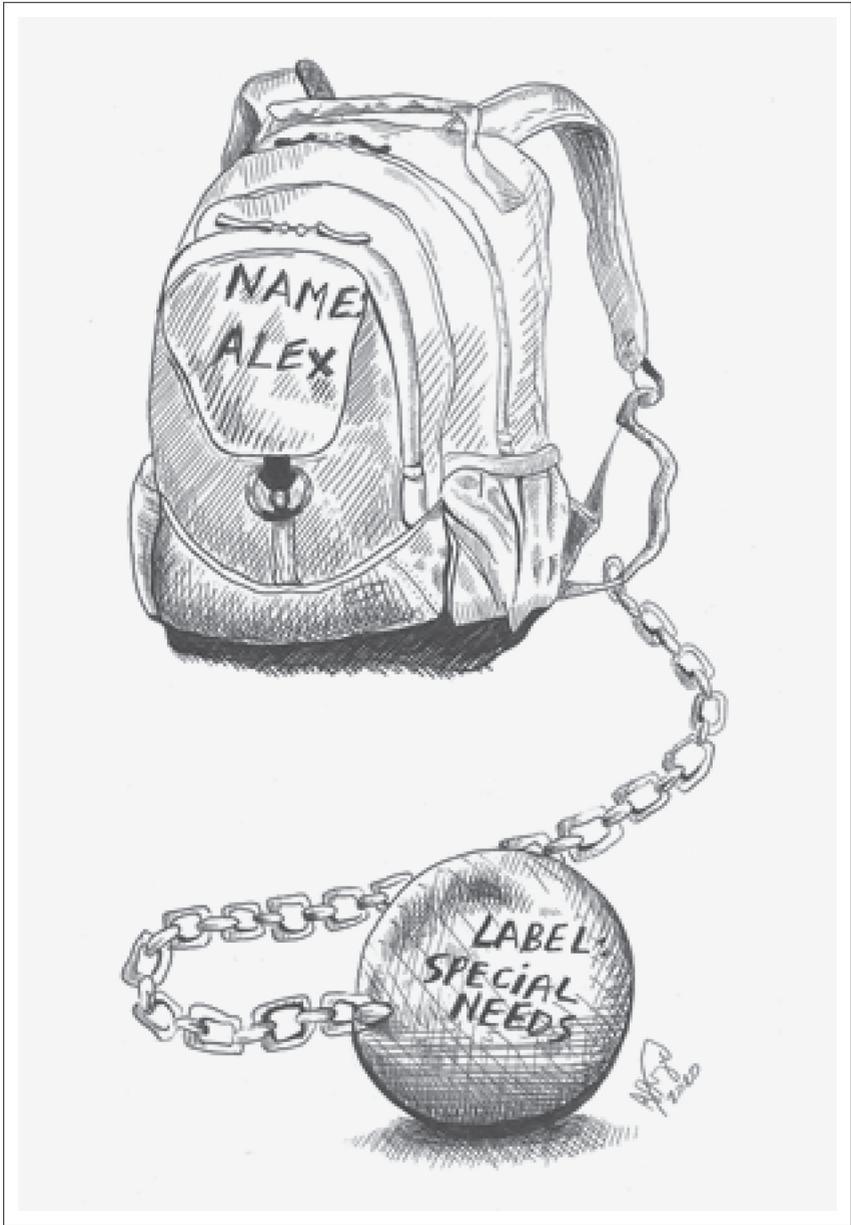
**Keywords:** Human rights; Barriers; Diversity; White Paper; Inclusion.

## ■ Introduction

*'Welcome!' 'I'm so glad you're with us!' 'Wanna play?'*

What thoughts and feelings do you have when reading this? How would you respond? Although initially possibly hesitant, one might think that people want to include us into their world. This may lead us to feel accepted and valued and in turn may motivate us to participate and try something new. Surely such thoughts, feelings and actions are not only permissible but also needed by

**How to cite:** Ferreira-Prevost, J., 2020, 'Visual impairment and the inclusive education policy', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 79-102, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.04>



Source: Photograph of sketch provided by Alexandra Prevest, exact location unknown, 2020, published with permission from Alexandra Prevest.

**FIGURE 4.1:** Welcome to school?

each person and more particularly by each learner in this world. Compare the welcome above with the 'Welcome to School' picture shown in Figure 4.1.

When looking at the cartoon in Figure 4.1, various thoughts and feelings may arise such as categorising learners may make lesson planning easier or it may enable learners to receive intervention; but it may limit learners from developing or showing their true potential; and may lead to incorrect diagnoses and labelling.

Most educators are informed about inclusive education and have possibly formed some (unique) opinions about it. Some who have been educators for a long time may realise that they have actually been practising inclusive education years before the term even became popular because each learner who has passed through their lives has been unique with their set of abilities and difficulties which they as educators have accommodated and valued. Therefore, it is hoped that this chapter relates to what is read about regarding inclusive education and also allows one to be challenged by statements and questions which have possibly not been encountered before.

## ■ Overview of the chapter

This chapter aims to help educators understand and practically apply relevant national and international policies and guidelines as what educators create becomes part of or enhances an inclusive classroom. Although this chapter is one of many addressing possible resources for supporting learners with visual impairments, an educator should be able to relate its contents to any educational setting where there are learners of diverse abilities and needs. Following the clarification of key concepts, the historical rationale behind inclusion is discussed, as well as current policies relating to human rights (also refer to ch. 3 in this volume, by Bornman), learners rights and the rights of those with disabilities in our understanding of inclusion and inclusive education. After a focus on what inclusion is, there is reference to

what it is not and the difficulties that often accompany the choice of inclusive education are acknowledged. Finally, and perhaps more importantly, it is contemplated how practitioners can challenge themselves to be implementers and advocates of inclusion especially when working amongst learners with visual impairments.

## ■ Definition of key concepts

### ■ Inclusion

This concept implies an action of making or recognising someone as being part of a whole. In the context of this chapter, it is also inferred that all members experience inclusion through this action and that it is therefore not only directed to a select few.

### ■ Inclusive education

Inclusive education refers to ‘a system of education that includes all learners and seeks to respond appropriately to all learning needs’ (Raymond 2013:282). It ‘treats all learners as equal and is accessible to all learners irrespective of the barriers to learning’ (Links 2014:2). It aims to include everyone, irrespective of talent, disability, status or culture in the same supportive learning environments where learner needs can be met. In South Africa, the Inclusive Education Policy is validated and supported through the White Paper 6: Special Needs Education (DoE 2001) which offers a framework for changing the education system to enable all learners to access the education and training they need according to their individual needs. This is elucidated below under the section on ‘Human and children’s rights’.

### ■ Disability and impairment

Based on the UN CRPD and taken from University of Pretoria’s (2018b:5) Policy on Students with Disabilities, a *disability* is ‘a social construct resulting from the interaction of a person’s

impairment, attitudinal and environmental barriers'. In turn, an *impairment* is understood to mean (University of Pretoria 2018b):

[A] physical, sensory, mental, emotional or cognitive condition resulting from an injury, illness, trauma and/or congenital factors that is permanent, long term or recurring and which causes or is likely to cause a loss or difference of physiological or psychological functioning. (p. 5)

It is perhaps important to note here that the terminology used at times when discussing any kind of impairment, as is done with visual impairment in this volume, may seem obsolete or redundant. It is true that the concepts such as 'disability' (as used above), 'handicap' and even 'special needs' can denote an air of incapacity or dependency and throughout these chapters, such concepts are avoided as far as possible. However, the reality of barriers or challenges remain, whatever semantics are preferred.

Barriers are usually classified as extrinsic (arising and exerting influence from outside the individual) and intrinsic (originating from within the individual). Examples of intrinsic barriers to learning may include physical, neurological, developmental or psychological challenges such as blindness, a chronic illness or delayed cognitive development. Examples of extrinsic barriers to learning may include socioeconomic challenges, an unsafe environment, inflexible curriculum or lack of resources. In many instances, extrinsic and intrinsic barriers overlap, as in the case of someone unable to access appropriate inclusive education because of their visual impairment (intrinsic barrier) along with the ignorant and discriminatory attitudes of those who influence the decision of school placement.

Against this background, barriers can be regarded as any obstacles to the action of being recognised or included in the whole.

## ■ The right to be included

In appreciating that each and every one has a right to be recognised and given the chance to be accepted, this section explores the background and rationale behind inclusion, specifically against the context of human rights.

## ■ Contextualising inclusive education

Inclusive education and the move to find commonalities in order to include all learners are not recent phenomena. Kochhar, West and Taymans (2000), as well as Salend (2005), outline the history of inclusion and its roots in the rights movement from the 1900s and before, referring to the Scandinavian philosophy of normalisation, viewing individuals with disabilities as having the same freedom and access to opportunities as those without disabilities. In the West, there was increasing acceptance in the 1950s and 1960s of deinstitutionalisation and integrating those with cognitive challenges into families and smaller communities. Terms such as the ‘least restrictive environment’ and ‘mainstreaming’ became more common in the 1970s and 1980s as people, especially in educational settings, aimed to ensure that all learners, with or without disabilities, gained access to education and interacted with each other. A more liberal-progressive society was developing which emphasised equal opportunities and eventually a post-modern outlook which celebrated diversity (Engelbrecht 1999).

At the same time the world, including South Africa, experienced shifts in the discourses surrounding disabilities. Fulcher (as cited in Naicker 1999) speaks of shifts moving from a medical discourse (focusing on clinical diagnoses), through a charity discourse (focusing on pitying and offering help to those with disabilities), a lay discourse (focusing on ignorance, fear and prejudice), to eventually a rights discourse (focusing on equal opportunities and self-reliance rather than needs), as explained in more detail by Bornman in Chapter 3. Recently, more commonly used concepts are ‘inclusion’, ‘full inclusion’ and ‘full participation and meaningful benefit’ – all emphasising a more comprehensive and beneficial purpose for addressing learners’ needs and promoting strengths. Such concepts are based on an understanding of human rights which we will briefly explore next (also refer to ch. 3 by Bornman).

Before proceeding to the section on human and children's rights, it is perhaps prudent to mention that the shifts in discourses mentioned above, should not imply abandoning the lessons learned from one perspective in favour of another one. There may be, for example, the temptation to disregard the medical discourse because it emphasises defects and shortcomings. However, neglecting this view in favour of a more social model could result in much needed support for learners with impairments becoming too vague and without direction. An integration of discourses and a holistic approach is therefore always preferred when our goal is to support our children optimally.

## ■ Human and children's rights

The United Nations' (1948) Universal Declaration of Human Rights advocates that 'all human beings are born free and equal in dignity and rights...endowed with reason and conscience and should act toward one another in a spirit of brotherhood' (adapted from art. 1:2). Inclusion and inclusive education can be more comprehensively understood through the perspective of human rights. Once we realise and believe that *all* human beings have the right to be treated with respect and dignity, it follows that *all* learners have this right too. By implication, all learners have a right to quality education and are entitled to opportunities which will promote their dignity and holistic development.

The World Conference on Education for All was held in Thailand in 1990 and committed to a child-centred and community-involved education where diversity was acknowledged and accommodated. This was shortly followed by the 1994 World Conference on Special Needs Education where the 'Salamanca Statement' was adopted as a framework for action by participating countries. The Salamanca Statement (United Nations Educational, Scientific and Cultural Organisation [UNESCO] 1994) acknowledged every learner's right to education within the understanding of his or her unique abilities and needs. A call was made for educational systems to be designed

with these unique diversities in mind and that particularly, learners faced with special educational needs be granted access to regular schools. Participating countries realised that the best way to combat discrimination and create a more inclusive society was to promote an inclusive ethos at child-centred schools.

In the year 2000, an extensive evaluation of education called Education For All led to numerous countries pledging their commitment to address what was needed in order to achieve education for all. This became known as the Dakar Framework for Action and focused on Sub-Saharan Africa, the Americas, the Arab states, Asia and the Pacific, Europe and North America, and the E-9 countries (Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan). Countries re-affirmed the sentiments of the Universal Declaration of Human Rights (United Nations 1948) and the CRC (1989) that all children, young people and adults have the human right to benefit from an education that will meet their basic learning needs in the best and fullest sense of the term, an education that includes learning to know, to do, to live together and to be (UNESCO, Dakar 2000:8).

The Education For All 2000 Assessment furthermore revealed that sub-Saharan Africa was one of the regions mostly challenged in the pursuit of education for all. In 2001, South Africa released the White Paper 6: Special Needs Education (DoE), introducing strategies for promoting an inclusive education and training system. As mentioned before in Volume 1, Chapter 2 by Sefotho, the White Paper 6 calls for a respect for differences, an acknowledgement that all children can learn and need support, an empowering of learners through their strengths and an advocacy for necessary changes in the structures, systems and processes of the educational or schooling system. The aforementioned entailed, inter alia, converting certain primary schools into full-service schools as well as special needs schools into resource centres. It promoted the inputs of educators, lecturers and parents and encouraged learning needs to be

identified as early as possible, with intervention focused on the Foundation Phase (approximately 5- to 9-year-old learners) of schooling. Other documents have followed since, including the 2010 Guidelines for Full-service or Inclusive schools and the 2014 screening, identification, assessment and support (SIAS) policy document with guidelines and procedures for screening, identifying, assessing and supporting learners at risk (refer to vol. 2, ch. 2 by Mokgolodi for a more detailed discussion of this).

Full-service schools are ordinary primary schools that provide a wide range of support for all learners in their catchment areas to participate more inclusively whatever their learning needs. They aim to promote inclusion and ultimately help create an inclusive society and make use of resources and training offered by special needs schools which have also become resource centres.

## ■ **Other forces behind the movement towards inclusion**

Apart from what is probably the strongest impetus behind the drive for inclusion and inclusive education, namely human rights, are also other significant factors contributing to the movement to educate learners in inclusive classrooms (Green 2001; Links 2014; Salend 2005). These include early intervention programmes and technological advances which have improved learners' developmental skills, independence and control over their lives and the environment and subsequently promoted the placement of children with disabilities in regular classrooms. The segregated nature of special schools and classes inevitably leads to labelling of such learners which may in turn affect their self-concepts as well as teachers' expectations of them in a negative way. Segregated schools can also create prejudice and discrimination and separate schooling systems can be wasteful and inefficient. An inclusive system can therefore help model and create a more democratic and just society.

Several theoretical approaches or models have also influenced the perception and dynamics of inclusive education over the years, for instance, highlighting aspects such as the multidimensional interactions between people and their environments (socio-ecological model, Bronfenbrenner 1992), the strengths and resources available rather than only the needs and barriers (asset-based model, Kretzmann & McKnight 1996) and the holistic wellness of the learner (wellness or bio-psychosocial-spiritual model, Engel 1977; National Wellness Institute n.d.). Although these references seem outdated, they are still relevant to today and the latter two models especially resonate with the empirical research conducted in 2018 by the University of Pretoria at full-service and special needs schools for learners with visual and/or multiple disabilities (refer to ch. 6 by Manis). More specifically, the research conducted indicates how staff members stressed the importance of meeting learners where they are and using the assets available from and through such learners in order to understand them in totality.

## ■ Exploring the dimensions of inclusive education

In this section, the various dimensions of inclusion and the distinction of the concept from similar concepts are explored.

### ■ What inclusive education is

Inclusive education is described in the UNESCO Guidelines for Inclusion (2005:15) as ‘an approach that looks into how to transform education systems and other learning environments in order to respond to the diversity of the learners’. It aims to include everyone, irrespective of talent, disability, status or culture in the same supportive learning environments where learner needs can be met.

Salend (2005:8) asserts that effective inclusion is based on the following four principles:

1. All learners benefit from inclusion and all have equal access to a flexible and challenging curriculum and the appropriate services. This is regardless of learning ability, race, gender, economic status, culture, etc. as all are given access to a multimodal curriculum that is consistent with their abilities and needs.
2. Individual strengths, needs and diversity are recognised and valued. This promotes acceptance and equity and develops future collaborative contributors to society.
3. Reflective practices and differentiated instruction are promoted. Educators continuously reflect on their teaching, assessment and classroom management practices in order to adjust to individual needs and encourage meaningful access and progress.
4. A community based on collaboration is established. Various stakeholders such as educators, learners, families, other professionals and community bodies work collaboratively as a team, sharing resources and responsibilities.

Reflective practices and differentiated instruction within inclusive education (principle three above) relate well to the concepts of ECC and UDL, which are explored further in other chapters. In short, the ECC implies a curriculum approach which promotes mediated approaches and differentiated learning for those with impairments. In the context of visual impairments, this would include training in O&M, social interaction and independent living skills, career education, sensory efficiency, self-determination and the use of assistive technology to name a few (CAST 2019).

The UDL supports flexible options to diverse groups of learners so that each learner has an equal chance to learn, participate and be included (Gargiulo & Metcalf 2013). It rests on three guidelines, namely presenting content through multiple ways of representation; engaging learners so that they see the relevance and are motivated to learn and providing options for learners to express what they know in a variety of ways. This allows for a learning environment

that is inclusive of everyone's needs and strengths. In essence, ensuring success in these three aspects of UDL ensures inclusive education for all. This sentiment is echoed by Donald, Lazarus and Moola (2014), who advocate flexibility in the method of teaching, flexibility in the rate of learning, relevance of content, attention to basic skills and motivation through learners' own control of their performance and success as ways to make teaching more responsive and consequently more inclusive.

## ■ What inclusive education is not

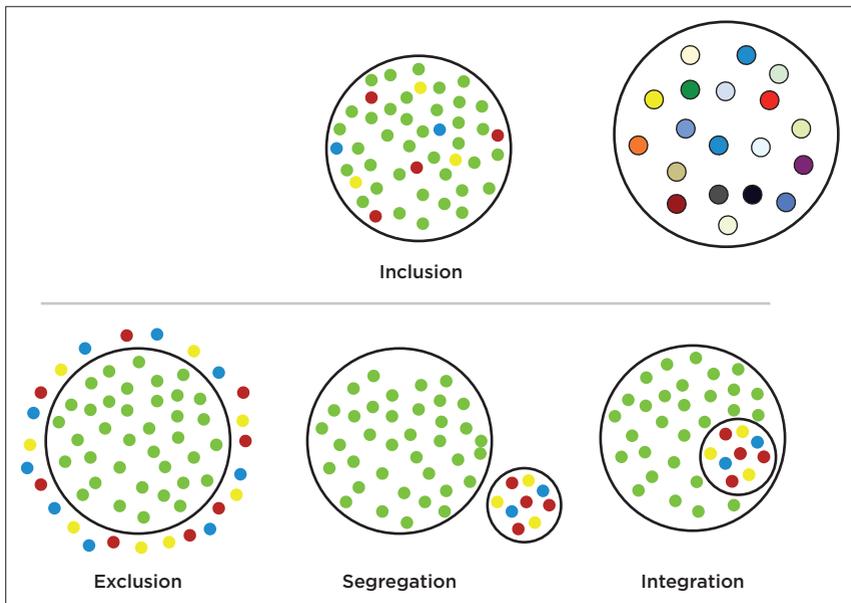
The UNESCO Guidelines for Inclusion (2005:15) clearly state what inclusion is and what it is not. It is not about reforming only special education or meeting the needs of one learner at the expense of another. It aims to benefit *all* learners by welcoming diversity and providing equal access to education. The Guidelines emphasise the realisation that inclusion is an ongoing process and that, although focusing more on those who are marginalised, strives for all learners to be present, to participate and to achieve.

The Department of Basic Education's White Paper 6: Special Needs Education (DoE 2001:17) distinguishes between mainstreaming (or integration) and inclusion. Whereas mainstreaming strives to make the learner 'fit' into the regular classroom and be assessed by specialists who diagnose and prescribe interventions, inclusion strives to respect the differences of all learners and adapt support systems to benefit all learners. In mainstreaming, selected learners need to prove that they are ready to move into general education, and hence general and special education are maintained as separate systems. In inclusion, all learners have the right to be educated in general education classrooms and both systems (general and special needs education) are fused into a cohesive service delivery system (Salend 2005:11).

It is easy to confuse inclusion and inclusive education with other models that also endorse supporting learners with

impairments, but which however fail to create an inclusive community where each learner, with or without obvious impairments, is valued. Shelley Moore, an inclusive consultant, uses the diagrams (or circles) captured in Figure 4.2 in order to distinguish between inclusion and other concepts found in educational settings (and indeed in any social setting).

In each of the models of exclusion, segregation and integration, emphasis is placed on learners who are 'different enough' to not be considered as being part of the group. Learners are completely excluded, possibly into different schools or even segregated into separate classrooms, whilst remaining in the same school. Even in the model of integration, admittedly an improvement on the former two as they are part of the same classroom, learners are still considered different from the norm. In this case, learners may sometimes be grouped together or sent out to support classes



Source: Moore (2017).

**FIGURE 4.2:** Differentiating inclusion, exclusion, segregation and integration.

on a temporary or ad hoc basis. However, in the top circle, learners who may have been identified with barriers and challenges (indicated by the light green dots) are included in one group and considered part of the whole. A more updated representation of inclusion is indicated as the bigger circle to the right with very different coloured dots. In this representation, unlike as in the other circles, there are no 'others', that is, no green dots that need 'fixing', but instead an array of learners each unique in their needs and abilities (Moore 2017).

Thus, inclusion is not about pretending that impairments and challenges do not exist. It is not about treating every learner exactly the same. It does not mean that we have to become experts in every possible disability or that all changes have to take place overnight. In this regard, Engelbrecht (1999:8) reminds us that inclusive education cannot be viewed as an ideal but should rather be seen as 'an unending set of dynamic processes', constantly making us aware and reflect on our professional teaching practice.

In summary, inclusive education is about enabling equal access to all learners by enabling learning environments, education systems and learning methodologies to respond to the diversity of learners. Barriers to learning are identified and minimised as soon as possible, there is an attempt to reduce stigmas and therefore to ultimately develop a more democratic and just society. It is not the same as offering additional support to integrate learners into mainstream classrooms, but rather a pervasive spirit and ongoing process of inclusion where all learners are included and all stakeholders' inputs considered.

## ■ South African policy on inclusive education

As mentioned previously, the South African DoE released the White Paper 6: Special Needs Education in 2001, introducing strategies for promoting an inclusive education and training system. It distinguishes between inclusion and mainstreaming

and lays out the plan to convert approximately 500 primary schools into full-service schools which will cater for particular disabilities depending on the needs of the districts in which they are located. At the same time, special needs schools will act as resource centres to neighbouring schools, offering physical resources as well as professional development for staff. In addition to what has already been mentioned in this chapter, below is a brief explanation as to what this policy entails and what is implied for educators (expectations and responsibilities) in this regard.

The White Paper 6 (DoE 2001) came in the wake of the establishment of a single education system as opposed to the segregated system under apartheid. The assumptions are made that all children are able to learn and have the right to be educated in their communities' schools. Subsequently, the school system as a whole has the responsibility for addressing the needs of all children and educators must be afforded planned opportunities to develop knowledge and skills that foster an inclusive attitude and way of interacting in class. The 2010 Guidelines for Full-service or Inclusive schools and the 2014 SIAS policy document with guidelines and procedures for screening, identifying, assessing and supporting learners at risk are just some documents which aim to support such educators in this way.

This policy on implementing inclusive education into South Africa has at its centre a strengthened education support service based mainly on district-based support teams which comprise staff from provincial, regional and head offices, as well as from special needs schools. The district support team's primary function is to moderate and make suggestions on programmes that try to address and accommodate the diverse needs of learners as well as support and train necessary staff and stakeholders.

For educators this means that they are to be supported through professional development in curriculum, instruction and assessment and become active participants of the SIAS process. Educators need to address any possible barriers that may have inadvertently arisen from their teaching style and pace, medium

of instruction, time frames for the completion of curricula, use of learning support materials and/or assessment methods and techniques. Specialist support personnel such as remedial educators can become members of district support teams, act as consultant-mentors for full-service schools or provide intervention in various other ways and settings.

Such objectives as highlighted above, naturally affect the higher education sector as well, therefore the sector is expected to be revised if necessary. Their educator training programmes should include competencies to enable their student educators to recognise, address and accommodate barriers to learning and development. Higher education institutions have been active in this regard and also offer courses and material (such as the one you are reading now) to empower both public and professional people with knowledge and expertise of inclusion and inclusive education.

## ■ Challenges with implementing the inclusive education policy

Donald et al. (2014) acknowledge the difficulties and seeming disadvantages associated with the process of inclusion. These are especially apparent in countries with limited resources and/or political and social discrimination. South Africa, as an example, has inherited the effects of a previously biased education system which did not adequately cater for the needs of the majority of the population and could not offer effective and developed services for all learners. The encouraging part of this however is, that those who experienced these injustices of the past are mostly optimistic about inclusive education and the opportunities it has to offer (Davies as cited in Donald et al. 2014).

Some of the challenges of inclusion mentioned by Donald et al. (2014) include limited resources and facilities, fear from parents regarding education that will be disrupted and inadequate, fear from educators of not being able to cope with the workload

and not being sufficiently trained, and fear from those with specific challenges of being discriminated against and having to cope with competition and new curricula.

The empirical research conducted in 2018 by the University of Pretoria confirms the work of Donald et al. (2014), indicating that many educators are currently still unsure about what inclusive education entails and can become negative because of the fear arising from the lack of knowledge and training. Some educators were found to have adopted a learned helplessness approach, presuming that government departments and other officials must first provide them with resources and training before they can start implementing inclusion in their classes.

Essentially two decades have passed since the implementation of the White Paper 6 in 2001 (DoE). Some of the fears and concerns voiced already by educators, parents and learners have unfortunately been legitimate and personally experienced. Resources from government departments and special needs schools are at times limited, outdated or not maintained; specialist staff are not always available or aptly prepared to provide support to neighbouring schools; financial shortages in various provinces have meant that schools and staff are not adequately equipped and consequently many parents, educators and learners feel frustrated and despondent. However, at the same time, the fundamental beliefs of the inclusive education process and system still stand strong and numerous people at the grass-root level still maintain the passion for empowering learners, no matter what their strengths and needs are. Professional and physical resources development continues, information is still being disseminated and the rights of all learners remain advocated.

The statements below capture the possible feelings of educators who are hesitant of the movement towards inclusive education. In reading these, the challenge remains as to how to address and resolve such feelings of uncertainty, in support of the implementation of an inclusive education policy:

- I already have so many problems in my class and now I am expected to manage even more challenges all on my own.
- Those children are better off in special needs schools where they will feel more comfortable with others who look and behave like them.
- I was never trained to do this.
- In society, there is discrimination against people with impairments. Why do they think it will be any different or can change at school-level?
- It will work better if they can still stay at our school but are placed in a separate classroom where they can be supported.

In the context of sensory challenges specifically, such as visual impairment, Raymond (2013) encourages educators to remember that accommodating sensory impairments in class can be daunting, but is significantly less frequent than intellectual, language and behavioural challenges which educators already face on a daily basis. The most important skills needed to be mastered by educators are rather those related to communication and collaboration with the learner, parents and other support personnel involved.

## **■ Moving towards more efficient policy implementation**

The section 'A positive attitude as basis for advocating inclusive education policy' spurs one on, despite (and yet at times because of) the challenges, to explore how the inclusive education policy can and has to be implemented. The need for a positive outlook and determination, along with realistic and practical plans are described.

## **■ A positive attitude as basis for advocating inclusive education policy**

Educators interviewed during the 2018 University of Pretoria research project highlighted the need for passion and empathy

when attempting to implement an inclusive education policy – having a love for the learners and regularly imagining what it would be like to be in the shoes of learners, with particular reference to those with visual impairments. Maintaining the belief that inclusive education is a human and constitutional right above anything else motivates one to continue with the struggle to ensure that all learners can and will indeed learn. It is imperative for educators, parents and learners to believe in and continue working towards an educational system and ultimately a society where diversity is accommodated and celebrated. Former Justice of the Constitutional Court in South Africa, himself being blind, Judge Zak Yacoob, reminds us that ‘high-quality and equal education for children with disabilities in South Africa is both a pressing moral concern and constitutional obligation’ (2018:7). It is therefore important to keep motivating each other and to trust in the ethical imperative of inclusion even if one starts losing hope in the structures that are supposed to uphold it. A positive and open attitude can indeed go a long way in ensuring the success of inclusion in all schools. Where there is no will, there is no way!

On a very practical level, educators may search for alternative ways of describing or defining inclusive education for themselves in order to channel their ideas and strategies in a more focused and efficient manner. Expressing what an inclusive classroom is, without using the concepts inclusive or inclusion may yield examples such as the following:

- creating tolerance and collaborative relationships
- improving communication and avoiding misunderstandings
- empowering us with information and skills
- feeling more welcome in my class
- promoting fairness
- no child left behind
- least restrictive environment.

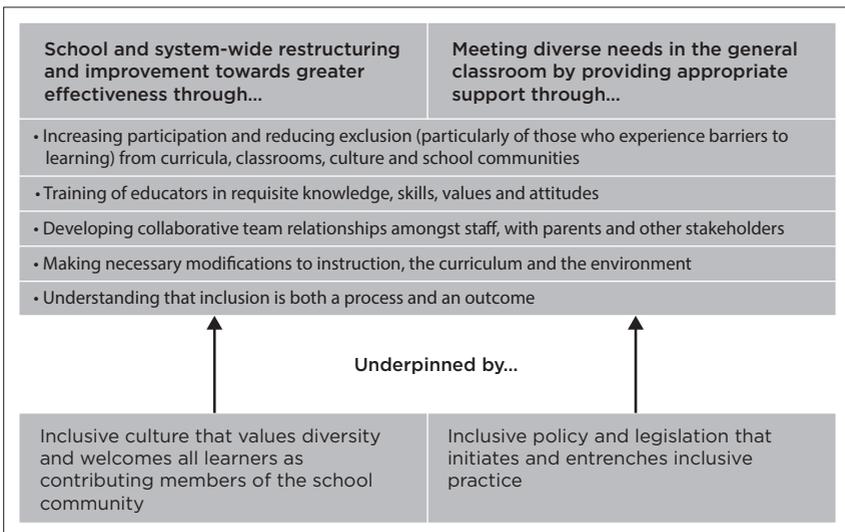
The above perspectives and interpretations reveal a point at which educators make inclusive education their own and thus

take ownership of their thoughts and actions in supporting this process. A changed and/or positive attitude is the start of successful implementation of a policy as elucidated in the section ‘Putting plans and good intentions into action plan and action’.

## ■ Putting plans and good intentions into action plan and action

Good intentions go a long way but must be backed with actions and results which stem from an effective plan. Walton (2006:34) suggests some guidelines to put inclusive education into practice, as summarised in Figure 4.3.

As an overall plan for advocating and implementing inclusive education, the diagram depicted in Figure 4.3 emphasises the importance of inclusion infiltrating systems and processes from



Source: Walton (2006).

**FIGURE 4.3:** Putting inclusive education into practice.

school to class levels. It involves all stakeholders and reminds one that, although one can reach a point of designating a school as inclusive, the work is never done as each day and each learner brings new challenges and opportunities. Indeed, even in a 'special needs classroom', one can begin practising inclusion.

In support, Sands, Kozleski and French (2000:196) propose that people (i.e. teachers) should think of classrooms as ecosystems containing reciprocal relationships and interdependent changes. As the system becomes more complex, it will also become more sensitive to change with each new input and challenge necessitating ongoing accommodations, changes and flexibility. These authors suggest various 'building-level supports' to better manage inevitable changes, including the following:

- Sharing a mission that guides how resources are allocated and curriculum and activities developed.
- Focusing curricula on quality of life outcomes, such as pro-social skills that will increase the possibility of success later in life as learners need to communicate effectively, manage their emotions, plan ahead and become positive contributors to the school and community.
- A sense of shared responsibility amongst all staff for all learners in a variety of life spheres. This may include developing protocols and specific teams to assist learners and staff in crises situations.
- Child study support especially for those with ongoing learning challenges. This could include developing a process for staff to reflect on and plan for individual needs and consider adjusting teaching strategies and classroom management as a team or trainer recommends.
- Welcoming and encouraging family facilitation within the reality of time constraints and diversities.

## ■ Implications for educators accommodating learners with visual impairment in the classroom

Whatever role is played in the drive towards inclusive education, all can be considered advocates and change agents in keeping each other accountable. The other chapters in this book offer suggestions on how to practically become involved in creating an inclusive classroom, school and society when working amongst learners with visual impairments. This may for example lie in, amongst other things, renewing curricula (vol. 2, ch. 6 by Viljoen), adapting teaching and learning so that their designs and strategies are more universal (vol. 2, ch. 6 and ch. 7 by Viljoen), becoming more informed about assistive technology (vol. 2, ch. 3 by Ramaahlo and ch. 8 by Erwee), attending to mobility and orientation (ch. 7 by Heard), initiating partnerships with outside stakeholders (ch. 10 by Botha) and rejuvenating the way in which a school is managed and lead (vol. 2, ch. 1 by Viljoen). Teacher competencies and a visual impairment pedagogy, including reading strategies for learners with visual impairment are also elucidated in Volume 1, Chapter 2 by Sefotho.

As practical examples, the following suggestions may be considered by educators in the profession (Gargiulo & Metcalf 2013; Kochhar et al. 2000; Salend 2005; Sands et al. 2000; UNESCO 2004):

- Pairing visually presented material with tactile, kinaesthetic and auditory-based learning activities.
- Outlining charts or interactive mind maps using string to orientate learners where they are and are going to be in the curriculum.
- Providing opportunities for learners to interact with material before the lesson begins.
- Applying cooperative learning arrangements.
- Consulting and working with vision and O&M specialists.

- Designing or rearranging classrooms (and then maintaining consistency in this) to ensure maximum interaction of all learners in a safe environment.
- Using low-glare, high-contrast materials and customising computer screens accordingly.
- Positioning learners to take the best and appropriate advantage of natural and artificial light sources.
- Employing auditory, tactile cues and prompts for all learners.
- Providing choices regarding assessment formats, topics, pace and methods.
- Reducing auditory distractions and maintaining a calm atmosphere.
- Addressing physical and sensory needs of learners with cushions, boxes under feet, pencil grips, etc. when and where appropriate.
- Employing the support of peers and families in practical ways to promote an atmosphere of acceptance and teamwork.
- Becoming informed about and advocating for fair legislation and policies that affect learners with visual impairment, for example, the current changes in the Copyright Law and Amendment Bill in South Africa.

## ■ Conclusion

As the White Paper 6 (DoE 2001) admits, supporting inclusive education and acknowledging it as policy are not enough to guarantee that it will work in practice. Implementation and sustainability are key to ensuring that ultimately all our learners can access the education and training required for their unique needs, as well as actively participate 'as equal members of society' (DoE 2001:5).

No matter our views and stance on inclusion and inclusive education, it is a reality that undoubtedly affects the way educators perceive and interact within the education system. It is best that all educators become informed, stay abreast and share contributions to continue improving the way of teaching

and learning. As such, a good starting point entails the acknowledgement that educators are already making a difference and continually aim to implement policy. One should continue focusing on what is already present and available and what is already being done. It is important to take cognisance of all role players involved, including those who have been marginalised because of their challenges or because of their lack of challenges. It is equally important to challenge our attitudes and perceptions and continue remembering that the benefits of an inclusive society far outweigh the losses.

## SECTION 2

# **Contextualising support for learners with visual impairment**



# Supporting learners who are multiply impaired with a visual impairment

**Juan Bornman**

Centre for Augmentative and Alternative Communication,  
Faculty of Humanities, University of Pretoria,  
Pretoria, South Africa

**Ann Heard<sup>a,b</sup>**

<sup>a</sup>Private practice,  
Pretoria, South Africa

<sup>b</sup>Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa

**Keywords:** Adaptations; Augmentative and alternative communication; Barriers to learning; Expectations; Functional assessment; Functional vision; MIVI teachers; Multiple impairments; Support; Teamwork.

**How to cite:** Bornman, J. & Heard, A., 2020, 'Supporting learners who are multiply impaired with a visual impairment', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 105-145, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.05>

## ■ Introduction

In this chapter, the focus falls on learners with multiple impairments of which one is vision loss (multiply impaired with visual impairment [MIVI]), more specifically on supporting and educating these learners. Learners who are MIVI are characterised by a combination of various impairments, resulting in them potentially experiencing challenges with speech and language, physical mobility, learning, intellectual functioning, vision and hearing. In addition, learners who are MIVI may exhibit challenging behaviour and/or experience social challenges. The said impairments can be present from birth (e.g. congenital conditions such as different syndromes or as a result of trauma during birth such as asphyxia) or may be the result of an acquired condition (e.g. as a result of a motor vehicle accident, a near drowning or a progressive medical condition). Each and every learner who is MIVI is unique not only because of the severity and combinations of impairments that impact on these learners but also because of their specific personalities, likes and dislikes and circumstances, to name but a few.

Learners who are MIVI often experience difficulty with attaining and retaining skills and/or transferring skills from one situation to another. In addition, medical conditions often exist with some of the more severe multiple disabilities such as learners with cerebral palsy, severe autism spectrum disorder (ASD), Down Syndrome and others. These conditions inevitably have educational implications for the learners, requiring support that goes beyond the confines of the classroom. Against this background, the current chapter specifically emphasises the effects of vision loss for learners who are MIVI, and how teachers can support these individual learners.

## ■ Overview of the chapter

The goals and objectives of this chapter are to inform and equip teachers in understanding the complexity of learners affected by multiple impairments, more specifically learners who are MIVI.

**BOX 5.1:** Aims for teachers concerning learners who are MIVI.

- Recognise the uniqueness of each individual learner who is MIVI
- Accept learners who face a variety of different challenges
- Develop and implement an ISP for each individual learner
- Equip oneself to teach learners who are MIVI by obtaining relevant knowledge and skills through attending continuous development courses, conducting further studies, reading and researching the topic
- Establish effective communication with the learner by exploring the most appropriate method of interaction
- Implement best adaptations and accommodations such as positioning, technology, tilt board, large print, communication boards, etc.
- Participate in teamwork with other professionals, for example, the orientation and mobility practitioner, speech-language therapist, occupational therapist, educational psychologist and school nurse

ISP, individual support plan; MIVI, multiply impaired with visual impairment.

As an underlying background, information is provided about the constitutional and legal rights of a learner who is MIVI in South Africa. The functional assessment of a learner who is MIVI and how to achieve this assessment is then discussed. Next, focus is placed on the needs of the learner and how teachers can develop a learning programme for each individual. As communication challenges are often a main barrier to learning for a learner who is MIVI, some adaptive communication tools are also discussed. In addition, some O&M adaptations are presented.

As an overview, Box 5.1 captures what all teachers should aim for when educating and supporting learners who are MIVI.

## ■ Definition of key concepts

### ■ Augmentative and alternative communication

An umbrella term encompasses the communication methods used to supplement, or in some extreme cases, replace speech or writing

for those individuals who have difficulty either in understanding (receptive) or producing (expressive) language in spoken or written forms. Augmentative and alternative communication (AAC) strategies include, amongst others, the use of pictures and graphic symbols displayed on communication boards or in books, manual signs (like the ones used in sign language), tablets and computers with AAC software as well as electronic devices with speech output (cf. American Speech-Language-Hearing Association [ASHA] Action Centre 1997–2020), similar to the device that Professor Stephen Hawking<sup>6</sup> used.

## ■ Autism spectrum disorder

This is a developmental disorder that is characterised by difficulties with social communication, social interaction and social imagination. It is a spectrum condition, which means that whilst some people are severely affected, others may only be mildly affected.

## ■ MIVI

MIVI is the acronym for ‘multiply impaired with visual impairment’.

## ■ Multiple impairment

A term that implies concomitant (simultaneous) impairments (such as intellectual disability and blindness, intellectual

---

6. Professor Hawking was a world famous scientist known for his work with black holes and relativity. He also had motor neurone disease (MND), a progressive disease that resulted in him losing his ability to use speech to communicate, despite the fact that he did not lose his ability to understand speech and language. He communicated using a small sensor which he activated by a muscle in his cheek that worked like a cursor on a computer. He used this sensor to ‘type’ characters and numbers on the keyboard of his speech-generating device. After he compiled his message, he would activate the ‘speak’ function on his device, and the device would then say the message out loud that he typed. To see and hear how he used his device, please look at his TED Talk: [https://www.ted.com/talks/stephen\\_hawking\\_questioning\\_the\\_universe/transcript?language=en](https://www.ted.com/talks/stephen_hawking_questioning_the_universe/transcript?language=en).

disability and deafness, physical disability and visual impairment, etc.), the combination of which causes significant educational needs that cannot be accommodated in a special education programme designed solely for one of the impairments. For the purposes of this chapter, the term ‘multiple impairment’ does not include ‘deaf blindness’ (Escowitz 2019).

## ■ Visual impairment

Any degree of vision loss that affects an individual’s ability to perform tasks of daily life, caused by a visual system that is not working properly or not formed correctly (Corn & Koenig 1996).

## ■ The right to learn

The education of learners with disabilities is a human rights concern, as enshrined in the Constitution of the Republic of South Africa (1996), and underscored by the South African government when they became a signatory to the United Nations CRC (United Nations 1989) and the United Nations CRPD (United Nations 2006). The right to ‘basic’ education was specifically extended to ‘everyone’ (United Nations 2006, s. 29[1]), and the State is specifically tasked with the duty to take ‘equity’ into consideration in ensuring ‘effective access to, and implementation of, this right’ (United Nations 2006, s. 29[2] [a]).

Unlike several other socioeconomic rights, such as the right of access to housing, the right to basic education is not made contingent upon the resources of the state. This means that every learner with multiple impairments has the right to education (DBE & UNICEF 2015). For a more detailed discussion on children’s rights and the right to basic and inclusive education, refer back to Chapter 3 and Chapter 4.

## ■ **Special considerations for learners who are multiply impaired with visual impairment**

Information collected on young children with visual impairment indicates that a large percentage have additional disabilities (Ferrell 1998). These disabilities can form barriers to learning and may range from mild (e.g. a slight developmental delay or mild cerebral palsy) to severe (e.g. multiple health, motor, cognitive and sensory impairments). When involved with a learner who is MIVI, the teacher should remember that the learner is a whole person - in other words, they are more than only their impairment. This implies that teachers should keep a holistic view of the child in mind rather than merely focusing on the implications of one of the impairments.

An impairment cannot be singled out for intervention, neither can adaptations be singled out without understanding the implications of the effects of all the impairments affecting the learner. In other words, teachers should focus on working with the learner and not with the impairment. The impact of multiple impairments is additive (Hatton et al. 1997), for example, a learner with physical impairments may need adaptive devices or special positioning to enhance motor control and strength. Another example could be a learner who is MIVI and who is also on the autism spectrum and who may therefore be tactile defensive, thereby requiring a non-tactile approach.

## ■ **Following a team approach**

The teacher who educates and supports a learner who is MIVI should develop a close network of professionals, such as an O&M practitioner, audiologist, speech-language therapist, physiotherapist, occupational therapist, educational psychologist, doctor, plus family members and/or caregivers. Together, the team can be creative in developing solutions that may meet the

individual needs of the learner. When a learner has multiple challenges, such as learners who are MIVI, teachers will require the support of a more diverse and connected team than in the case of a learner with only one impairment.

Even though no professional can be an expert in all disabilities, it is important that team members interacting with each other, and the learner who is MIVI, should understand the implications of the individual learner's impairments and the interaction of each impairment on the other(s). For instance, in Chapter 7, it is explained that a learner with a visual impairment becomes tired more easily than sighted learners because of the energy required to use other senses, functional vision and adaptive equipment. It follows that a learner with two or more impairments will tire more easily, resulting in additional barriers to learning. As a result, teachers of such learners will need to understand basic support skills, in order to attend to learners being positioned correctly, using adaptive devices correctly (e.g. orthotics or splints), understanding the need of suctioning, and knowing how to respond to, for example, epileptic seizures. When a learner is visually impaired it is also important to know if the learner has a better eye so as to position them so that they can use the vision in the better eye rather than the weaker eye. For example, if a learner is lying on the floor, the better eye should face away from the floor.

Teachers who have learners in their class who are MIVI may need to request a classroom assistant or facilitator. Furthermore, when the teacher has limited experience working with learners who are MIVI, comprehensive training in specific skills may be required. Moreover, such training programmes can be supplemented with specialised support teams who have the capacity to provide teachers with hands-on training and practical skills in the classroom context (Donohue & Bornman 2014).

Teams should always coordinate all efforts to assist learners who are MIVI as well as their teachers for the family and learners

to not become overwhelmed by individual uncoordinated professional input. By working together, a professional team can ensure that meaningful learning opportunities are created and provided, taking the learner's unique needs into consideration.

## ■ **Supporting parents with the challenges they face**

Professionals may sometimes forget that parents (or other primary caregivers) will find it hard to cope with a child with multiple impairments, with the main issue often faced by these parents being related to their reaction to the mix and/or severity of the impairments. When a child is born with more than one impairment or health issue, the parents must come to terms with each individual impairment affecting their child, and the parents need to learn how to meet their child's medical and daily needs. Each family is unique in its way of dealing with different challenges, yet parents' priorities generally entail the acquisition of knowledge and skills to deal with the daily life of their child as well as their medical needs.

Thus, in such cases parents may focus all their time and energy in addressing the basic medical, physical and feeding needs of their child, not wanting to discuss issues relating to their child's visual needs as yet another issue to address. Even though teachers may experience these parents as 'absent', research has shown that distressed parents are sometimes too emotionally drained to be confronted by other people (e.g. teachers who might possibly raise more problems), and may therefore withdraw (Westling & Fox 2015). On the other hand, other parents may want to discuss all aspects of the challenges that the family face concerning the mix of impairments, where to access support and what to expect of the future. As a result, the support team (including teachers) should be sensitive to each family's uniqueness, providing the correct support along the 'pathway' of the family's journey through life.

## ■ Assessment of learners with visual impairment who have multiple disabilities

When assessing learners who are MIVI, teachers need to firstly collect sufficient background information, to enable them to select appropriate activities, interpret the learner's communicative behaviour and collect accurate information during the assessment (Corn & Koenig 1996). This can be done by completing an 'activity inventory' and assessing the participation of typically developing peers. To be able to do this, teachers should observe a learner's peers performing age-appropriate activities, how they perform and which skills they rely on during such activities. Next, the teacher should allow the learner who has MIVI to perform similar activities and closely observe which specific skills the learner already possesses, and which additional skills they require (Beukelman & Mirenda 2013).

An assessment of a learner who is MIVI should be done by the professional team in conjunction with the teacher and the learner's family. This will enable the teacher to become aware of the learner's functional vision and other capabilities. For the teacher to be able to plan a successful learning programme, the team should once again be involved in discussing various options for an ISP. Consultation with team members on a regular basis should form part of the teacher's scheduled tasks, as insights gained from other team members will be valuable in the ongoing education and support of the learner.

## ■ Observation as key to assessment

Much can be learned about a learner's level of functioning by observing the learner in a variety of situations such as in the classroom, at play or whilst eating. Teaching should always start with skills that are immediately relevant and meaningful to a learner. However, the teacher, of learners who are MIVI, should remain aware of the fact that these learners may have chronic

medical conditions that influence their ability to use vision. In support of the initial observations, the teacher should collect reports from the various professionals involved, more specifically to be informed of any prescribed medication as this may have an effect on a learner's vision. For example, learners with cerebral palsy often experience strabismus either periodically or consistently, whereas learners who are diabetic may experience disturbed vision when their glucose levels are not well-controlled.

Assessment through observation can assist a teacher in obtaining information on how learners who are MIVI use their functional vision. The teacher may be assisted by an O&M practitioner when performing such an assessment. Materials that can be used during these observations include penlights, flashlights, flicker lights, translucent and transparent coloured filters, familiar objects in the learner's environment, bubbles, balloons, puppets, blocks (different sizes and colours), squeeze toys, small musical instruments, bells and food such as cereal, raisins, smarties, or hundreds-and-thousands (also known as 'sprinkles').

Observations should be made at different times of the day, in different natural and artificial lighting, indoors as well as outdoors, and in both familiar and unfamiliar environments. The purpose of the ongoing assessment is to increase the teacher's skills in assessing and supporting the learner, and to decrease assumptions. For example, if a learner who is MIVI consistently turns the right eye in the direction of the stimuli, it can be recorded that the learner views primarily with the right eye turned in the direction of a stimuli, a fact that has implications for classroom and learning support. In such a case, it can, however, not be assumed that there is no vision in the left eye, such a response can be exhibited for various reasons, that is, a learner attempting to eliminate double vision, achieving binocularity or stilling nystagmoid movements. Even though subjective observations will be considered during any assessment, for a teacher the goal of an assessment is to remain as objective as possible and to limit assumptions as far as possible (Jose 1983).

Throughout the assessment, it is important for a teacher to observe whether or not the learner exhibits any behavioural response to auditory, visual and/or tactile stimuli. Table 5.1 shows some examples of behaviours that may be observed which can give an indication of a learner's visual functioning (or not), as well as the extent thereof (Jose 1983:380).

## ■ Recording observations

It is important that the teacher who assesses a learner who is MIVI records all aspects of the learner's responses and reactions to stimuli. It is necessary to describe the lighting, type and size of object that is being used as well as the distance at which the learner sees the object. Attention should further be paid to the eye that is preferred or whether both eyes are used. Furthermore, it should be noted if the learner who is MIVI can respond to commands independently or if assistance is required. In addition, any behaviour that is demonstrated when responding or not responding to assessment items should be observed.

**TABLE 5.1:** Visual functioning indicated by certain behaviours.

<b>Movement patterns Does the learner?</b>	<b>Sensory responses Does the learner?</b>	<b>Postural responses Does the learner?</b>
Move with ease and speed	Exhibit behaviours such as light gazing or flicking	Exhibit neck and facial straining
Exhibit a smooth range of movement	Bring objects to the mouth for exploration	Tilt the head
Shuffle their feet	Explore objects primarily with the fingers or hands	Exhibit compensatory body adjustments
Walk with their head downward	Demonstrate more awareness of sounds	Squint
Avoid or bump into objects consistently	-	-
Bump into objects that are waist high, to one side or below knee level	-	-

Source: Adapted from Jose (1983:380).

Throughout, it is important to remember that each learner is unique and that learners will thus react in different ways. Even though responses may not necessarily 'look like' what one would expect, it should be kept in mind that a learner who is MIVI may have made adaptations to their impairments, with the result that postural and behavioural responses may initially seem 'strange' to the teacher. All observations should, however, be noted. It is important that teachers communicate on the learner's level, motivate learners, provide additional time for responses when needed, and assist and encourage the learner to respond. All effort made by the learner – no matter how small – should be encouraged and rewarded.

Other observations that should be noted include the learner's movements, communication method, how mobile the learner is, if the learner uses the left or right hand, and whether the learner is intellectually challenged. Part of the assessment includes observing the environment and identifying strategies that may improve the environment, thereby enabling the learner who has MIVI to be orientated. The information that is obtained about vision depends on both the learner's intentional and unintentional communication, therefore the form and function of communication provide important information about how a learner who is MIVI sees. In the same manner, body movements can provide information about what a learner who is MIVI sees, with visual responses varying according to a learner's position in space and distance from an object and the angle of observation. For example, learners with physical disabilities will typically have limited control over their own positions or movements, with the result that supportive positions will enhance their visual ability (Corn & Koenig 1996).

Table 5.2 (adapted from Corn & Koenig 1996) provides some questions that can be asked when assessing the vision of a learner who is MIVI. This table can assist teachers to record and summarise the observations made by the team who take responsibility for the assessment.

**TABLE 5.2:** Questions to consider when assessing the vision of a learner who is multiply impaired with visual impairment.

<b>Aspect</b>	<b>Specific questions</b>
Communication	Does the learner intentionally communicate about what they see? What behaviours give information about a learner's vision?
Medical diagnosis	Does the learner have a medical condition that may affect vision? If so, how does the condition affect the vision?
Medication	Does the learner take medication regularly or occasionally? How does the medication affect their vision?
Motivation	What materials does the learner prefer for leisure activities? How does the learner express their preferences?
Alertness	Is the learner more attentive at certain times than at other times? When is the learner the most responsive and the least responsive? Does the learner demonstrate more visual control after physical activities?
Positioning	What is the learner's preferred position? Does the learner use vision differently in various positions? Can the learner change body or head positions to alter vision?
Sensory responses	Does the learner react positively to unfamiliar people? Does the learner distinguish visually or otherwise between familiar and unfamiliar people? Is the learner motivated by social interactions, or does he or she find them aversive?

Source: Adapted from Corn and Koenig (1996).

## ■ Communication with learners who are multiply impaired with visual impairment

The United Nation's CRPD (United Nations 2006) of which South Africa is a signatory recognises the importance of communication as a basic human right. Apart from communication being a human right, it is also an essential human need through which opinions, thoughts, emotions and ideas are shared (cf. LeDoux 2000: 155-184). It enables human beings to create shared meaning and

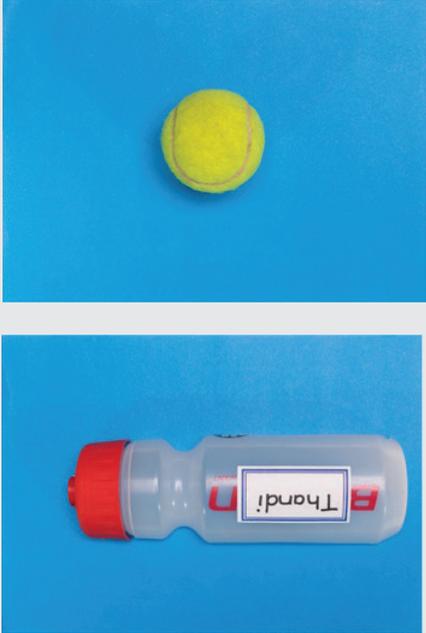
it validates human equality. Moreover, the ability to communicate is essential to forging relations, learning new skills, interacting with one another and breaking down barriers that may impede growth and development.

Augmentative and alternative communication can address this basic human right and need for individuals who require extensive communication support in order to learn more effectively in classrooms and also to function optimally within society. Augmentative and alternative communication includes all forms of communication (other than oral speech) that human beings can use to express their thoughts, needs, wants and ideas (ASHA 2017). Augmentative and alternative communication systems and strategies are broadly divided into unaided and aided strategies. Unaided AAC strategies rely on the learner's body to convey messages and include natural gestures (e.g. waving to say 'hello'), body language, sign language, finger spelling and facial expressions. In contrast, aided AAC strategies involve something more than only the body, such as objects, pictures, graphic symbols or even communication devices with speech output (speech generation devices) (Bornman & Tönsing 2019). Because of the unique abilities and communication needs of learners who are MIVI, teachers cannot take a blanket approach. They need to ascertain what the learner's current strengths are, and build on that. For example, learners who are MIVI will typically require tactile support. As a guideline to teachers of learners who are MIVI, some strategies for beginning communication are briefly discussed in Table 5.3.

In the authors' experience, many parents and care givers of learners who are MIVI have commented that they feel let down by the education system. They were concerned by the lack of equal treatment of their children and explained that their

children were not taught adequate skills to support their development and learning, to help them lead an independent life and to seek meaningful employment. The medical support system is also criticised as being inadequate and does not provide sufficient guidance for the long-term care of their children.

**TABLE 5.3:** Beginning communication strategies for learners who are multiply impaired with visual impairment.

Communication Strategy	Tools
<p><b>Tangible object symbols</b></p> <p>Learners first need to be taught about representational symbols, specifically object symbols with tangible and/or textured object symbols. In other words, learners should understand that a symbol stands for something else (e.g. the object symbol for water bottle means, '<i>I am thirsty. I want a drink</i>' whilst the object symbol for the tennis ball means '<i>I want to play</i>'). Learners also need to be taught that they can affect their environment through the use of these more conventional symbols as it will increase their number of communication partners who will understand what they are trying to communicate (Bornman &amp; Tönsing 2019).</p>	

Source: Photographs provided by Mariki Uitenweerd, from EyeScape Corporate Photography, date unknown, published with permission from Mariki Uitenweerd.

Table 5.3 continues on the next page→

**TABLE 5.3 (Continues...):** Beginning communication strategies for learners who are multiply impaired with visual impairment.

Communication Strategy	Tools
<p><b>Object-based visual schedule</b></p> <p>It is specifically important to represent the specific activities in a learners' daily routine by means of a visual schedule to help them realise the specific sequence of events and to gain greater control over their environment. The use of schedules is well-known to teachers. For this strategy, the focus is only on changing the format from the typical written format to an object format. The advantages of visual schedules include:</p> <ul style="list-style-type: none"> <li>• Gives control over the environment</li> <li>• Provides an overview of the sequence of activities</li> <li>• Shows learners what will happen next</li> <li>• Introduces symbolisation (one thing stands for another)</li> <li>• Makes the transition from one activity to another easier (Bornman &amp; Rose 2017)</li> </ul>	
<p><b>Remnant book</b></p> <p>Object symbols can be used (together with other materials) to create a remnant book in order to develop a 'Book of memories' for each learner that will also facilitate interaction between the learner and a range of communication partners as it can provide conversational content for interaction. It is important that the remnant book should be meaningful to the learner, who should help select it in order to ensure that the learner associates it with the place it came from (Bornman &amp; Rose 2017). In this case an injection and mask represent a visit to the doctor, whilst a comb, hair clips and curlers represent a visit to the hairdresser. Remnant books can also be effective in facilitating communication between the home and school.</p>	

Source: Photographs provided by Mariki Uitenweerd, from EyeScape Corporate Photography, date unknown, published with permission from Mariki Uitenweerd.

## ■ Education and support for learners who are multiply impaired with visual impairment

All learners, including those who are MIVI have the right and need to be able to access education throughout their lives. However, the reality is that the majority of learners in South Africa who are MIVI remain within their homes (also refer to ch. 3) and are unable to access any form of education (Human Rights Watch 2019). The reasons for this include, amongst others, poverty, discrimination, community attitudes, educator's attitudes, lack of facilities, lack of transport, knowledge of how to access services, distances to travel, where one lives and poor early intervention (Donohue & Bornman 2014).

## ■ Current schooling options in South Africa

As discussed in Chapter 4, South Africa adopted an inclusive education system namely White Paper 6 (DoE 2001), with a three-pronged approach to determine – based on the intensity of support needed – where learners are placed. This includes regular mainstream schools (which should be as inclusive of all learners as possible), full-service schools (those schools that cater for learners who experience moderate barriers to learning and thus require moderate support) as well as special schools (those schools that serve learners who experience significant barriers to learning and thus require extended support). However, it appears as if special schools are still regarded as the 'default option' for all learners with disabilities irrespective of their individual support needs, without exploring the possibility of including them in full-service or regular mainstream schools. Human Rights Watch and expert groups' research shows that social workers and education officials typically refer learners who are MIVI to special schools, sometimes after a short stay in a full-service school, but in many cases only after a long and tedious process of referrals and assessments. Such

referrals often prevent learner's exploration of the range of inclusive education opportunities, thereby limiting their access to a full cycle of basic education, to which they are entitled to by law (cf. Du Plessis 2013:76–92). Many learners are in special needs schools that segregate them and do not support their holistic development or cognitive skills (Human Rights Watch 2019).

Some learners who are MIVI are thus included in full-service and special needs schools yet other children are accommodated in care centres established by NGOs and subsidised by provincial social development departments. Accurate published data on the status of children with disabilities in South Africa seem to be lacking. However, according to government data, nearly 121500 learners with disabilities were enrolled in 'ordinary' schools and over 119500 learners in special needs schools in 2015. In 2017, close to 11500 children with disabilities were on waiting lists to enrol in special needs schools (Human Rights Watch 2019). An estimated 600000 children, of school-going age, with disabilities remain out of school in South Africa, even though it is difficult to find data on how many children are attending care centres that are government sponsored, NGO sponsored or privately run.

As already implied, the *Children's Act* also makes provision for child and youth care centres for children with disabilities. However, no information is available on the number of disabled children in these centres. Moreover, there is a lack of coherent national statistics on the number of children with disabilities who are in need of care, as well as the resources that are available for them (DSD, DWCPD & UNICEF 2012). For example, as some of the children in care centres may not be receiving education from qualified teachers, they are essentially excluded from the education system.

In addition, education in South Africa is not yet free for the majority of learners with disabilities. South Africa's laws do not

automatically guarantee the right to free education. Even though most learners in public schools do not pay school fees, learners with disabilities in public special schools are charged fees (Human Rights Watch 2019). Furthermore, parents of learners who are MIVI have to pay additional fees for any technology or human assistance in full-service or special needs schools as well as care centres. Parents may also be obliged to send their children long distances to a special needs school or care centre as there may be no available options where they live which can cater to their child. This is particularly true for learners who are MIVI, especially for those who live in rural areas.

Despite existing legislation, and against the background of the current South African situation, many learners who are MIVI may still be turned away from 'full-service schools' (cf. Bekele et al. 2015) in contravention of the prohibition against unfair discrimination on the basis of disability. Others may be refused admission to special schools based on their particular disability or learning needs, on the grounds that they do not fall within the designated target group for the specific school, thereby forcing these learners back into their cocoon of isolation (The Educator 2004). Another group of learners with disabilities may not attend school because of a failure to provide basic reasonable accommodation facilities such as wheelchair ramps and accessible toilets. Where learners with multiple disabilities do access schools, such schools often fail to reasonably accommodate them.

Parents may become so frustrated with the barriers to education that they resort to home schooling. This can once again result in isolation for the learner, requiring special efforts by the parent(s) to include the learner who is MIVI within the community. A parent of such a learner attending a special school expressed this experience in the following way:

'I feel that my child is not receiving the correct educational services from the school but I am concerned that if I home school, my child could become a recluse very easily.' (S. Ncube pers. comm., 15 August 2018)

## ■ Making adaptations for individual learners

Henry B. Adams said, 'A teacher affects eternity; he can never tell where his influence stops' (Edberg 2020). This sentence points to the important role of teachers in the lives of learners, even more so in the case of learners who are MIVI. As already indicated, teachers should take responsibility to access the necessary professionals who may assist in supporting learners who are MIVI, in terms of their quality of life. The teacher and support team should, however, remain cautious of the fact that even though learners who are MIVI may appear to be functioning at a similar level, each learner is unique, with unique needs. Therefore, teachers are generally challenged when working with these learners. In addition to requiring specialised knowledge and skills concerning learners who are MIVI, teachers need to know which adaptations to make, which professionals to contact and where and how to access support. Below, a few case studies are discussed in order to illustrate what can be achieved when supporting learners who are MIVI.

### □ Case study 1: James (passed away in his thirties)

James was a learner diagnosed with ASD. He was affected by albinism and unrecognised visual impairment (which is associated with the condition of albinism) and attended a special needs school. His mother tongue was German. The assessment team focused on James' autism rather than on his visual impairment. Noticeable characteristics concerning his visual impairment were that James always used to sit with his back to the window, tap the walls when moving from place to place, stop at the door when moving from dark to light, and when in the school bus travelling from an underground parking area into the sunshine would scream and shout until he arrived back at school. At home, James would never go into the garden, preferring to stay in the darkened house. If the curtains were opened, he would scream. The teacher assumed that these were traits of his autism, as she

seemingly did not understand James' visual impairment. James died in his early 30s.

Even though James wore spectacles his eyes were almost closed because of the bright glare of the sunshine. His refractive error was corrected but, darker lenses could have assisted further. A child holding on to the wall can provide an indication of an underlying functional visual problem that should be noted and supported by the teacher.

The case of James demonstrates that special schools may not follow a holistic approach when dealing with a diversity of needs of a learner, resulting in the possibility of misinterpreting behaviour that points to an additional disability, with this not being identified. James' teacher(s) should have been informed by the diagnostic team that, because of the albinism, a vision challenge may also have been present. When assessing a learner, the teacher should thus observe the learner in a holistic way and understand that learners may have many different ways of communicating, noting when and where certain behaviour occurs. In James' case, non-specific communicative behaviours such as screaming possibly indicated that he disliked a change in the environmental conditions that could affect his vision. Adaptations that could have modified his behaviour and provide some support include a peaked cap, dark glasses and the introduction of O&M training. It is also possible that the autism could have been misdiagnosed.

## **□ Case study 2: Janet (passed away in her twenties)**

Janet was diagnosed with ASD, mild cerebral palsy and epilepsy. When Janet attended school, it was clear that she also had an undiagnosed visual loss. Her eyes were not aligned and were severely squinted (strabismus, see Figure 5.1). On being guided to make eye contact, Janet, once the teacher had let go of her face, would turn her head to the left. When walking she would



Source: National Health Service (2017).

**FIGURE 5.1:** A child with strabismus similar to Janet.

also turn her head to the left. The same applied to her looking at artwork on her desk. Every time she turned her head to the left, she was encouraged to look forward to the object. Janet had no spoken language and only used vocalisations (grunting). She navigated by touching the wall with her right hand.

Janet's case illustrates that, if her teacher had been more informed and had been trained to observe learners in a holistic manner, Janet's visual loss may have been recognised and suitable adaptations could have been put in place. Turning the head to the left indicates that Janet was using the right eye more than the left eye. Similarly, this is seen in the case of Janet using her right hand to trail the wall when walking. All of this indicates that Janet was using her peripheral vision of the right eye and probably had some central vision loss. As Janet's initial assessment only included a psychiatric team, other relevant professionals (e.g. teachers) were not consulted, pointing to the importance of

a multidisciplinary team approach, which was not employed in this case.

Adaptations that could have assisted Janet would include O&M training, including an attempt to change her head position, and the use of magnification, bright colours, contrast, large print and a tilted stand. Janet may also have benefitted from the introduction of a closed-circuit television reading machine. In addition, Janet should have been referred to an ophthalmologist who could have done a cyclopaedic assessment of her eyes under anaesthetic. Finally, communication opportunities should have been investigated, and she would have benefitted from AAC, which would have impacted positively on her education and learning.

### □ **Case study 3: Susan (age 40 years)**

Susan, a full-time wheelchair user, attended a full-service school from Grade 1 to Grade 12. She was diagnosed with cerebral palsy, epilepsy, dyslexia, minimal hearing loss, speech disorder and cortical visual impairment (CVI, see Figure 5.2). The latter was only diagnosed in her mid-twenties. She was marginalised at school and no adaptations or accommodations were provided. After her CVI diagnosis, Susan realised why she had experienced barriers to learning. She has self-adapted and currently wears tinted yellow glasses, uses magnification as well as extra lighting, requests people to come closer to see their faces, avoids clutter and volunteers at a local care centre catering for persons with multiple impairment. Susan is now independent and actively involved in her community.

Similar to the earlier cases discussed, Susan's case also points to the failure of the education system to adequately support a learner who is MIVI. It also demonstrates the lack of sufficient training for teachers in recognising severe visual loss. However, Susan's case also demonstrates the resilience of a learner who is MIVI and her family in addressing barriers and overcoming challenges.



*Source:* Photograph taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 5.2:** Susan educating students about cortical visual impairment.

Susan has succeeded even though she did not receive the support she required during her schooling years.

#### **□ Case study 4: Johannes (age 5 years)**

Johannes has multiple impairments which include speech, vision, intellectual development and mild cerebral palsy. He was referred to an O&M practitioner who is also a qualified special needs teacher. Visits were made at home and school on numerous occasions over a two-year period. Johannes was cared for by his maternal grandparents and they carried out his daily interventions guided by the O&M practitioner. At that time the O&M practitioner observed that Johannes had light perception, was in nappies, was carried around constantly, being fed and eating only 'milky pap' and only had monotone and echolalic speech. He attended a local nursery school but was segregated from the other children.

A child's weighted shopping trolley was introduced and Johannes pushed it on the grass with his grandfather supporting him from behind. The purpose of using the trolley was to build confidence, teach different tactile surfaces and become orientated. Initially, not too many demands were put on Johannes and every task was made to be fun. Objects were introduced to identify two rooms, namely a toothbrush on the outside door frame of the bathroom and a toy car on the outside door frame of the bedroom. He trailed the wall to find the door frames with his grandfather walking with him. Voice and touch commands were introduced so that Johannes could turn left or right or stop. This process took three to four months until Johannes could walk by himself trailing the walls. In this period, different foods were introduced to Johannes. He was also encouraged to participate in the singing and story circles at nursery school.

After 6 months had passed, Johannes was introduced to a long white cane, with a roller tip, in the home and school environment. He used the cane to clear the pathway in front of him but still held on to his grandfather or teacher's hand. Toilet

training was introduced using a child size paint bucket with a small toilet seat in a corner just inside the bathroom.

Over the next few months, Johannes developed to such an extent that further schooling was needed. A special needs school was sourced where the O&M practitioner presented several workshops to the teachers and therapists, mostly in connection with vision loss, prior to Johannes being admitted. The O&M practitioner continued to support and interact with his teachers and caregivers. Within a week of being at the school, Johannes had orientated himself to the bathroom and was able to go to the toilet independently. He was also interacting with one other child, playing alongside her and talking to her. He was using his cane, holding on to a teacher to go to the school bus and would find his own seat.

He started eating finger foods and occasionally used a spoon for yoghurt. Two years later Johannes was participating in the school concert where he walked alone onto the stage with his cane and sang solo in English which was not his mother tongue. The foundation has been laid for his further development and education. The pictures shown in Figure 5.3 and Figure 5.4 illustrate aspects of the text above.

Figure 5.3 shows Johannes trailing the wall guided by his grandfather. The toothbrush on the wall indicates the bathroom and the paint bucket with the toilet seat in the corner of the bathroom is another low-tech adaptation.

Johannes' case study illustrates the value of intervention by a professional who focuses on the potential of a learner who is MIVI, supported by a caring and committed family, resulting in a pathway of development. Some of the strategies that contributed to success include the fact that tasks were broken down into small steps in order to not overwhelm Johannes, to use confidence, motivation and a sense of achievement as key factors in making progress, and to approach Johannes and his family with a great deal of empathy, with them responding positively.



Source: Photograph taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 5.3:** Child trailing wall.

Another important factor in Johannes' development was the involvement of and interaction between the school, O&M practitioner and the family. Before intervention by a professional, Johannes was totally dependent on the adults in his life. However, a long process of intervention led to improvement, giving Johannes the chance to eventually attain his optimal potential. It should be noted that the adaptations made in this case were not technological by nature but involved a shopping trolley, items on door frames, a paint tin and a white cane with a roller tip. Finally, the people in daily contact with Johannes carried on with the interventions as suggested by the O&M practitioner, resulting in sustainable positive outcomes.



Source: Photograph taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 5.4:** The use of a shopping trolley for mobility.

## □ Case study 5: Wandile (age 12 years)

Wandile was born prematurely which resulted in retinopathy of prematurity, has mild cerebral palsy on the left-hand side, hearing impairment more on the right-side than on the left, has intellectual challenges, a speech disorder challenge and attention-deficiency hyperactivity disorder (ADHD). He is medicated for the ADHD. Although Wandile was born in South Africa, his mother is not a South African citizen. This fact has created an additional barrier to learning as he had not yet been granted a study visa.

Wandile had his first contact with an O&M practitioner or special needs teacher when he was six years old. At that time, he was attending a pre-school class for children with visual impairment where he was sitting in a foetal position in the corner of the classroom. He was also segregated from the other children as he was allegedly aggressive towards them. Wandile's behaviour in the home environment was completely different to school. When greeted he responded by running towards the O&M practitioner shouting 'Hello ANN!' He was able to move about independently, played a keyboard, was beginning to feed himself, was toilet trained and quite interactive.

At the age of between six and seven years, the correct school could not be found for Wandile. He was declined by several schools because of his multiple impairments. He then attended several care centres which in turn rejected him after a short period. At this time, his mother decided to home school him and contacted the O&M practitioner for support. Interventions were discussed and diligently implemented by his mother. Continual contact was implemented either by phone, WhatsApp or face-to-face.

Currently, Wandile is independent in dressing, toileting, eating and in other activities such as making his own bed, getting his own cereal, setting and clearing the table when he is finished eating and washing up the dishes. He taught himself to swim and invites other children to join him. He plays catch and kicks a ball in the garden. Wandile is now mobile and is orientated in his home environment.

Figure 5.5 shows Wandile making his breakfast independently and illustrates that he may have some vision in his left eye. Figure 5.6 shows Wandile chasing a ball on the lawn.

He uses the long white cane with a roller tip and walks to the local shops to buy chips and climbs the hills behind the house using his cane. His most recent cane travel achievement was to walk from the entrance of the shopping mall and find the Wimpy to have ice cream and pay for it. Previously he could not enter a mall because of the sensory overload causing him to have a 'melt down' and become uncontrollable. The picture in Figure 5.7 shows him using his cane. He is holding his head to keep looking forward and is trailing the kerb with his left foot.

Wandile was introduced to a computer, which, when the keys were pressed, provided auditory feedback, allowing him to play songs. The picture in Figure 5.8 shows the toy computer that Wandile used. He turns his head to the right so that he can use the hearing in the left ear (his better ear), optimally. The position of his hands is a typical way of reading braille.

Learning letters and numbers, a literacy skill, provided a breakthrough for Wandile's further development and education. Tactile development was provided by introducing 3D letters and shapes. He formed simple words phonetically into three-word sentences. He also wrote simple words by using a specially designed writing tablet with elastic lines. His mother introduced him to adapted games such as Scrabble, Boggle and Snakes-and-Ladders. He also plays card games using braille cards. To be able to teach Wandile braille, his mother enrolled for an online braille course for family members and she is teaching Wandile braille using the Perkins Brailler. He is writing and reading simple braille and has his own garden.

All of the above is indicative of only some of the skills that Wandile has mastered since being home schooled. He has been and is still on waiting lists for special needs schools.



Source: Photograph taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

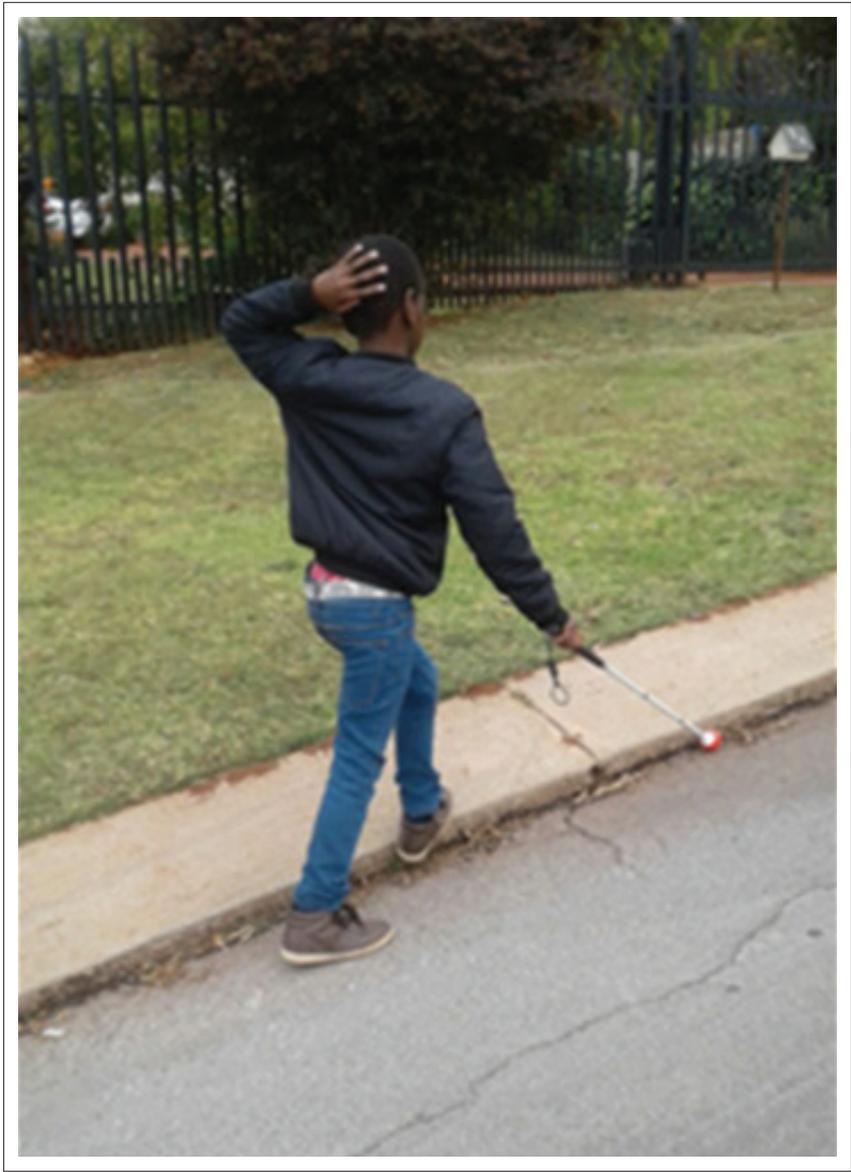
**FIGURE 5.5:** Wandile making breakfast.



Source: Photograph taken by Robin Heard, exact date and location unspecified, published with permission from Robin Heard.

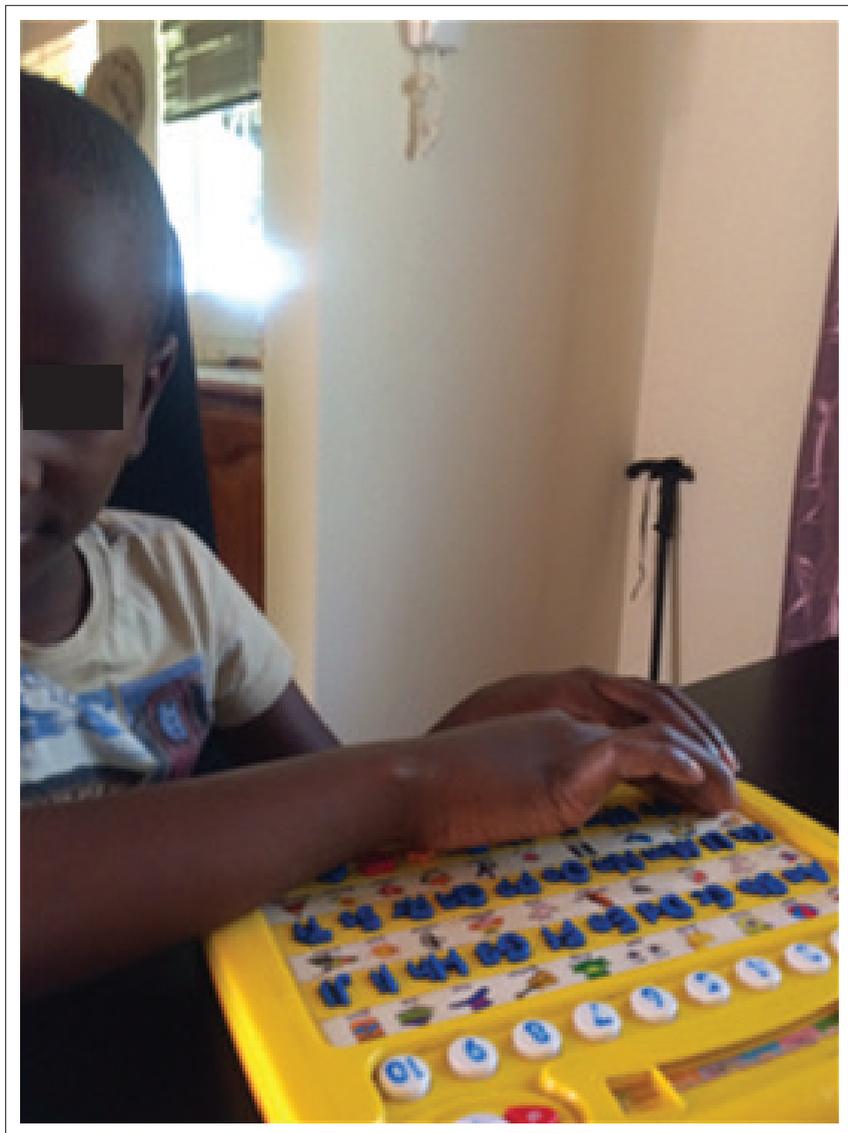
**FIGURE 5.6:** Wandile playing ball with Ann.

Wandile’s case illustrates how a barrier to learning can be created when schools do not accept a learner who is MIVI. More specifically, the fact that the carers at the pre-school and other care centres attended by Wandile did not understand him



Source: Photograph taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 5.7:** Wandile using his cane in the street.



Source: Photograph taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 5.8:** Wandile using his toy computer.

resulted in him being segregated within the classroom, ultimately leading to his exclusion from the care centres. The fact that Wandile ended up on the waiting list for a special school for a very long time added to the barriers experienced. Fortunately, Wandile's mother, with assistance from the O&M practitioner, was able to facilitate progress with Wandile's development and education allowing him to thrive.

As such, even though Wandile 'shut down' at the care centres because of the care givers' allegedly negative attitudes and low expectations of him, his mother believed that her child was capable of much more and was committed to support him in the process. Although some parents may have unrealistic expectations regarding their children's development and skills, parents mostly have a deep understanding of the possibilities for their child. It is imperative that parents and teachers have realistic expectations that are not too high resulting in children never experiencing success, which negatively impacts on confidence, whilst expectations that are too low result in children not being challenged to perform, which can lead to 'learned helplessness' (Bornman & Rose 2017).

For clear reasons, Wandile is not yet functioning at his peer's intellectual level; however, he has made significant progress in terms of orientation, mobility, independence, communication, social skills, literacy and motivation to learn, because of the committed intervention at home.

## ■ **Implications for teachers and practitioners who support learners who are multiply impaired with visual impairment**

We conclude the chapter with some practical guidelines that teachers and practitioners may consider when supporting learners who are MIVI.

## ■ **Practical guidelines for teachers of learners who are multiply impaired with visual impairment**

As all learners who are MIVI are unique, it is important for teachers to first develop an ISP for each learner. The following guidelines may assist teachers in planning for, educating and supporting learners who are MIVI (Escowitz 2019):

- Focus on the learners' strengths in addition to attending to their learning needs. For this purpose, the parents can be taken as a source of information of learners' skills, in addition to and in support of the teacher's observation of the learners in many different situations.
- Be open to make adaptations, which will be unique and child-specific. Appropriate modifications and accommodations in the classroom can greatly assist a learner who is MIVI to access the general education curriculum at a grade-appropriate level. For example, it will take a learner who uses only one finger much longer to achieve a goal than a learner who uses all 10 fingers; therefore, the former learner should be allowed more time to complete tasks than the latter learner, thereby incorporating concessions as support strategy.
- Rely on consultation with other support team members and obtain their input and ideas for adaptations and other support strategies when developing an ISP.
- Always ensure that the learner who is MIVI participates in activities in the classroom, even if the learner can only participate in part of the activities or if the activities need to be modified in order to ensure participation.
- Gain knowledge about assistive technology and learn how to motivate for the use of specific technology by learners who are MIVI, such as specialised computer software aimed at the visually impaired, or optical character recognition technology.
- Gain knowledge on accessible textbooks and instructional materials, with the purpose of providing the learner who is

MIVI with, for example, large print material, digitised books and/or braille books.

- Focus on practice and reinforcement and never give up on a goal. Do not assume that a learner who is MIVI cannot achieve a goal, even if the learner takes a long time to learn a new skill or experiences difficulty in applying new learning skills in daily situations. Rather continue to provide hands-on opportunities for learning and practice, continuous positive feedback and opportunities for the learning task to be repeated in different settings.
- Deal with challenging behaviour without delay, with a focus on the form of the behaviour (what the learner does), rather than on the function (why the learner does certain things – what they hope to achieve by displaying this behaviour) (Beukelman & Mirenda 2013; Bornman & Rose 2017). Show empathy for the fact that frustration and stress of the learner may result in ‘disruptive’ behaviour, allowing them to communicate their negative feelings. After taking a step back and observing the learner, change the process to enable the learner to achieve a formulated goal. Always remember that challenging behaviour is typically an attempt to ‘escape’ (e.g. when learners want to escape from demands, situations or people, they may use challenging behaviour in order to avoid or terminate an activity or interaction), to get attention (e.g. when learners are ignored or have too little contact with others, they may use challenging behaviour to elicit or request social attention from others), to obtain tangible consequences (e.g. when learners are denied access to a preferred object, activity or food or when an object, activity or food is taken away from them, they may display challenging behaviour in an attempt to obtain the object, activity or food) and to display specific sensory feedback (e.g. when the environment either provides too much or too little sensory stimulation, resulting in them, for example, banging or spinning objects or rocking their bodies to-and-fro to shut out all stimulation) (Bornman & Rose 2017).

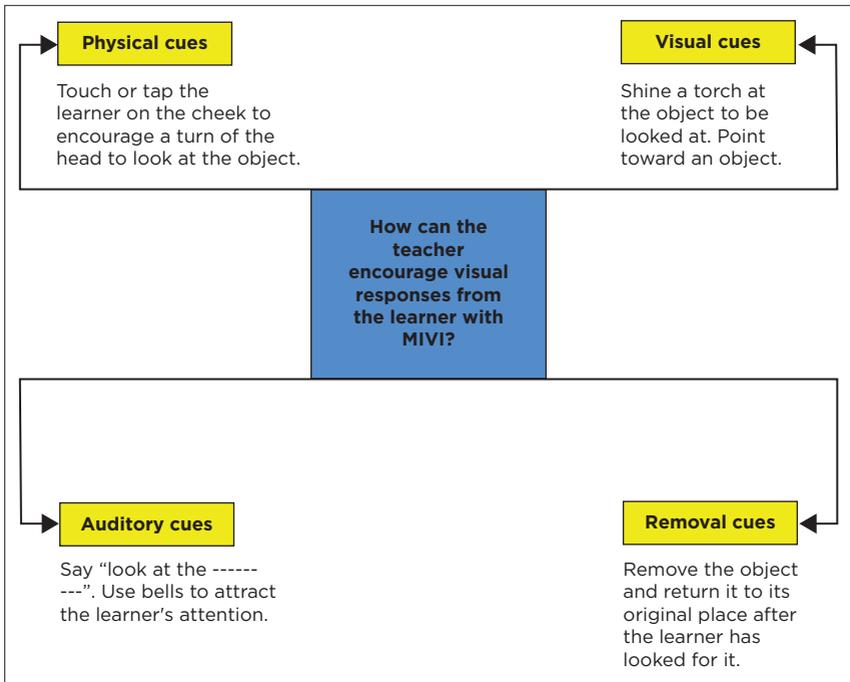
- Rely on and collaborate with facilitators and/or classroom assistants, involving them in the development of ISPs, but not leaving all involvement with the learner up to the facilitator. Always remember that the role of the facilitator is not to do the work for the learner who is MIVI but rather to facilitate and adapt the classroom situation in order for the learner to be able to achieve the goals set by the teacher.
- Be actively involved in transition planning for learners who are MIVI, by providing suitable experiences, adaptations, teaching methods and ISPs during all phases and transition events.
- Remain aware of the fact that learners who are MIVI are typically very sensitive to any negativity in people's approach to them.

## ■ Encouraging learners who are multiply impaired with visual impairment to use functional vision

Functional vision entails the remaining vision of a learner who is MIVI and can range from light perception to low vision (visual impairment). Learners who are MIVI should be encouraged to use their functional vision. To this end, age-appropriate and functional activities should always form the basis of instruction for enhancing the functional vision of learners who are MIVI. Figure 5.9 provides some ideas for teachers to determine how learners use their functional vision and for teachers to develop their own cues for learners.

## ■ Supporting learners who are multiply impaired with visual impairment and who use wheelchairs

Safe mobility is a crucial factor for the quality of life of all learners with a visual impairment, even more so for a learner who is MIVI. When not guided correctly, wheelchair users may experience



MIVI, multiply impaired with visual impairment.

**FIGURE 5.9:** Encouraging visual responses from learners who are multiply impaired with visual impairment.

increased levels of stress and anxiety, which may in turn have an impact on their perception of where they are in the environment and may ultimately result in them becoming resistant to move about.

It is important that sighted human guides who push learners who are MIVI in wheelchairs always remain cautious of the fact that these learners do not receive as much sensory input as their ambulant peers who are MIVI. Even though it is easy for human guides to take control of the mobility of learners in wheelchairs who are MIVI, it is important for the latter to have some control of where they are going and to be involved in getting there. Teachers or facilitators can follow the guidelines below when guiding a learner who is MIVI and in a wheelchair (Metcalf 1996):

- Identify landmarks and clues along the route (e.g. from the classroom to the bathroom).
- Make turns 90° wherever possible, to enable the learner to notice direction changes.
- Before turning corners, warn the learner verbally and place a hand on the shoulder appropriate to the direction of the turn.
- Explain stops and practice 'safe leaving techniques'. Place learners where they can feel a wall or an object that can indicate to them where they are.
- Never abandon a learner in the middle of corridors or near doors.
- Allow time to stop to provide the learner with opportunities to identify landmarks or clues.
- Place tactile objects on walls or doors to indicate routes and rooms (e.g. place material at the height of the learner's hand so that they can trail the material along the wall).
- Explain changes in floor surfaces and levels.
- Talk to the learner about things that are happening in the environment.
- Practice routes in both directions until the learner becomes familiar with the route.
- Once the learner is familiar with routes, introduce a rolling cane so that they can feel the area in front of the wheelchair.

It is furthermore important for the human guide to share as much information as possible with the learner who is MIVI and uses a wheelchair. In addition, the learner should not be overloaded with too much sensory input at a time. For example, a lesson can entail merely talking about three landmarks and repeating this until the learner is familiar with them. Once this is achieved, the next lesson could focus on changing levels. When guiding learners who are MIVI in this area of functioning, it is important for the teacher to collaborate with an O&M practitioner.

## ■ Conclusion

In this chapter, the focus is on the importance of collaboration and collective efforts by teachers, support teams, family members and significant others in the lives of learners who are MIVI, in order to support these learners as best as possible. Every child or learner has the constitutional right to education, irrespective of the challenges and barriers to learning and education that exist. Throughout, it is important to support all learners who are MIVI, in order for them to move towards independence, no matter how slowly the learning process occurs.

By doing this, inclusive education can be supported, focusing on the full development of human potential, dignity, self-worth, personality and creativity of every learner. Ultimately, the aim of inclusive education is to enable all learners, including individuals who are MIVI to participate fully in all aspects of society, including the labour market (SAHRC 2017). In reality, children or learners and adults who are MIVI are, however, not fully included in society as should be the case. Even though South Africa has the necessary laws and policies in place to support inclusive education for these individuals, the implementation of the policy is still a distant reality. For this reason, any collaborative effort, often led by the teacher, can facilitate positive change. In the words of Francis of Assisi, 'Start by doing what's necessary; then do what's possible; and suddenly you are doing the impossible'.<sup>7</sup>

---

7. See [https://www.brainyquote.com/quotes/francis\\_of\\_assisi\\_121023](https://www.brainyquote.com/quotes/francis_of_assisi_121023).



# Enabling full-service and special school teachers working with visually impaired learners

**Maesala Manis<sup>a,b</sup>**

<sup>a</sup>Free State Department of Basic Education, Fezile Dabi district, Kroonstad, South Africa

<sup>b</sup>Department of Educational Psychology, Faculty of Education, University of Pretoria, Pretoria, South Africa

**Keywords:** Implementation; Knowledge; Skills; Teachers; Stakeholders; Training.

**How to cite:** Manis, M., 2020, 'Enabling full-service and special school teachers working with visually impaired learners', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 147-183, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.06>

## ■ Introduction

The White Paper 6: Special Needs Education: Building an Inclusive Education and Training System is a policy framework developed by the South African DoE in 2001 to address the country's state of barriers to learning and support services in education and training (DBE 2001). Following its development, a number of mainstream schools were earmarked as full-service schools, which were to admit learners experiencing barriers to learning without discrimination. Special schools were accordingly identified as resource centres that can support full-service schools. In the midst of these improvements, some other policy frameworks supporting the implementation of inclusive education were also developed, as alluded to in Chapter 4, by Ferreira-Prevost. The draft policy on SIAS, which was established in 2014 (refer to ch. 2 of volume II), and the guidelines for full-service or inclusive schools, which were established in 2010, were both aimed at informing teaching on the implementation of inclusive education.

Reflecting on South Africa's history concerning education and the distribution of available resources, marginalisation affected the manner in which schools admitted learners in the past. However, the correction of this situation is currently a national priority. In some instances, teachers themselves have not yet obtained sufficient training to support learners, regardless of the context of the school, its background or location. It is mandatory that quality education be provided to all learners irrespective of their disability. In lieu of this, the education and training of teachers is therefore important for them to become aware of recent trends and new developments that they can incorporate during their engagement with learners. Furthermore, teachers' knowledge and skills of different resources need to be improved so that learners with visual impairment can be better supported. Given this background, it is imperative that the challenges that teachers come across are addressed to enable them to better support learners with barriers to learning, such as those with visual impairment.

## ■ Overview of the chapter

This chapter elucidates some challenges often experienced by teachers who work in inclusive classroom settings, more specifically with learners with visual impairment. Discussions in the chapter are based on an empirical study undertaken by the University of Pretoria in 2018, involving 255 teachers from seven full-service schools and 10 special schools in South Africa.

In exploring the needs and expectations of the participating teachers a case study design was utilised, following a participatory reflection and action (PRA) approach. The aim of the chapter is to bring the challenges identified by the participants to the fore and contemplate suitable solutions or pathways of addressing them, with the ultimate aim of guiding teachers in the profession to find ways of meeting the needs of learners with visual impairment to promote inclusive education in South Africa.

## ■ Definition of key concepts

### ■ Full-service school

A full-service school is a designated school that accepts all learners irrespective of their barrier to learning. It was initially known as a mainstream school but converted into full-service after an observation of the shortage of special schools and an increased number of learners with barriers to learning. A full-service school is located in the community where it can be easily accessed and is expected to provide quality education and practise inclusion of all learners. It provides a mild-to-moderate level of support as set out in the SIAS policy (DBE 2010).

### ■ Inclusive education

Inclusive education is an educational practice whereby all learners receive quality education and those who experience learning barriers are provided with the necessary support. It is a non-discriminatory practice, which embraces diversity and promotes

inclusion of all learners irrespective of differences and learning barriers. Inclusive education acknowledges that all learners can learn, although some learners may require more support (DBE 2001). Elements of acceptance and respect are also encompassed in inclusive education.

## ■ Special school

A special school is a school that addresses the needs of learners, who experience specific learning barriers and physical and developmental disabilities, through the implementation of inclusive education and providing a high level of support according to the SIAS process (DBE 2014). A special school is also a school designated to be a resource centre for full-service and mainstream schools in terms of providing material and human resource support.

## ■ Enabling

In the context of this chapter, the term enabling refers to the means provided to teachers to support learners with visual impairment. Teachers are provided with the necessary tools to accomplish things they previously could not (Khaleghi 2012). Thus, enabling means creating an opportunity for learning and imparting skills that can benefit a dire situation in a positive manner, in this case teaching and including learners with visual impairment.

## ■ Case study

Mary is 17 years old and in Grade 11 at a secondary school in the Free State Province of South Africa. She is affected by visual impairment but is able to read large print, although she has trouble seeing content on a computer screen, especially when the lighting is poor. As a result, Mary needs large print materials for all her subjects. She also needs access to a computer with a large screen, reduced glare and enlarged images.

In some classes, especially the mathematics class, Mary sometimes experiences difficulty seeing the blackboard or overhead notes written by the teacher even when she is seated in the front row. In the mathematics class, it is particularly essential for her to get accurate information about what the teacher is writing on the board or overhead projector system. At times, when Mary is unable to see the board or overhead projector screen as the teacher is teaching, writing examples on the whiteboard or using PowerPoint, she struggles to understand all the information being presented.

## ■ Understanding inclusive education within the context of visual impairment

In teaching and supporting learners with visual impairment, it is imperative to firstly understand what visual impairment is (refer to ch. 1 by Mays), which is one of the things that some of the teachers who participated in the University of Pretoria study were found to be lacking. When accommodating learners with visual impairment, teachers are required to attend to the guidelines stipulated in the White Paper 6: Special Needs Education (DBE 2001), as discussed in Chapter 4 of this volume, by Ferreira-Prevost. For the focus of the current chapter the focus falls in the phenomenon of visual impairment, and associated needs and expectations.

## ■ Conceptualising visual impairment

Visual impairment encompasses three notions, which may play a role in determining the extent to which a person is impaired, as depreciation in any of these can cause visual impairment. These notions are namely visual acuity, which is the eyes' ability to see details; field of vision, or the field, which both the eyes can see in front without difficulty and visual functioning, which refers to the degree to which a person can use vision for all daily activities (Keeffe 1996). In a learning environment, visual impairment implies

that a learner will not be able to optimally use their vision to participate in scholastic or learning activities (Carney et al. 2003).

Visual impairment has various forms. The first one entails partial sightedness, which is a loss in vision, to a certain extent even with rectification (NICHCY 2004). With partial sightedness, special education support may be required. The second form entails low vision, which is a loss of vision between 20/70<sup>8</sup> and 20/160 and cannot be corrected, in which case, adaptation in terms of increased font on print materials and light adjustment may be required (Lewis et al. 2000). However, remaining vision can still be utilised together with other senses. The third form is legal blindness, which is measured as a loss of vision from 20/200 to 20/400 degrees (NICHCY 2004). This form is also referred to as severe low vision. There is also total blindness, which is the absence of light perception and requires the use of braille and other aids that are non-visual to assist learning and daily functioning (Vitale et al. 2006).

Other forms of visual impairment consist of central vision loss, which forms a blur or blind spot that has the potential of making reading and recognising faces difficult (Navpreet 2018). Side vision loss is another form, also known as tunnel vision, which prevents one to differentiate something to one or both sides, above and/or below the eye level. Side vision loss has an effect on mobility and can also negatively impact the reading tempo; however, there is still vision for something that is directly ahead as central vision remains (Navpreet 2018). In another form of visual impairment, near and far objects appear out of sight regardless of correction; this is referred to as blurred vision and can cause one to struggle to work on a computer for a prolonged time, and there may be some difficulty copying from the board (West, Rubin & Broma 2002). Extreme sensitivity to light is another form of visual impairment occurring when normal levels of radiance subdue the visual system; thus a washed-out image

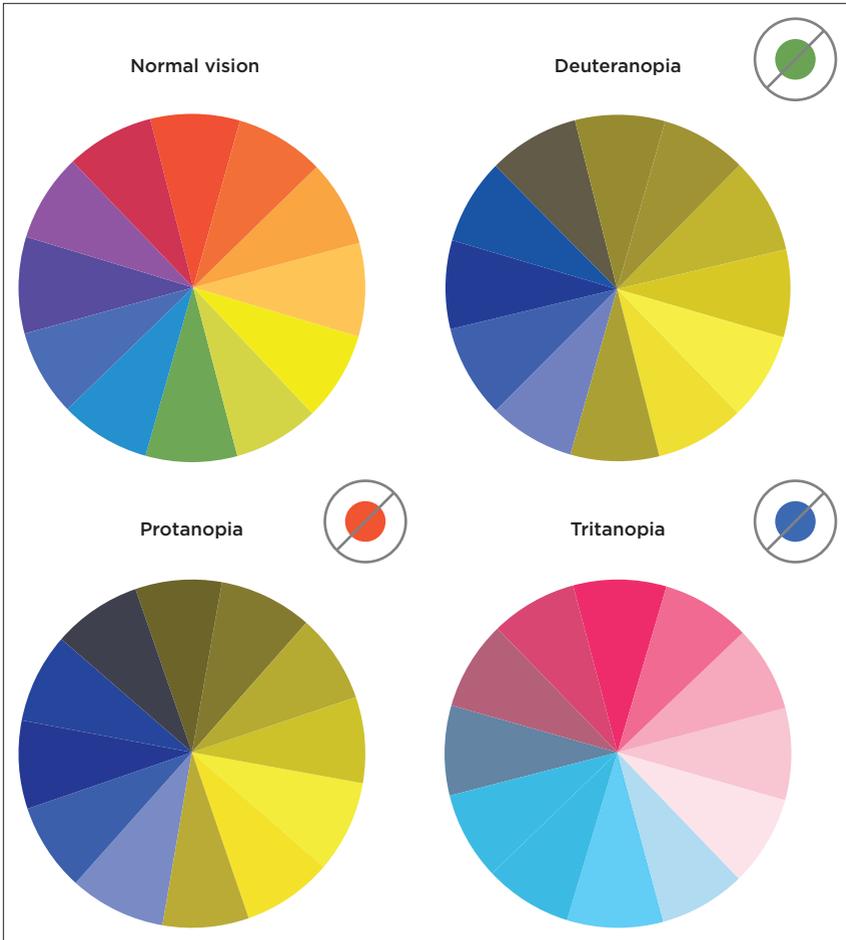
---

8. Visual acuity measurement.

is created and pain or uneasiness may also occur with fair levels of radiance (Bourne et al. 2017). There is also night blindness which is the inability to see outside at night regardless of moon or starlight; this also involves difficulty to see in dimly lighted spaces such as cinemas (Bourne et al. 2017).

Additionally, refractive errors also constitute visual impairment; these include astigmatism, farsightedness and near-sightedness. Astigmatism occurs when a bent cornea keeps light rays from accurately focusing on one area of the retina; thus, this prevents one to focus on objects that are neither far, nor near (American Foundation for the Blind 2012). With farsightedness, it is a struggle to focus on objects that are close by as these are focused on behind the retina instead of on it (American Foundation for the Blind 2012; Glass 2002). In terms of near-sightedness, objects that are at a distance tend to appear blurry and unclear; this is the case because objects are focused on in front of instead of on the retina (American Foundation for the Blind 2012; Glass 2002).

Although colour blindness is a not a visual impairment but a deficiency, it is important to discuss it as many learners are affected by it. Colour blindness, which is also referred to as vision deficiency, implies difficulty to discriminate colour. According to Birch (2001), colour blindness emerges when light-sensitive cells in the retina are unable to respond appropriately to deviations in wavelengths of light enabling one to see a variety of colours. There are different categories of colour blindness, the first one being anomalous trichromacy, which is associated with one type of cone perceiving light defectively (Flück 2012; Mandal 2019). Another category is tritanopia, which implies colour confusion; for instance dark purple can be confused with shades of black, whereas protanopia implies the confusion of actual colours with shaded colours (Flück 2012). Dichromacy (deutanopia) involves complete functional deficiency of one type of cone making one unable to perceive the colour green, whereas monochromacy is a total absence of colour perception (Mandal 2019). Different perceptions of these categories are shown in Figure 6.1.



Source: Reprinted from Coolwinks Technologies Private Limited (2019). Copyright 2019 by Coolwinks Technologies Private Limited.

**FIGURE 6.1:** Different colour perceptions as per the types of colour blindness.

Regarding the prevalence of visual impairment, according to the South African census report compiled in 2011, 32.1% of children were visually impaired. In terms of ethnic descriptions, the majority of South Africans with visual impairment were revealed

as being among the Indian population group with 12.3%, followed by the white population group with 10.3% and then black Africans with 9.2% (Statistics South Africa 2011). With regard to the various provinces of the country, the Free State province had the highest prevalence (13.8%), followed by the Northern Cape (11.5%) and then the North West province (11.3%) at the time of the census report (Statistics South Africa 2011). Worldwide, it is revealed that in 2010, 32.4 million people lived with visual impairment (Stevens et al. 2013). Another source, which elaborates between those who are blind and moderately visually impaired, revealed that out of the world's population of 7.3 billion, 36 million people are blind and 217 million are moderately visually impaired (Balantrapu 2017).

There are numerous causes of visual impairment. Starting with prenatal causes, these include alcohol consumption during pregnancy, rubella infection, congenital anomalies such as enophthalmos and microphthalmos (absence or underdevelopment of the eyeball) and persistent hyperplastic primary vitreous (primary vitreous extends from the optic disc to the vitreous base at the posterior pole of the lens and persists into childhood) (Blumsack 2009). Other prenatal causes include infantile glaucoma, retinal dystrophies, congenital cataract and retinoblastoma (Gogate, Gilbert & Zin 2011). Perinatal visual impairment can be caused by retinopathy of prematurity and underdevelopment of retinal blood vessels by the 9th month (Gogate et al. 2011). Postnatally, deficiency of vitamin A, measles, trauma and a bacterial infection that affects the eyes (trachoma) can cause visual impairment (Gogate et al. 2011; WHO 2011).

Additional causes of visual impairment include uncorrected refractive errors, trauma during accidents, diseases such as HIV and AIDS, albinism, poor visual acuity, eye diseases including congenital cataracts and eye malformations (Cleveland Clinic 2019; Disabled World 2018; Naidoo et al. 2003; WHO 2011).

## ■ Educational needs of learners with a visual impairment

Learners with visual impairment are at a risk of lagging behind in terms of their cognitive development (and other skills) (eds. Landsberg, Kruger & Nel 2005). Owing to people experiencing their environment in totality, learners with visual impairment may be deprived based on the fact that one of their senses is not optimally functioning (Lamichhane 2017). More specifically, these learners experience limitations in terms of observing and even understanding visual cues. Furthermore, these learners may struggle with communication in terms of the recognition of items belonging to similar semantics. As a result, they may make comments that appear inappropriate to a particular context (Mosca 2015; Tadić, Pring & Dale 2010).

Visual impairment can hinder a learner's ability to manipulate any stimulus that depends on vision; however, abstract reasoning that relies on tactile and auditory concepts can be developed in support of this skill (Mosca 2015). Learners with visual impairment may furthermore be perceived as having a limited attention span with their memory not being well-developed (Fazzi, Galli & Micheletti 2012). As a result of their reliance on auditory and other senses, not being able to view and absorb information through their eyes may be regarded as lacking concentration (Bowman, Bowman & Dutton 2001). They may similarly be regarded as lacking focus when spoken to or when an attempt is made to teach them something.

In addition, learners with visual impairment are also affected by stigma and the potential negative attitude they perceive from sighted peers. Furthermore, the perception that learners with visual impairment are dependent and will struggle to perform most duties for themselves may have an impact on how these learners approach the learning environment. Learners with visual impairment generally struggle with incidental learning and are not able to have similar experiences as those of their sighted peers in terms of visual learning.

As a result, learners with visual impairment require specialised support to perform scholastically. More specifically, they need appropriate classroom settings, which provide sufficient space for their seating and movement, shaded or covered windows (with curtains or blinds) and proper lighting that can accommodate partially sighted learners. Learners with low vision require large font print, although some may need to read by using magnifying glasses. Additionally, learners with visual impairment need assistive devices and resources that will help them perform their scholastic duties optimally; these include braille machines (including braille textbooks), computers (preferably with installed software such as Job Action with Speech [JAWS]), apex and talking calculators, to mention but a few. At some point, curriculum and teaching strategies may need to be adapted for these learners because they are unable to see what is written on the board or in a textbook; the teacher will need to present lessons verbally and through the tactile learning style. As much as lessons may be presented verbally, learners with visual impairment will also need to be assessed verbally; thus, for some, concessions and accommodations may be required (Kapur 2018).

In terms of functioning outside the context of the classroom, but still within the school, learners with visual impairment need to first be orientated. Orientation and mobility are important for these learners so that they are familiar and comfortable in their environment; totally blind learners will need walking canes to assist them in manoeuvring around the school yard (American Foundation for the Blind 2011). Sufficient space is also needed within the school yard. Common areas such as play grounds, bathrooms and transport stations, to mention but a few, need to be accommodative of learners with visual impairment; thus, they need proper accommodative school buildings and infrastructure (Brown & Beamish 2012).

Learners with visual impairment also experience emotional and social needs. They may experience a stigma from sighted peers in the sense that they may be teased because they may not be able to do certain things for themselves (Augestad 2017).

In addition to stigma and people's negative opinions about them, learners with visual impairment may also have a negative self-concept, as they may perceive themselves as not worthy and valued like their sighted peers (Schinazi 2007). Some of these learners, especially when not properly orientated, may learn to be helpless and depend on other people for providing for their needs. Thus, independence needs to be fostered in learners with a visual impairment. Learners with a visual impairment may feel that other people may not understand them as they may not understand and/or practise some social norms; for that reason, they may feel isolated and eventually withdraw socially (Sacks & Wolfe 2006). As a result of withdrawing, these learners may experience delayed social skills development. Furthermore, some of these learners may struggle with accepting their disability, especially if they were not born blind or with low vision. This may cause frustration and decreased emotional regulation (Ueda 2018). Thus, these learners require psychological support for improvement in many of these psychosocial challenges.

## ■ **(Non)Inclusion of learners with visual impairment**

Despite policy being put in place to promote the inclusion of learners with barriers to learning in all South African schools, a shortage of quality education for these learners remains evident, in terms of both the provision of specialised schools and services, as well as limited space, resources and training especially in full-service schools. In addition to these challenges, about 70% of children of school-going age, who are reported to have a barrier to learning, are not attending school (Donohue & Bornman 2014). Therefore, despite attempts to implement an inclusive education policy in all South African schools, certain prevailing challenges prevent this from happening, including aspects such as lack of sufficient knowledge, skills and resources in full-service and special schools, limited guidance from and mentoring by education specialists and inaccurate interpretation of policy by teachers.

As also discussed in Chapter 4, following the development of the White Paper 6: Special Needs Education in 2001 (DBE 2001), some mainstream schools were identified to be converted into full-service schools to address exclusion. These schools were meant to admit all learners, provide free quality education and be at close proximity to learners. The idea was to reduce the waiting lists of special needs schools, with more children having access to quality education. However, although these schools were identified and some of the teachers have received training, the schools have yet to become fully functional as full-service schools (Freire et al. 2010). As the envisioned referral procedure is often not followed by mainstream schools, and because of the fact that full-service schools still do not necessarily have sufficient human and physical resources to accommodate learners with disabilities, this goal has not yet been met.

The success of inclusion in South Africa (and internationally) mostly rests on principals' and teachers' belief in, and their attitudes about, the implementation of the policy. Many teachers still believe that certain learners will benefit by being placed in separate classrooms and/or schools, thereby not supporting the purpose of inclusion according to the White Paper 6. Although there are different levels of severity in disabilities and different levels of support, the White Paper 6: Special Needs Education maintains that full-service schools need to admit, teach and support all learners despite their barriers to learning (DBE 2001). However, in reality, full-service schools as well as special schools, as resource centres, are designated according to aspects such as good school management, the centrality of the school location and commitment to implement inclusive education policy (Brydges & Mkandawire 2017; DBE 2015). Most of these schools are still without the relevant resources such as good infrastructure, teacher assistants, therapists, appropriate learning and teaching support material amongst other resource limitations, which hinder the successful implementation of inclusive education in the country (Donohue & Bornman 2014; Eloff & Kgwete 2007). At this point, teachers at some of these schools still feel inadequately

equipped to teach and support learners with barriers to learning through the implementation of an inclusive education policy (Silberman, Bruce & Nelson 2004). In relation to the implementation of an inclusive education policy, another policy that supports the White Paper 6 was introduced, and this involved SIAS of learners, especially those with barriers to learning (DBE 2010). Through the SIAS policy, a holistic view and support of learners were to be established with relevant stakeholders that are involved in the learners' development (Ferguson 2014). Although, to an extent, this is happening, further training and monitoring are still underway to equip teachers with the SIAS process.

In response to teachers' attitudes and the current status of implementation of policy, ongoing attempts are undertaken to repair the situation. New structures in schools that can be assistive to learners with disabilities have for example been developed (Friend & Bursuck 2011), and infrastructure has been attended to at many schools in South Africa (DBE 2001). In addition, capacity building of existing teachers and the appointment of new teachers have received attention. Admission requirements for schools have also been revised to accommodate all learners including those with barriers to learning (Weber 2008).

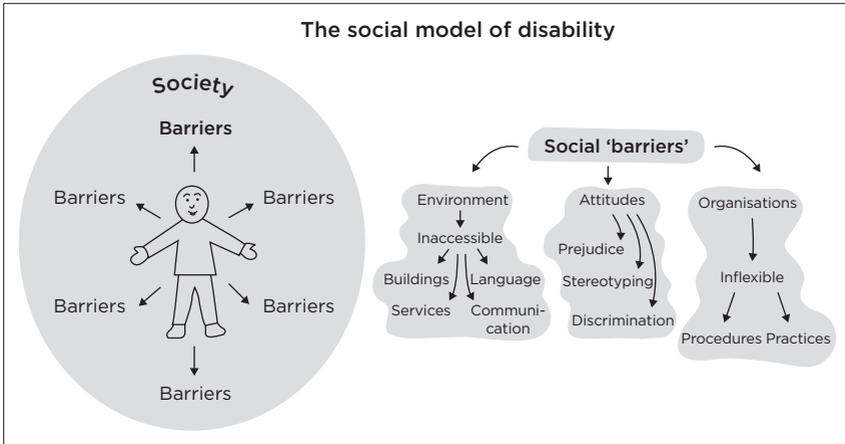
## **Theoretical framework**

In discussing the results of the research undertaken by the University of Pretoria in 2018, existing theory on the social model of disability was relied on (Anastasiou & Kauffman 2013; Shakespeare 2006) for this chapter. The social model of disability emanates from ecological systems theory, which believes that behaviour is a result of multiple influences in a person's environment (Anastasiou & Kauffman 2013). This model suggests that the manner in which society is organised has an impact on its inhabitants' disabilities. The social model of disability holds the belief that if people with disabilities can be trained and guided to be independent, they can then become effective in society

(Anastasiou & Kauffman 2013). This model does not believe that a disability or a barrier is the sole cause of an individual person and therefore opposes the medical model, which states that people cause their own disability, or that a disability is something that needs to be fixed through medical treatment. As such, the social model of disability focusses on what a person can do for themselves, instead of what is wrong (Chaudhari 2016).

The social model of disability attempts to eliminate the barriers that may hinder people with disabilities to experience life optimally (Goodley 2001). It creates ways for them to live inclusive lives by removing the barriers placed there by society, which may include the attitude that other people present towards people with disabilities and environmental and organisational hindrances (Oliver 2013). In contrast, amongst other things, the model highlights the potential of flexibility, empathy, lack of stigma and accommodative environments (Chaudhari 2016). In general, society has the potential of placing barriers such as stigma, discrimination and dependency on people with disabilities; however, the social model of disability protects people from such situations. Figure 6.2 depicts the different barriers placed on people with disability in societies. Learners with visual impairment may also experience such barriers and pressures within the environments they function in.

When it comes to dealing with disabilities, the social model of disability states that people with a disability should be supported by those around them, collectively, other than medical professionals (Goodley 2001). The interaction and support people with disabilities receive from society are imperative for them to not only feel included but also to form functioning affiliations with other people. Because a disability is regarded as a social issue, support groups and systems are viewed as beneficial for people with disabilities (Harris 2000). This also helps to ensure that people with disabilities are able to function in an environment that supports them. Although this model does not deny the existence of a disability, it does not label the person as not being able to do



Source: Reprinted from Cambridge Neurodiversity Hub (2018).

**FIGURE 6.2:** Societal barriers for people with disability.

anything for themselves (Oliver 2013). Thus, the environment in which the disabled person lives plays an important role.

The social model of disability has strengths and limitations. One of its strengths is that it has been able to build social support for people with disabilities (Harris 2000). Despite the stigma and negativity received by these people, the social model has created a platform for them to function effectively in most areas of their lives. It strives to include people with disabilities into social activities. Secondly, the social model of disability enhances the self-esteem of people with disabilities and therefore assists in building a secure space for them to belong, have an identity and be supported (Shakespeare & Watson 1997). Finally, this model strongly recommends that the social barriers (Figure 6.2) be eliminated so as to allow certain liberation for people with disabilities to function and be understood.

On the other hand, the social model of disability has the inclination of overlooking the experiences of people with disabilities. Its key focus with regard to social support tends to cloud the reality that people with disabilities face certain

inequities and that their disabilities do affect their lives. Crow (1992) argues that there are those kinds of disabilities that can be regarded as being socially generated; however, some may need medical and/or other kinds of attention and the social model needs to be cognisant of that. Another critique stems from the total removal of barriers (Harris 2000; Shakespeare & Watson 1997). It is maintained that to a certain extent people with disabilities will experience certain marginalisation; nevertheless, they need to be equipped with means to deal with the adverse practices. Thirdly, the social model is criticised for assuming that people with disabilities are oppressed, which is again ignorant of the experiences and perspectives of a person with a disability (Oliver 2013). It is essential to find out from people who have a disability if they are oppressed and if so, to what extent they feel oppressed, instead of assuming that they are oppressed.

## ■ Undertaking research in the field of visual impairment

The process of the research that was undertaken by the University of Pretoria is discussed in the following section.

### ■ Purpose of the research

The purpose of the study undertaken was to explore the needs, challenges and expectations of teachers who are working with learners with visual impairment. The needs of learners, through their teachers, were also explored. Furthermore, as a way of supporting teachers of learners with visual impairment and to effectively implement inclusive education, stakeholders in the field of visual impairment were involved and a postgraduate diploma in visual impairment was developed and is to be offered to prospective postgraduate students.

Additionally, the purpose of the undertaken research was to obtain access to the insight and expertise of the involved stakeholders in terms of visual impairment. The experiences of

teachers working with learners with visual impairment were also explored to ensure the relevancy of the qualification developed in meeting these teachers' needs. Moreover, this research was aimed at adding to the knowledge base of visual impairment and effective implementation of an inclusive education policy.

## ■ Paradigmatic perspectives

In this section the epistemological (interpretivism) and methodological (participatory research) stances are discussed.

### □ Epistemological paradigm

For the purpose of the research conducted for the study and in an attempt to obtain participants' insight, interpretivism was relied on. An interpretivist paradigm is suitable for understanding the manner in which different people perceive and interpret similar situations differently. Interpretivism assisted the research team in entering the life worlds of participants and to find out how they make meaning (Terre Blanche & Durrheim 1999). It was imperative for the research team to tap into participants' understanding of visual impairment and the importance of supporting learners with visual impairment through the effective implementation of an inclusive education policy. The phenomena studied were not observed objectively or from the outside; instead, researchers were part of the study as they wanted to gain an understanding of participants' situation (Lor 2011).

Interpretivism has benefits and limitations. One of its benefits is that it allows the researcher to become a co-creator of meaning together with the participants. It views participants as experts of their own situation and therefore gives researchers an opportunity to learn from participants in terms of how they make meaning and resolve the challenges they experience. On the other hand, interpretivism has a limitation of various meanings being expressed by the participants; however, it was acknowledged that although participants could be from the same schools, they

are individuals with different experiences and meanings (Broom & Willis 2007). Another challenge relates to participants modifying their behaviour as they notice that unfamiliar faces are observing them (Broom & Willis 2007). In addressing this challenge, time was spent with participants in building rapport and ensuring them that researchers are there for specific reasons.

## □ Methodological approach

The research conducted followed a PRA research approach. Participatory reflection and action implies collaboration and participation as ways of informing and enabling researchers to access local knowledge from the people involved (Chambers 1994). Therefore, participants' activeness and sharing of ideas are important for empowering one another and resolving local challenges together. Partnership between researchers and participants is imperative in PRA as action plans need to be collaboratively formulated and participants may need to carry these out independently of researchers (Agyarko de Graft 1998). Participatory reflection and action allowed the research team to view participants as knowledgeable of their environment and thus the challenges they face, allowing the research team to learn from them (participants) (Walter 2009). Furthermore, following a PRA research approach allows participants to take ownership of the research process and the manner in which they aim to address the challenges they are experiencing thus, the participants knowledge is valued (Minkler & Wallerstein 2003).

Similar to other research approaches, PRA has advantages and challenges. One of the advantages relates to its focus on the strengths of participants as opposed to what they are unable to achieve. Participatory reflection and action researchers do not impose their knowledge on participants, rather they view participants as being able to construct their meaning and come up with viable action plans. However, it is limited in terms of, when allowing participants to take ownership, roles and responsibilities; it may be confusing for participants in the sense that they might

not know who should take the lead and how (Minkler & Wallerstein 2003). This challenge was not experienced in this research as roles and responsibilities were defined from the onset, and participants were given opportunities to ask questions where they required clarity. Additionally, PRA assumes that participants are well-informed and educated; although this may not be the case in other studies, the participant base of this particular study was purposely selected because they were in possession of the specific knowledge and expertise required by the study.

## ■ Research design

The research undertaken relied on an instrumental case study design (Baxter & Jack 2008), which allowed the research team to explore ways in which participants implement inclusive education in support of learners with visual impairment. A case study design assisted with an understanding of how participants conceptualise visual impairment and the efforts that they engage in to teach and support learners with visual impairment through inclusive education policy implementation. The requirement of a case study design is that a phenomenon being studied has to take place in a natural setting so that an in-depth investigation can occur (Zainal 2007). This was the case with this particular study as teacher participants were observed in their natural context (their classrooms) whilst teaching and supporting learners.

The advantage of relying on a case study design is that it highlights PRA principle of knowledge co-construction by being involved in the research process (Chambers 2008). Furthermore, it allowed the research team to examine and make meaning of the data generated through an extensive analysis. A case study research design is limited in the sense that it forbids the generalisation of findings. However, the research conducted is rather unique, and it cannot be concluded that the sample selected can be representative, but the participants' experiences may be similar to other teachers working with learners with visual impairments. The lack of rigour in

a case study design is also one of its criticisms; however, the research conducted relied on multiple data generation techniques in an attempt to endure rigour (Maree 2007).

## ■ Selection of participants

Participants were purposefully selected for this research (Maree 2007). Teachers from 17 schools (full-service and special schools) across five provinces (Eastern Cape, the Free State, Gauteng, KwaZulu-Natal and Limpopo provinces) in South Africa formed part of this study. A total of 255 teachers and 43 expert stakeholders were involved in the research, some expert stakeholders were visually impaired themselves and some had taught at schools for learners with visual impairment. However, a nationwide invitation was cast and only three provinces responded; thus, their participation was then random and voluntary. The schools in these provinces were then purposefully selected as they would provide relevant information related to what the study aimed at. Subsequent to the realisation that additional data may benefit the study, permission was requested from the other two provinces to conduct the research.

There were set criteria for selecting participants. Firstly, participants had to be willing to voluntarily participate, provide informed consent and be available for a series of PRA workshops. Secondly, they had to be working in a full-service and/or special school and possess some knowledge of visual impairment and/or the challenges experienced by learners with visual impairment. Finally, participants needed to be able to understand and communicate in the English language. These criteria and purposeful sampling bear the advantage of obtaining relevant expert contributions from participants. A considerable amount of time was saved by the selection of the appropriate group of participants (Flick 2011). The fact that additional participants could be added until data saturation was reached depicts the flexibility of purposeful sampling (Garfield et al. 2011).

## ■ **Data generation, documentation and analysis**

Multiple data generation and documentation techniques were relied on for the research conducted. These are discussed in the following section.

## □ **Participatory reflection and action-based workshops**

Participatory reflection and action-based workshops are beneficial for collaboration and brainstorming of ideas between researchers and participants. Reflection on existing strengths also form part of PRA discussions whereby participants become aware of their capabilities and how they can put these to work. The research team undertook 20 field visits to the 17 selected schools across South Africa, facilitating teacher participants' colloquiums with the aim of obtaining information on how participants understand the inclusive education policy and what their needs and experiences are in terms of implementing this policy in teaching and supporting learners with visual impairment. The research team also wanted to obtain information on the needs of learners with visual impairment through their teachers. Furthermore, teacher participants were requested to provide ideas of the modules that would form part of the Advanced Diploma in Visual Impairment studies.

Two PRA-based workshops were also held with expert stakeholders in the field of visual impairment, similarly to teachers, to also provide ideas on the modules that can be included in the current qualification. Both teacher participants and stakeholders were requested to fill in PRA matrices (posters) to relevantly respond to what the research team was aiming for. Member-checking colloquiums were then held in all five provinces and one for expert stakeholders to verify the modules that had been developed and make revisions where needed together with participants. This process increased the rigour of the research conducted.

## □ Observation-as-context-of-interaction

Observation-as-context-of-interaction allowed researchers to observe participants' interaction during PRA-based workshops when they also took part (Angrosino & Mays de Pérez 2000). Furthermore, researchers studied participants as they interacted in their natural settings during the workshops and in the classrooms, when teachers put inclusive education into practice. This allowed researchers to record events as they took place and in turn be engaged in ongoing discussions with participants.

## □ Semi-structured interviews

Interviews provide an opportunity for close interaction and clarity to questions and responses at that particular moment. Stakeholders who could not be part of the colloquiums, but believed to possess relevant knowledge, were interviewed. These interviews were conducted so that participants could also offer their ideas on the modules to be included in a natural way of communication, thereby providing rich information (Alshenqeeti 2014).

## □ Field notes

Observations were recorded in researchers' field notes. Field notes assisted in capturing the process of interactions in the field between participants and researchers (Mulhall 2003). They further allowed researchers to define these interactions in their own words. Field notes are beneficial in the sense that researchers can always refer back to them should they require information on an event that took place in the field.

## □ Visual and audio-visual data generation and documentation

Photographs, videos and audio recordings that were taken during the research assisted with documenting the data. Furthermore, data stored in this manner allowed researchers to revisit interactions and activities that had been conducted. Through the

use of these techniques, there were less interruptions and fear of missing important information during the workshops.

## □ **Data analysis and interpretation**

Inductive thematic analysis was completed. In this process, researchers followed the steps provided by Braun and Clarke (2006). At first, the researchers accustomed themselves with the data by reading and re-reading it; they then logically generated initial codes according to the data features. In the next step they searched for themes through pulling codes together for the formulation of potential themes. Next, the researchers reviewed the themes by checking whether or not these are related to extracted codes and the entire data set. During the last step, themes were defined and named and specific sub-themes were generated for each theme for clear descriptions.

## ■ **Attending to ethics**

Permission to conduct research was obtained from the University of Pretoria and from five Departments of Education in the provinces where the schools were located. In conducting research, it is imperative to consider ethical issues, particularly when working with participants experiencing barriers. Because of the fact that some participants were visually impaired, obtaining consent from them had to be done in a specific manner. During the process of reading and explaining the consent form to participants with visual impairment, a sighted witness was present (University of Wisconsin 2007). The participants were given sufficient time to ask questions where they could not understand. On agreeing to voluntarily be part of the study, they gave the witnesses permission to sign and date the consent forms on their behalf. For partially sighted participants, they could use their magnifying glasses to read through the consent form and sign for themselves, and they were also provided with sufficient time to read and ask questions should they have required clarity (University of Wisconsin 2007). For sighted

participants, the consent form was also read and discussed with them, and they voluntarily signed in agreement for being part of the study. Throughout, participants were made aware that their involvement is voluntary, and they have the right to withdraw at any time, should they wish to do so.

The highest level of professionalism and legal considerations were adhered to when working with participants to ensure advancement of social justice and the promotion of their well-being. Any form of harm was avoided; however, researchers remained aware of any potential harm that might have occurred and were prepared to deal with it in a confidential and professional manner (Patton 2002). Participants were not misled in any way as the details and purpose of the study were discussed with them from the onset (Silverman 2000). Their privacy was respected at all times and all information kept confidential. Those who did not want their identities to be revealed, their faces in photographs were disguised in any reporting done for this study.

## ■ **Challenges experienced by teachers who work with learners with visual impairment**

In this section the results of the study undertaken by the University of Pretoria are discussed, in terms of the challenges that teachers experienced when working with learners with visual impairments.

## ■ **Challenges related to the implementation of inclusive education**

Teachers indicated that they experienced difficulty with implementing the inclusive education policy, as most of them had not yet received sufficient training for inclusive education policy implementation. Reportedly, some of them were new to the system and had received no training, whereas others had received limited training without any further guidance. When asked what they should be trained on, teachers referred to the content of the

White Paper 6: Special Needs Education (DBE 2001). Furthermore, teachers mentioned that in order for them to be able to include learners with visual impairment they had to receive training on how to apply various strategies and techniques for teaching and learning in different subject areas. In the same manner, teachers stated that they possessed limited practical knowledge of, for example, the SIAS process for learners with visual impairment.

Teachers raised the fact that they were not sufficiently equipped with curriculum adaptation for learners with visual impairment. In addition to that, they also indicated that they needed to know different ways of differentiating the curriculum so that they would be able to accommodate learners with visual impairment. According to the teachers, not only did learners need to be accommodated within the classroom but also on the school grounds. Therefore, the infrastructure also has to be accommodative; one of the teachers' concerns was that they did not know how to make the infrastructure of their schools more effective for the teaching and learning process of learners with visual impairment. With this, teachers also included the placement of learners in the classroom and the kind of sport and extra-curricular activities they could include for learners with visual impairment, as knowledge that was needed to be included in the training.

Teaching and learning go hand in hand with assessment and to ensure that learners with visual impairment are included, teachers mentioned that the assessment needed to be fair. They further indicated that they were not certain how they should assess these learners, and reference was made to the Curriculum Assessment Policy Statements with assessment standards not as accommodative and flexible (particularly special needs schools' teachers); however, they did not know the acceptable way of adapting it. Over and above this, teachers were adamant that they were not ready to implement inclusive education, and they needed support and more training for themselves and education specialists on policies and their implementation.

In addition to teachers including learners, some special schools' teachers felt that some principles of inclusive education would not work for their learners. Some of them felt that even managing teaching and learning time in this inclusive era proved to be difficult as they were always lagging behind with some tasks not being completed on time. Teachers alluded to the fact that at times exam papers were not ready on time because of the lack of resources (such as braille printers) to prepare them in an accommodating way for learners with visual impairment and subsequent to that there were not enough skilled teachers to mark learners' papers. The result was that special school teachers perceived themselves as in need of more training to implement inclusive education and alternative ways of teaching and supporting learners with visual impairment.

## ■ **Insufficient understanding of visual impairment**

The second challenge that teachers experienced was that of understanding visual impairment. Most teachers in full-service schools stated that they did not have an understanding nor a background on visual impairment. Although those in special schools did have some understanding about visual impairment, they also indicated that they learned from working at special schools and most of them did not have a qualification on visual impairment nor on barriers to learning, which is the reason for their limited understanding of visual impairment. Teachers pointed out that they had difficulty identifying the signs and symptoms of visual impairment, and they struggled to screen learners because most of the time they did not know what they were looking for. Teachers in full-service schools alleged that they needed to know causes (and prevention) of visual impairment or blindness and different types thereof. Some even mentioned that they were interested in the physiology of the eye and the levels of impairment. In essence, teachers seemed to need

assistance in implementing the SIAS policy for learners with visual impairment.

In addition to the method of teaching that was alluded to in the first challenge, teachers stated that they particularly needed to know how to teach and assess a blind learner. They observed that it was important for them to know the background of the learner with visual impairment, the medical history, implications on different levels and their needs. Importantly, it was mentioned that they, that is the teachers, wanted to know how to accommodate learners with visual impairment in the classroom and within the full-service school environment. Furthermore, teachers alluded that they did need training to specifically work with learners with visual impairments, partially sighted and blind, inside and outside the classroom context, the same as what some had received with regard to general special needs education. Those in special needs schools further stated they needed to regard themselves as equipped in this field, but they were not, and therefore training and qualification are essential.

## ■ Limitations for having and using resources

Teachers from full-service schools firstly mentioned that they did not have the relevant human, physical and financial resources to teach learners with visual impairment. Their special school counterparts mentioned that although resources might be available, they were either in the media centre benefiting some learners or they were not given sufficient training on how to use them. These instances give one an impression that teachers need more in terms of knowing the relevant resources and using them to effectively teach and support learners with visual impairment.

Prior to even learning how to use resources to teach and support learners with visual impairment, some teachers mentioned that they did not have the relevant resources at all. Although it is deemed imperative for schools to obtain resources (particularly special schools), at some full-service and special

schools, researchers observed that resources were a dire need. At some schools at least three learners needed to share a braille machine, there were no braille printers nor large printing machines, the classrooms were overcrowded because of the lack of space as well as the shortage of teachers and some learners did not have basic necessities such as walking canes, spectacles and magnifying glasses.

Teachers referred to the importance of knowing how to use the resources for them to be able to support and impart that knowledge to the learners. They indicated that they must know braille for all learning areas and how to teach it to the learners; they need to know about different educational games that can benefit learners with visual impairment. Moreover, teachers revealed that they needed to be capacitated to use computers (key strokes), the latest technology and assistive devices and significantly braille machines that were in need of repair. One of the important points also mentioned was the availability (or rather unavailability) of learning and teaching support material and its appropriate application for learners with visual impairments. Additionally, teachers also specified that they needed to master the use of the available equipment in a way that could benefit learners, know about helpful software and incorporate all of it appropriately into their teaching. The discrepancy that existed between full-service and special schools, concerning the availability and use of resources, was observed as evident through this study in the sense that some schools did have (special schools) resources, but access was limited and other schools were still lacking resources (full-service schools).

## ■ Importance of a support structure

Teaching and learning are important factors controlling being in any educational institution; however, the learners' well-being also needs to be taken into account. With regard to this, teachers stated that they needed to be taught skills of communicating with learners with visual impairment. Teachers were observed to lack skills to instruct and discipline learners with visual impairment,

teach them what was socially acceptable and also groom them to be responsible adults. Moreover, teachers specified that they needed to learn basic counselling skills to support learners emotionally. One of the challenges faced was the fact that learners were struggling to accept their impairment, which led teachers to believe that they could assist them in getting through this predicament because there were no onsite counsellors, and the referral procedure is a lengthy process. Thus, teachers seemed to perceive learners as having some psychosocial challenges that needed intervention.

Teachers, particularly those in full-service schools, pointed out that they lacked skills that might be regarded as simple by special school teachers such as orientating new learners to know the environment and teaching learners how to use a walking cane. Teachers saw it as important that peer support could be strengthened and learners be able to rely on each other. As a result, full-service school teachers viewed these as some of the necessary skills that they needed to acquire in further supporting and building firm support structures for learners with visual impairment.

Finally, teachers were found to perceive learners as needing support beyond the school borders. Teachers seemed to be under the impression that the resident guardians, parents and community members at large needed to understand the needs of these learners and to support them in the best possible way. Teachers mentioned that some learners experienced having a stigma in their communities for being blind or visually impaired, they were side-lined by the communities that they come from and therefore this added to their psychosocial challenges. Therefore, teachers believed that if accommodating learners with visual impairments could be extended outside of the school context then there would be a set support structure for these learners in and outside the school. Furthermore, teachers alluded to the idea that if advocacy could be arranged and people were

taught how to treat learners with visual impairment (and people in general) then a positive change might occur.

## ■ Implications for teachers

The results of the study imply that more knowledge is required for teachers who work with learners with visual impairment with regard to visual impairment and inclusive education. To teach and support learners with visual impairment teachers would need to acquire certain skills; these include but not limited to the ability to teach practically by correctly using resources and assistive devices. The knowledge of the White Paper 6: Special Needs Education (DBE 2001) is an important portion of policy that teachers would need to familiarise themselves with, in relation to the SIAS policy.

As the policy stipulates that all learners can learn, although some require more support than others, teachers will need to acquire strategies to adapt the curriculum and assessment. This will be done as a way of accommodating each learner and ensuring that each learner has access to the curriculum. In relation, teachers need to know how to manage the teaching and learning time efficiently as some learners may require extended time whilst being taught and supported. In turn, planning and executing lessons for learners with barriers to learning may also be time-consuming; thus, efficient time management is needed.

Furthermore, involvement of relevant stakeholders such as parents and therapists should be regarded as important in holistically supporting learners experiencing barriers. A number of schools may not have sufficient human resources onsite; therefore, in ensuring that learners' needs are met external stakeholders will need to be involved. The extent of support needed goes beyond the school borders as parents and/or caregivers also play an important role in reinforcing what was

taught in school. The school and home environments therefore need to be in sync for the benefit of learners.

## ■ Finding solutions to challenges

In discovering that teachers lack specific knowledge and qualification for inclusive education and visual impairment, it becomes imperative for them to continue receiving training on these two aspects. It became evident during the course of this study that indeed teachers did need knowledge and skills to inclusively teach and support learners with visual impairments. The White Paper 6: Special Needs Education policy framework clearly states that all children can learn with support (DBE 2001) and addresses the fact that teachers are ill-equipped when it comes to implementing this policy. It remains important that because training is provided, continuous monitoring and guidance should follow (DBE 2005). Similarly, because teachers proclaimed that including learners with visual impairment was a challenge for them, regular monitoring remains of significance even in this regard. There has to be ongoing support on different levels for learners with visual impairments inside and outside the classroom and school. This includes being as practical as possible as a teacher, for instance providing large printed material, braille documents and relevant learning and teaching support material.

The requirement for teachers finding themselves in inclusive classrooms and schools is to be flexible and be willing and able to adjust their teaching so that they can accommodate all learners, including those with visual impairment (Lamichhane 2017). Although younger teachers are prone to be more flexible than those who have been in the system longer, this enthusiasm and eagerness can be used to share ideas and more recent techniques with others, for the benefit of learners (Lamichhane 2017). Nonetheless, what is important is the continuous development of teachers and ways of involving education specialists and other relevant stakeholders to successfully implement inclusive education (DBE 2001).

In addressing the challenge of understanding visual impairment, teachers need to realise that most learning relies on visual input, which is the aspect that significantly hinders learners with visual impairment (American Foundation for the Blind 2012). As these learners are unable to experience incidental learning, mostly because of their hampered visual ability, the teacher has to bring the experience to them, thus incorporate all senses, particularly tactile, when teaching learners with a visual impairment (Lane et al. 2010). Additionally, teaching can take place in the form of discussion and emphasis and maximise or capitalise on the remaining senses (American Foundation for the Blind 2012). This then makes the development of their other senses very important as they will rely on them for learning and experiencing the world.

As alluded to previously, learners with visual impairment need support in multiple areas in their academics as well as their social development, keeping in mind that stimulation is a very important factor. Learners with visual impairment have a tendency to feel isolated and lonely and they have to contend with their sighted counterparts to be socially accepted; adding to all this pressure they also need to perform well scholastically (Verdier 2016). In terms of learners with visual impairment, it is deemed important for them to receive honest feedback from people within their environment, for them to be exposed to positive attitudes and provided with access to the physical (and other) environment (Roe 2008).

It is undeniable that South Africa is an under-resourced country and has a great number of under-equipped schools inevitably accommodating learners with disabilities. As a result, there remains a dire need for the latest technology and assistive devices to meet the needs of learners with visual impairment. However, teachers can use recycled material to create learning and teaching material. Amongst other things, these can include making braille number or counters with board, using boxes for tactile world maps and to make it easy for learners with low vision to know their environment by painting significant areas with the

colour yellow so that they are able to see their way and so on. Additionally, Bayram et al. (2015) reason that inclusive classrooms would need to have computers with the relevant software such as JAWS and sufficient braille machines amongst other resources and devices. Without such software and other relevant ones, learners would find it difficult to take part in computer lessons (Bayram et al. 2015). Consequently, incorporating relevant software programmes and other devices can be helpful, and therefore teachers would need to obtain knowledge (through receiving training from suppliers and/or other teachers who have had previous training) on how to use such software and devices that will assist learners (Brown, Packer & Passmore 2013).

Furthermore, an environment in which a learner with a visual impairment learns and plays needs to be adopted in one way or the other. There needs to be more space for them to move around, and the learning material needs to be more accommodating. In addition, concessions and accommodations may need to be applied for and granted to learners with visual impairment. The curriculum needs to be differentiated in ways that meet the different needs of these learners, to counter the impact of barriers they are experiencing and to ensure that they are respected, valued and affirmed in the process of learning and teaching. As such, the environment needs to be as enabling as possible for the learners to optimally learn and develop (Chaudhari 2016; Goodley 2001).

In South Africa, different professionals such as occupational and speech therapists as well as optometrists can potentially make a positive contribution to the advancement of inclusive education; thus, collaboration with them is important (Beveridge 2013). Although most of these specialists are not easily accessible for learners and their families because of distance and because they practise privately, they can provide some guidance on the inclusion of learners with visual impairment, if and when possible learners can be referred for assessments and support to these specialists. On the other hand, mentorship and

peer learning amongst teachers can also take place for them to learn best practices from each other; this can happen in a form of buzz talks where teachers discuss their needs and support required, setting time aside either shortly before school begins or after school. To equip themselves further, teachers can attend courses and workshops that could help them not only to gain Continuous Professional Teachers Development points but also to provide them with the necessary techniques and strategies on how to include learners with visual impairments in their classrooms and schools (DBE 2010).

In 2010, the DBE and MIET Africa (Non-profit organisation aiming to improve the lives of children and youth through supporting the provision of quality education for all) joined forces to come up with a conceptual framework called Care and Support for Teaching and Learning (CSTL), which was meant to address barriers to education faced by South African children. Care and Support for Teaching and Learning can particularly be applied by teachers to minimise the barriers learners experience in accessing quality education, especially learners with disabilities (DBE & MIET Africa 2010). The intension is to give guidance to all stakeholders involved in the child's life on how to provide teaching that is caring and supportive and putting the child at the centre of all the possible support structures. Taking into account the above-discussed theoretical framework, the CSTL also stems from the ecological systems framework, which recognises that as the child learns and develops, they are influenced by various systems around them (DBE & MIET Africa 2010). In collaboration, teachers can rely on the CSTL and the social model of disability to integrate learners into society; however, this may require awareness and advocacy events for communities to be educated about visual impairment and thus support people with visual impairments. This would be beneficial as there will be an attempt to eliminate social barriers, change negative attitudes and create a place where learners can belong and feel safe (Crow 1992).

The reason for referring to the CSTL is to make the teachers, especially those in full-service and special schools, aware that regardless of the kind of impairment or disability the learner may have, there needs to be collaboration and partnership to efficiently support that particular learner. In turn, the learner's self-esteem may be boosted in the process (Anastasiou & Kauffman 2013). Thus, the school communities, as well as other role players in the learner's life, need to be strengthened so that they are able to, in one way or the other, include and support the learner. This is also aligned with the social model of disability in the sense that independence for learners with a visual impairment can be facilitated with sufficient support and guidance (Anastasiou & Kauffman 2013). Additionally, learners with visual impairments need to be supported on emotional and social levels, and inclusive education is intended to provide support to learners with various competences and disabilities, including those with visual impairment. Teachers acquiring basic counselling skills and other stakeholders can assist in this regard.

In addressing some of the above-mentioned aspects, the theoretical framework discussed above can be beneficial in the sense that learners with a visual impairment should be viewed holistically (Chaudhari 2016). Their impairment should not be used to define them, but rather to recognise their strengths and how to make the most of it, particularly for learning. Furthermore, to enhance the learning and development of learners with a visual impairment, training and guidance can be provided to promote independence. In finding solutions for including learners with visual impairments, the social model of disability can be used as a drive to reduce stigma and promote flexibility and empathy in ways that will propagate support for these learners (Goodley 2001). In addition to supporting learners with visual impairments, support groups can be formed, as a way of ensuring that they are accepted and are able to optimally function in all possible environments (Harris 2000).

Overall, considering the state of the schools that lack resources for teaching and learning, sponsorships can be sought. In some areas there are private institutions, which may be willing to assist with resources that can benefit schools. Another avenue to pursue is to raise funds and work towards procuring the resources by schools themselves. And of course, assistance can also be sought from government departments. (For further information on collaboration, see ch. 10, by Botha.)

## ■ Conclusion

This chapter focused on the challenges typically experienced by teachers when required to implement an inclusive education policy or teach learners with visual impairments, both in full-service schools and special schools in South Africa. With the purpose of exploring the needs, challenges and expectations of teachers who are working with learners with visual impairment and the needs of learners, through their teachers, it has been found that teachers do need knowledge and skills to inclusively teach and support learners with visual impairments. In addition, it has also been found that teachers require an in-depth understanding of visual impairments to be relevant when supporting these learners. Finally, teachers are experiencing limitations in terms of accessing and using relevant resources in teaching and supporting learners with visual impairments. Potential resolutions to these challenges were then contemplated, based on existing policy and literature in the field. To this end, an attempt was made to provide some strategies that current and prospective teachers may use to practise inclusive education more effectively. The social model of disability is also suggested as a drive for the inclusion of learners with visual impairments as it advocates for their holistic support and optimal functioning.



# The value of the orientation and mobility profession in the lives of learners and teachers

Ann Heard<sup>a,b</sup>

<sup>a</sup>Private practice,  
Pretoria, South Africa

<sup>b</sup>Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa

**Keywords:** Orientation skills; Vision skills; Daily living skills; Mobility skills; Functional vision assessment.

**How to cite:** Heard, A., 2020, 'The value of the orientation and mobility profession in the lives of learners and teachers', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 185-225, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.07>

## ■ Introduction

Imagine you are walking down a busy street in the city of Johannesburg and you see someone wearing a blindfold and using a long white cane. What is your immediate reaction? Could it be? 'Is this person blind?' or might your reaction be, 'Could someone be making fun of persons with blindness or low vision?' Would you recognise the long white cane as an assistive device or just as a white stick? Take this scenario a little further, using a rural environment as an example. Now we are in a village and it is a similar situation except the person blindfolded is learning to cook over an open fire. What may your reaction be in this scenario?

Would you know and understand that the person being blindfolded and carrying out any of these actions may be a person undergoing training as an O&M practitioner? Students of O&M are required to acquire all the skills that they must teach to others once they are qualified. When being trained as an O&M practitioner, it is essential to be blindfolded whilst acquiring the skills a visually impaired person may need to function as independently as possible. In this way, skills can be learned whilst also developing the remaining senses required of the student O&M practitioner. Even though many sighted people may believe that persons affected by blindness or low vision will automatically learn to use all their other senses, in particular hearing, this belief is a 'blind myth'. As such, visually impaired people will not necessarily spontaneously develop senses such as tactual, olfactory, auditory, kinaesthetic, proprioceptive and remaining vision (functional vision); neither will they be able to automatically travel anywhere when receiving a cane and by simply moving the 'stick' from side to side. Even though it is not necessary for teachers of learners affected by blindness or low vision to be trained in all aspects of O&M, it is important for teachers to understand the principles, skills and development of O&M. More importantly, they must know where and how to network with the various professionals that could be involved with learners who are affected by blindness or low vision.

## ■ Overview and objectives of the chapter

In this chapter, the aim is to answer some of the questions posed in the Introduction. The chapter illustrates the value of the O&M profession in the lives of learners affected by blindness or low vision. In South Africa, this includes learners attending special needs schools catering for visually impaired learners as well as learners who are attending as inclusive learners at mainstream schools. However, having said that, it should be noted that some learners affected by blindness or low vision may also be attending other special needs schools for example schools for learners with multiple disabilities.

It is important for all teachers implementing the inclusive education policy to have a broad understanding of the underlying causes and effects of the most common causes of blindness and low vision and how to recognise visual challenges in a learner. Teachers should be aware of where, what and who to resource in order to be able to facilitate the acquisition of the relevant skills for learning, as well as how to adjust the classroom environment to support the learning experiences of learners affected by blindness or low vision. They should be aware of the availability of non-optical, optical and technological devices to use when working with learners affected by blindness or low vision and how to adapt their teaching methods to individual learners' needs. Even though some of these aspects are also addressed in other chapters in this volume series (refer to vol. 2, ch. 3 by Ramaahlo; ch. 6 and ch. 7 by Viljoen and ch. 8 by Erwee), this chapter introduces the reader to these important aspects, as decisions on all of these aspects are required when working in an inclusive classroom context. The chapter furthermore aims to enable practising teachers to be able to facilitate the involvement of a multidisciplinary team in support of the performance of learners affected by blindness or low vision in order for them to be able to develop at an equal pace and rate as their peers in the classroom setting. A further objective of this chapter is that once

practising teachers have read it, they may be more aware of the diversity of functional vision within the spectrum of blindness and low vision.

## ■ Definition of key concepts

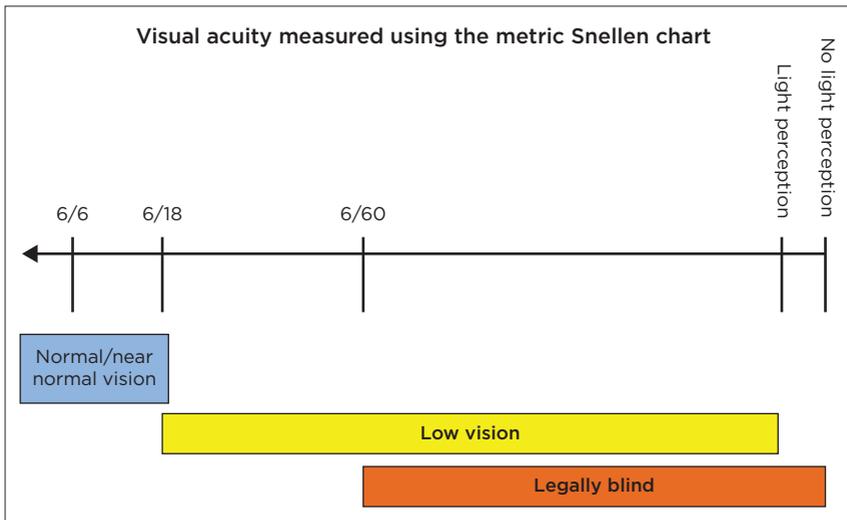
The diagram in Figure 7.1 graphically illustrates some of the terms described relating to vision.

### ■ Blindness

The inability to see anything, including light.

### ■ Functional vision

The way in which an individual uses his or her remaining vision. Each learner is unique in using their vision optimally. However,



Source: Modified after Bornman and Rose (2017).  
Note: Graphic illustration - not to scale.

**FIGURE 7.1:** Illustration of the visual spectrum from normal to blind.

it is necessary to understand that many factors can affect how the vision is used.

## ■ Legal blindness

Defined in South Africa according to visual acuity and the field of vision. A formal Snellen chart in metres is used to record visual acuity. Acuity of less than 6/60 in the better-seeing eye means that the person sees at 6 m what a normal sighted individual will see at 60 m. This will classify the person as legally blind. In addition, if the better-seeing eye has a field of vision less than 20°, this will also classify the person as legally blind (Orientation and Mobility College, South African Guide Dogs 2019).

## ■ Low vision

The term used to describe significant visual impairment that cannot be fully corrected with glasses, contact lenses, medication or eye surgery. Functional vision is the vision that remains after all available medical and optical interventions have been used.

## ■ Orientation and mobility

Two separate components that complement each other. Orientation refers to the ability of individuals to recognise their surroundings in relationship to themselves, whilst mobility relates to the movement of a person from place to place independently, safely and confidently. Orientation and mobility is an important aspect for blind and low vision learners to attain independence showing confidence and capability.

## ■ Orientation and mobility practitioner

An O&M practitioner is a qualified professional who has studied at an accredited tertiary institution to learn how to teach the skills of O&M. The O&M practitioner is the only professional whose

training is entirely focused on the individual affected by blindness or low vision.

## ■ **Visual impairment**

Visual impairment occurs when an eye condition affects the visual system and one or more of its vision functions. Vision impairment has serious consequences for the individual across the life course. Many of these consequences such as refractive errors and cataracts can, however, be mitigated by timely access to quality eye care and rehabilitation. The WHO (2014) in their fact sheet estimates that 80% of visual impairment is either preventable or curable with treatment.

## ■ **Understanding the profession of orientation and mobility**

This part of the chapter will provide the teacher with an understanding of why the profession of O&M was developed and an understanding of what the elements of O&M are.

## ■ **Developmental history of the orientation and mobility profession internationally and nationally**

The O&M profession is relatively young as it started in 1961 in the United States of America. The roots of the profession of O&M grew as a result of war veterans returning from World War II (1939–1945), having been blinded. After the war, mobility techniques were taught to the servicemen and the trainers experimented with different types of canes (Blasch, Wiener & Welsh 1997).

Well before the middle of the 20th century, the provision of braille as well as schools for the blind and guide dogs (Blasch et al. 1997) have marked all centuries. More specifically, Louis

Braille, whilst at a school for the blind in Paris in 1827, developed the initial braille system which is still being used worldwide (BlindSA 2017). Special needs schools for the visually impaired have been available for many years; and the use of guide dogs can be seen in images of dogs acting as guides to people in ancient Chinese paintings, seen on the wall of Pompeii and in Rembrandt etchings from the 17th century (Coon 1959).

Of specific significance is Anne Sullivan (McGinnity, Seymour-Ford & Andries 2004) who was born in 1866 and became a pioneer of vision rehabilitation, working closely with Helen Keller. Sullivan set a precedent for the vision rehabilitation professionals who followed in her footsteps, amongst others her pupil, Helen Adams Keller (27 June 1880 to 01 June 1968) who was an American author, political activist and lecturer. Keller was also the first deaf-blind person to earn a Bachelor of Arts degree.

Formalised training of O&M practitioners in specific skills only really started in the 1960s, particularly in the United States of America and the United Kingdom. At this time people working in the field in South Africa were sent individually to either the United States of America or the United Kingdom to be trained in O&M. On completing their training, they returned to South Africa and started training other individuals, eventually leading up to the establishment of a college in 1974 by South African Guide Dogs in Johannesburg. This institution continues to train O&M practitioners (M. Higgerty [Orientation and Mobility Association of South Africa], pers. commun., 20 January, 2019), however, as such the training is very intense and involves individualised attention. The O&M course can only cater for six to nine students every two years. Therefore, people in the profession, NGOs and government departments remain aware of the continued need to train more O&M practitioners and create posts throughout South Africa.

## ■ **Essence of orientation and mobility**

The following quote from Wiener, Welsh and Blasch (2010) states:

O&M skills and techniques are continuously built one upon the other as the instructional sequence moves from indoor to outdoor environments and the learner progresses from walking with a guide to independent and self-directed travel. The techniques required for this transition are designed to provide accurate perception of motor and sensory information. This information, along with knowledge and structure of the travel environments, is necessary to establish meaningful and directed movement. (p. 24)

The O&M College at South African Guide Dogs has trained over 250 practitioners since 1974. Over the years, losses to the profession were because of retirement, promotion out of the field and emigration. Approximately 70 practitioners are still practising in all geographical areas of South Africa and are employed by NGOs, the Mpumalanga Department of Health and some schools for the blind. Some O&M practitioners are in private practice.

## ■ **The importance of providing orientation and mobility training**

Vision loss can be a life-changing experience; particularly for learners and adults whose loss of vision occurs adventitiously. Very often an O&M practitioner will be working with people who are at a crisis point in their lives. When the vision loss is of a congenital nature the O&M practitioner will interact closely with the family in order to assist in the development of their infant. A qualified O&M practitioner's strength is to be a problem solver and to respond to a person's unique and complex situation. The ability to move with confidence is critical to maximising independence, regardless of age or existence of other disabilities. Orientation and mobility 'helps children and adults develop and master the concepts and skills necessary to be able to move safely, efficiently and confidently within their world' (cf. Dignan 2013). Orientation and mobility teaches movement with a purpose.

Purposeful movement may not occur naturally for infants with a visual loss. Early O&M intervention is critical and should be ongoing.

The O&M practitioner provides the visually impaired with a feeling of safety which creates confidence and a sense of well-being. Orientation and mobility skills 'enable children to safely explore and interact with the world, including the home, school and community' (cf. Dignan n.d., 'Benefits of orientation and mobility', Texas School for the Blind and Visually Impaired). When infants and children, including those with low vision or multiple disabilities, understand their environments, they feel safe.

Orientation and mobility instruction provides real experiences essential to all children. The skills learned reduce isolation by giving learners a 'common ground' for interacting with family, friends and future employers. Orientation and mobility instruction brings the general curriculum to life (cf. Mind Tools n.d.). Orientation and mobility evaluations include activities such as assessing a learner with visual impairment, when for example:

- The learner moves around a different campus to evaluate their abilities in unfamiliar environments.
- The learner uses their limited night vision in the neighbourhood or community.
- The learner uses a wheelchair to travel to the cafeteria, restroom or other spots on the campus or community.

Orientation and mobility instruction includes activities such as teaching (Texas School for the Blind and Visually Impaired 2019):

- The parents of an infant how to deal with their fear that their baby will hurt himself or herself as he or she moves around the room.
- A young child how to move towards the mother's voice.
- A young child with limited movement that those movements create changes in life.
- A learner how to find the way in the community by using a telescope or monocular to read street signs.

- An adolescent how to use a cane and the bus system to independently go and meet friends.
- A girl with visual impairment using a wheelchair how to find and use the bathroom independently.
- A student to travel independently to a future job in the community. (n.p.)

Orientation and mobility practitioners will initially learn to focus on individuals and the impacts of blindness and low vision on all aspects of their lives. They study how to interact in partnership with clients and their families, and how to work inter-professionally to promote the needs of those experiencing sight loss.

The O&M practitioner learns how to enable people with blindness and low vision to become independent in their daily lives. This may be through teaching O&M skills, safety and independence in the kitchen and the home, techniques to overcome communication barriers and making the best use of a person's strengths and any remaining vision (cf. Pavey et al. 2002). Orientation and mobility entail two separate components that complement each other. Orientation refers to the ability of individuals to recognise the surroundings in relationship to their self, whilst mobility relates to the movement of a person from place to place safely and confidently. The ultimate aim of O&M training is to enable blind and low vision learners to enter any environment, familiar or unfamiliar, and to function safely, efficiently, gracefully and independently by utilising a combination of orientation skills and mobility skills.

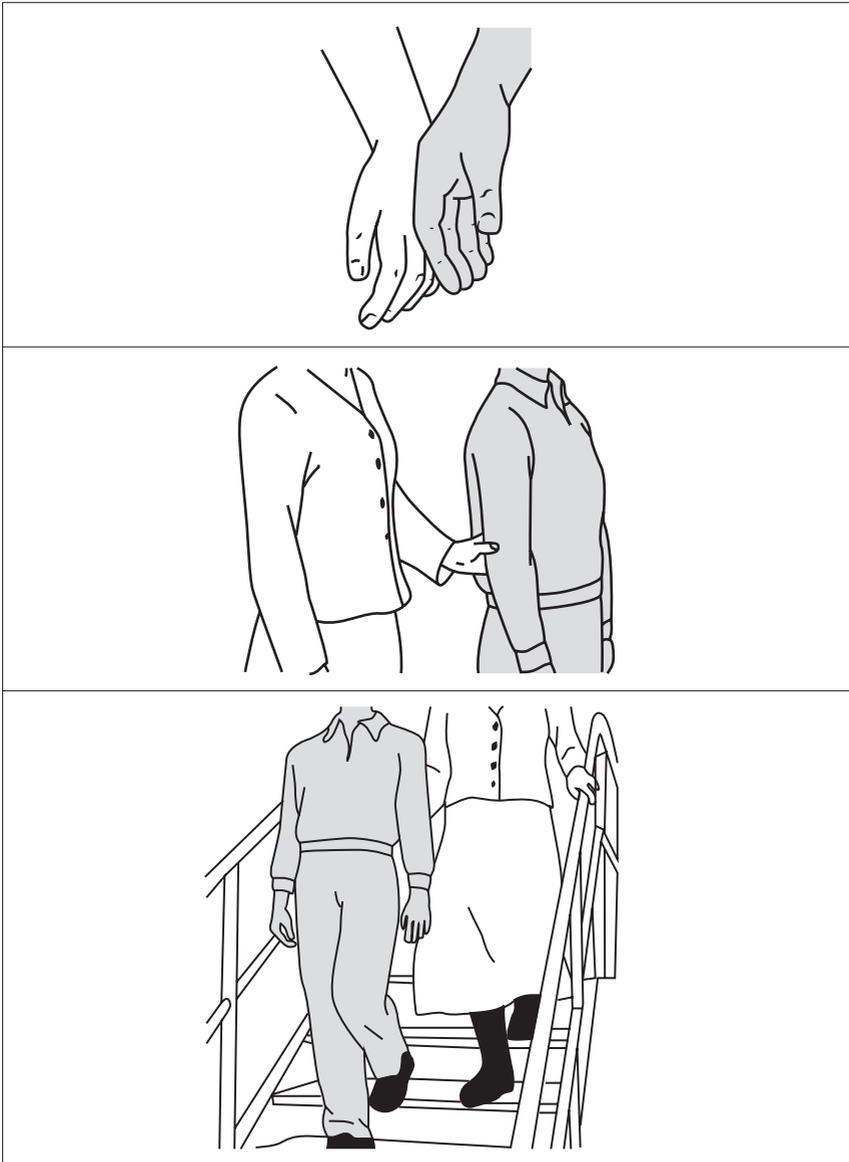
The three principles of orientation are namely, 'Where am I?', 'Where is my objective?' and 'How do I get there?' In order to be able to orientate oneself, the following skills need to be developed: using the senses (hearing, smell, taste, touch, vision, kinaesthetic and proprioceptive), recognising landmarks and clues, understanding indoor and outdoor numbering, being able to measure distances, visualising, echo-locating, using compass points, the sun's position and self-familiarisation.

For mobility, the basic principles include being able to travel safely, and function effectively, gracefully and confidently in any environment, whether familiar or unfamiliar. Mobility assistance can take on various forms. As an example, the effective use of a long white cane refers to the use of a mobility assistive device. Other assistive devices may be electronic, or be in the form of a guide dog, a shopping trolley, a walking frame or even a clipboard (see Figure 7.2). It is often in this field where an O&M practitioner is required to think outside the box and be creative. Some of the skills focused on when being trained in O&M include human guiding skills (refer to Figure 7.3, taken from a 2018 SA Mobility for the Blind Trust [SAMBT] booklet), pre-cane skills, cane skills and skills and activities related to daily living.



Source: Image created by Ann Heard, published with permission from Ann Heard.

**FIGURE 7.2:** Examples of mobility assistance.



Source: SA Mobility for the Blind Trust (2018).

**FIGURE 7.3:** Sample of human guide skills.

Furthermore, O&M practitioners need to understand blindness and low vision and its effects; acquire basic counselling skills; understand advocacy; employment opportunities; job creation; medical causes of blindness and low vision and affects thereof and psychological and family support. In addition, knowledge is required in terms of teaching methods, assessing the needs for O&M training, child development, skills of daily living, sensory development, visual training and functional vision assessment.

## ■ Understanding blindness and low vision

In order for the O&M practitioner to understand blindness and low vision, it is important to understand that vision loss can be either congenital or adventitious. Genetic eye conditions and trauma can all play a part in vision loss. Therefore, it is important to understand the basic fundamentals of blindness and low vision.

## ■ Statistics pertaining to blindness and low vision

In order to understand the need for additional trained O&M practitioners and the need for teachers to be equipped to facilitate O&M in the classroom, it is important to get an insight into some statistics on people affected by blindness and low vision within the South African context. According to the national 2011 census (Statistics South Africa 2014), 1.7% of South Africa's population experienced 'severe difficulty in seeing' at the time, relating to approximately one million people in the country (the projected population in 2018 was 57 million). The 2011 census furthermore, indicates that the prevalence of this occurrence is higher in rural areas. This implies by extrapolation that approximately 950 000 people (children and adults) in South Africa are affected by low vision (Bourne et al. 2017).

Of all disabilities, visual disability, blindness and low vision are perhaps the most misunderstood. People tend to think of visual disability as ‘all or nothing’ – either being fully sighted or totally blind, with no in-between. Only 7% of available statistics on visual impairment relate to total blindness with the remaining 93% reflecting functional vision (low vision). As such, there is a spectrum of useable remaining vision from fully sighted to total blindness. The range of people with functional vision is quite varied, yet they will all benefit from being taught O&M.

## ■ Classification of vision impairment

The WHO (2019) provides a classification for vision impairment into two groups, which is captured in Table 7.1.

## ■ Clinical testing of vision

To be able to understand the clinical measurement of visual acuity both feet and metres can be used depending on the country. When 20/20 is used as the recorded visual acuity (central vision), the distance from a person to an object is measured in feet. The 6/6 indication is used when recording clinical visual acuity in metres. This means that 6/6 (used in countries that have the metric system) implies the same measurement as 20/20 (used in countries such as The United States of America and other countries still using the imperial

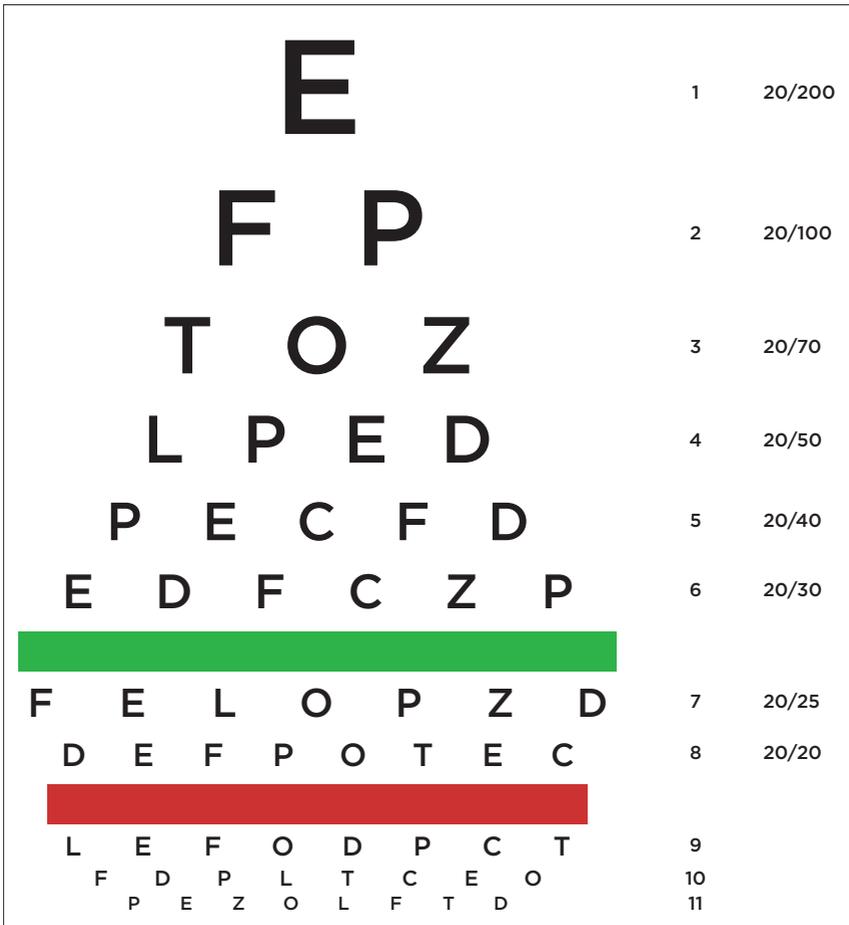
**TABLE 7.1:** Classification of vision impairment.

<b>Vision impairment</b>	<b>Severity</b>	<b>Description</b>
<b>Distance vision impairment</b>	Mild	Presenting with visual acuity worse than 6/12
	Moderate	Presenting with visual acuity worse than 6/18
	Severe	Presenting with visual acuity worse than 6/60
	Blindness	Presenting with visual acuity worse than 3/60
<b>Near vision impairment</b>	-	Presenting with near visual acuity worse than N6 or M.08 with existing correction

Source: WHO (2019).

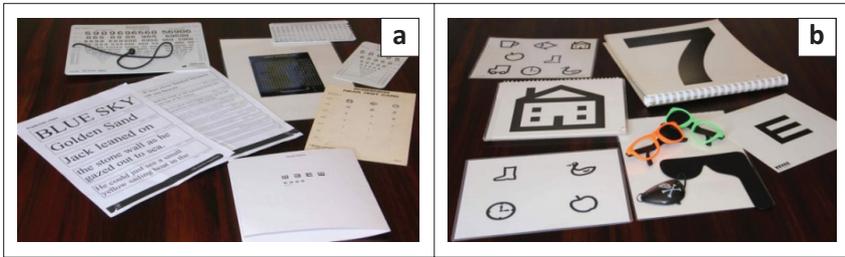
Note: N6 is one level below normal newspaper print.

system). In South Africa, the metric Snellen chart (Figure 7.4) is the main chart used for normal examination of visual acuity and testing for spectacles. For clinical (low) vision assessment, specialised charts have been developed in order to identify what the person with low vision *can* see. The Feinbloom number chart (Figure 7.5) is one such example.



Source: Wikipedia (n.d.).

**FIGURE 7.4:** Snellen chart in feet.



Source: (a & b) Photographs taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 7.5:** Selection of specialised (a) low vision near and (b) distance charts, with the Feinbloom number chart showing the large seven.

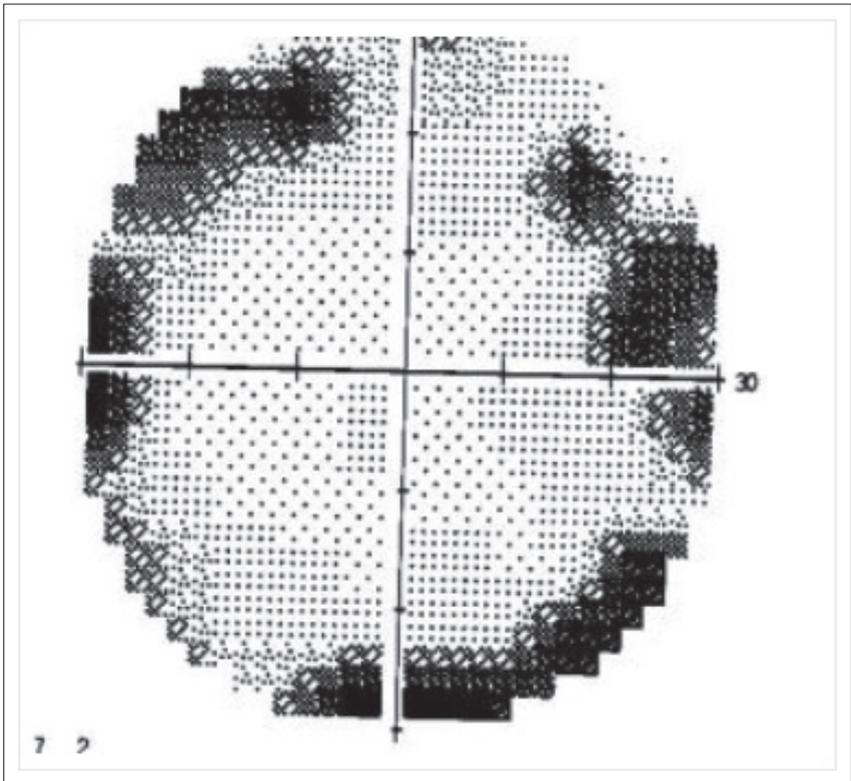
In interpreting the scores obtained on these charts, a clinical recording of 20/60 (6/18) will indicate that a person, when standing at 20 feet (6 m), can see what a normal sighted person can see at 60 feet (18m). A recording of 20/120 (6/36) will similarly indicate what a person standing at 20 feet (6 m) can see, whereas a normal sighted person can see the same object at 120 feet (36m). The implication of these indications for teachers relates to the need for teachers to understand that a learner affected by low vision will have to come closer to an object to be able to see whatever he is looking at. However, having said that, the object may still not be seen clearly even though the learner has moved closer, requiring the teacher to also provide assistance to the learner in interpreting what he is seeing. Figure 7.6 provides examples of what a low vision person may see.

Visual acuity is not the only indicator of a person's ability to see as in the case of persons affected by for example diabetic retinopathy, glaucoma and Retinitis Pigmentosa, the visual fields of persons affected by these conditions are reduced but the visual acuity may be normal (6/6). Visual fields should also be measured and taken into consideration. Figure 7.7 shows the result of Goldman's visual field test showing darker areas where there is damage to the retina. A 'normal visual field is an island of vision measuring 90° temporally to central Fixation, 50° superiorly and nasally, and 60° inferiorly. Visual acuity increases from movement



Source: (a & b) Photographs taken and edited by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 7.6:** Images of what a low vision person may actually see.



Source: Diagram from client file, published with permission.

**FIGURE 7.7:** Result of Goldman field test (right eye).

discrimination in the extreme peripheral vision to better than 6/6 in the centre of vision’ (cf. eds. Walker, Hall & Hurst 1990).

The clinical charts as described above cannot always be used with infants, non-communicating learners or multiply impaired learners with vision loss. The O&M practitioner therefore needs to assess the functional vision of an individual.

## ■ Functional assessment of vision

The methods of testing functional acuity and functional field are explained further on, together with Table 7.2 and Table 7.3, which show a simple way of estimating the vision level of infants, non-communicating learners or multiply impaired learners with vision loss. Assessing functional vision involves using objects in an environment known to the individual. An example would be using a torch to assess whether the individual can follow the light and/or observing the individual coping with the environment.

The information in Table 7.2 and Table 7.3 are as a result of discussions with paediatric ophthalmologists and O&M practitioners. Clinical measures of visual acuity are obtained in a static, controlled environment. Functional acuity is obtained in the uncontrolled environment, which is affected by a wide range of visual factors. For example, during the course of a typical walk, functional vision may fluctuate because of variations in the size of objects, changes in illumination and complexity of the environment. The combination of low vision and environmental variation often results in a range of

**TABLE 7.2:** Approximate functional visual acuity for given size objects and distances.

Object size	Distance				
	2 feet	4 feet	6 feet	8 feet	20 feet
¼ inch	20/200	20/100	20/67	20/50	20/20
½ inch	20/400	20/200	20/133	20/100	20/40
¾ inch	20/600	20/300	20/200	20/150	20/60
1 inch	20/800	20/400	20/267	20/200	20/80

Note: 20/20 is equivalent to 6/6. This table uses feet and inches.

**TABLE 7.3:** Near functional vision acuity screening using cheerios and sprinkles.

<b>Object</b>	<b>Approximate acuity in feet</b>
Gumball	20/500
Cheerio	20/400
Skittle	20/400
Elongated sprinkles	20/300
Chiclet (tiny)	20/200
Hearts and snowflakes	20/200
Half a chiclet (tiny)	20/160
Quarter snowflake heart	20/125
Ball sprinkles	20/60

Note: Ball sprinkles at 33 cm gives an acuity of approximately 6/24.

functional visual ability – from functioning as totally blind to the ability to see small cracks in the sidewalk, the change of a traffic light from red to green and to identify people moving at distances greater than 30m. These differences may all be caused by changes in contrast, illumination and by the effects of glare. It is important to determine functional vision acuity in a variety of environments and under a variety of lighting conditions (Wiener et al. 2010).

Clinical assessment of visual field is similar to the clinical testing of visual acuity. Both occur in a setting that controls for illumination, the size of the target and the distance at which the test is administered. By comparison, assessment of the functional visual field occurs in a variety of environments and lighting conditions. This occurs by applying the same principles of assessing functional visual acuity to the assessment of the functional visual field. Functional field assessment uses real world settings with everyday objects such as people, cars, signs and objects in a variety of sizes (Wiener et al. 2010).

## ■ **Blindness and low vision**

Even though many people understand ‘blind’ as meaning that a person cannot see anything at all, the majority of persons affected by vision impairment do have some remaining vision which is

referred to as low vision. In a report from the Royal National Institute for the Blind ([RNIB] 2016), this was a statement, 'Of all those, registered blind or partially sighted, 93% retain some useful vision' (functional vision).

A young lady affected by Retinitis Pigmentosa provides some insight as to how low vision can affect a person, in an article entitled 'The Way I See' (D'Inella 2016), where she describes how some sighted persons tend to make remarks about the fact that she is *not* blind (she may be looking at her phone), asking why she then uses a white cane. She continues by explaining how she can read menus, newspapers and books, but finds walking in the environment to be difficult, because of her finding it hard to negotiate steps, kerbs and crossing roads.

Another factor in the life of a person affected by low vision is that some do wear spectacles to improve their vision a little. Using only the white cane without the spectacles allows the person to 'see' approximately 1m in front of them. The white cane together with the spectacles improves the person's mobility, allowing for a little more warning of what is in front of the person and enabling them to use functional vision in combination with a white cane.

According to the 2014 South African census report (Statistics South Africa 2014), the most needed assistive device in the country is a pair of eyeglasses. As many learners who enter school have never had an eye test, teachers are often the first people to identify possible vision difficulty as a result of the learner exhibiting certain behaviours. On referral from a teacher, a learner's vision will typically be tested and may result in the learner being fitted with a pair of prescription spectacles, thereby rectifying the challenges the learner experiences. A learner, who is for example diagnosed with myopia (short-sighted) and fitted with spectacles (eyeglasses), will as a result be able to experience seeing single blades of grass and single leaves on a tree instead of just a 'blob' of green. Similarly, adults over the age of 40/50 may start experiencing visual

challenges in reading small print (presbyopia), which can be overcome by using reading spectacles. These two examples of refractive errors do not fall into the category of someone affected by blindness or low vision as their challenges can be overcome by normal lenses that provide 6/6 (20/20) vision.

Some persons affected by low vision do have a refractive error and may be wearing spectacles that correct the error, but with normal vision not being achieved. Refractive errors as noted above in the last two examples can be caused by myopia, hypermetropia, astigmatism, presbyopia, all of which will result in an unfocused image on the retina (WHO 2007). Uncorrected 'refractive errors' (Naidoo, Govender & Holden 2014:74–75), which affect persons of all ages and ethnic groups, are the main cause of persons not being able to see properly, which can result in lost education and employment opportunities, lower productivity and impaired quality of life. When planning services, it is imperative to focus on children in all communities. The correction provided must be affordable and of good quality. It is important that services for refractive errors should be integrated at all levels of eye care provision, including outreach (WHO 2007). This is where teacher intervention may be the first visual intervention for a learner.

## ■ Functional vision

It is important to understand the difference between blindness and functional vision (low vision) in relationship to O&M practices and possible intervention by a teacher. Learners with remaining functional vision (low vision) are greater in number than learners who are totally blind (WHO 2010). In this regard, the following definition captures who may benefit from low vision services (WHO 2017):

Low vision is defined as visual acuity of less than 6/18 but equal to or better than 3/60, or a corresponding visual field loss to less than 20°, in the better eye with the best possible correction. (p. 8)

In previous years, the definition of functional vision (low vision) included the following description: 'A person with low vision is one whose vision cannot be corrected to normal despite conventional surgical, medical and or normal optometric treatment' (Metcalf 1994). However, a person defined as being affected by low vision because of a medical condition that cannot be treated may potentially also develop another eye condition which is amenable to treatment and may improve functional vision. For example, a person affected by Stargardt's may develop cataracts that can be treated.

However, in certain instances, a person whose vision is recorded at 6/18 (low vision) or above, may require functional vision training or O&M because of factors other than vision, as illustrated in the case study discussed further. This particular case study illustrates the fact that a person can be taught to use an assistive device (a cane) in order to become confident and independent, with an end result of the person no longer using the cane once becoming independent.

## □ Case Study: Siphio

Siphio, aged 35 and employed at a medical aid company, was diagnosed with minimal visual loss in the left eye after an accident and normal vision in the right eye. According to the definition of low vision, Siphio should not be classified as low vision. As a result of other challenges, he has been under the care of a psychologist, a psychiatrist and a low vision optometrist who referred him for O&M training. His computer and reading skills were good at the time he lost his vision, and his mobility skills were expected to be good because of the normal vision in the right eye. However, Siphio experienced certain concerns and fears based on the loss in his left eye, causing him to bump into objects on his left-hand side. As a result, he requested cane training and visual skill training was subsequently attempted. Siphio however, felt more secure and safe

using a long white cane for travel. This was done to assist him in travelling within his environment and becoming confident in again using his right eye and thus become more dependent on the normal right eye. Once gaining the necessary confidence and independence, Siphon no longer required the use of the long white cane.

## ■ Causes and physical effects of vision loss

Blindness or low vision can be caused by one or more of many different conditions. Some eye conditions are present from birth (congenital), some are acquired later in life through disease or injury (adventitiously) and some conditions are genetic (cf. Cleveland Clinic n.d., 'Genetic Eye Disorders & Blindness Causes'). Whilst many eye conditions can and are treated with medication or with surgery, reduced vision may persist, because of residual damage to various parts of the eye caused by the disease or condition. Some individuals may also have more than one condition, as demonstrated by the case study discussed further.

### □ Case Study: Joe

Joe, aged 70 years, developed glaucoma at the age of 65 which affected his peripheral field of vision. He was prescribed special eye drops which have stopped the progression of glaucoma since diagnosis. Some years later he developed macular degeneration and now receives injections in his eyes to assist in delaying the progression of the macular degeneration. Therefore, Joe is currently treated for two separate conditions, the one causing peripheral vision loss and the other causing central vision loss. The vision that has been lost cannot be recovered but the medications may delay the progression of Joe's eye conditions. He uses approach magnification which means that he takes his ordinary glasses off and comes closer for reading and handiwork, he does not drive and for the sake of general mobility, he prefers to follow his wife or be next to her when walking.

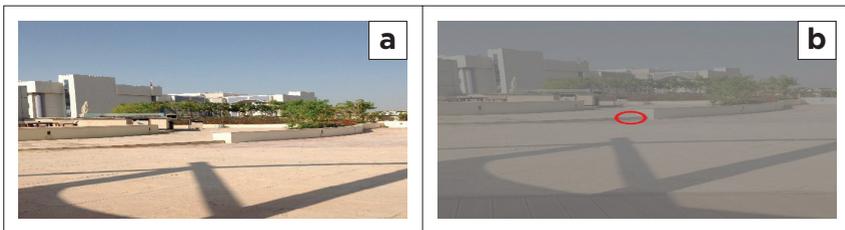
Many conditions can cause vision loss, of which the common ones are listed further, divided into three main groups, with associated visual and functional characteristics.

## ■ Group 1: Reduced vision without significant field loss

Eye conditions that can cause reduced vision over the whole field of vision include inflammation of the cornea, degeneration of the cornea, trauma affecting the cornea, cataract (Figure 7.8), floaters in the vitreous, oedema of the retina, albinism, Nystagmus and uncorrected refractive error. Visual characteristics of this group relate to a reduced ability in the use of contrast, reduced acuity or blurred vision, increased glare sensitivity, reduced depth perception, reduced or distorted colour sensitivity and double vision. Functional visual characteristics of Group 1 entail difficulty with tasks needing high levels of acuity (reading), tasks requiring gross vision especially in bright light (mobility), tasks where magnification is required or tasks where good contrast is important.

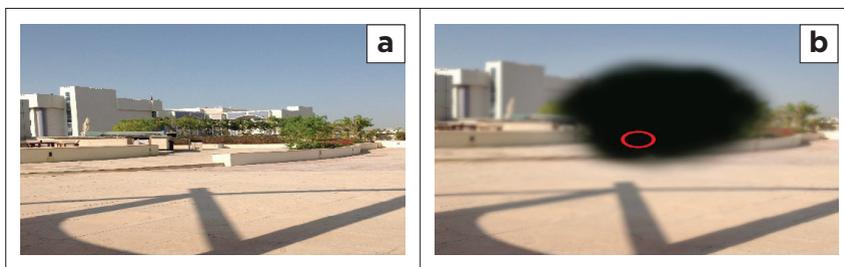
## ■ Group 2: Central field loss

Some eye conditions that can cause central field loss are age-related macular degeneration (see Figure 7.9), Stargardt's and diabetic retinopathy. Visual characteristics of Group 2 include distortion of



Source: (a & b) Photographs taken and edited by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 7.8:** Images demonstrating what a person with (a) normal vision and (b) one with cataracts see.



Source: (a & b) Photographs taken and edited by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 7.9:** Images demonstrating what a person with (a) normal vision and (b) one with macular degeneration see.

images in early stages, reduced visual acuity, loss of central field, poor colour vision, slow light adaptation and photophobia. Functional visual characteristics of this group entail the fact that objects ‘disappear’ when looked at directly, that faces cannot be recognised, that mobility is normally fine until later stages, that magnification is required, that eccentric viewing is appropriate (using peripheral vision) or that good contrast is required.

### ■ Group 3: Peripheral field loss

Some of the eye conditions causing peripheral field loss are Retinitis Pigmentosa, glaucoma (Figure 7.10), retinal detachment and diabetic retinopathy. Visual characteristics of Group 3 relate to visual acuity being normal or reduced, loss of areas of peripheral vision and reduced dark light adaptation. Functional visual characteristics of Group 3 include variable-tunnel vision, night blindness, poor mobility, magnification *not* always being useful and situations where good contrast is required.

### ■ Unique needs and experiences of learners affected by blindness and low vision

As all learners are individuals, they cannot be treated in the same way as others with the same eye condition. Each and every individual learner reacts to vision loss in a unique way and deals



Source: Photograph taken and edited by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 7.10:** Tunnel vision as a result of glaucoma.

with challenges in different ways. Various factors can contribute to how a learner will use their remaining vision to its optimal level, in order to maintain independence and quality of life. In the same manner, each learner, even those with the same acuity and diagnosis, will have unique individual needs and will function visually in a unique way. Some learners may require bright light, whilst others may need dim light. Some may need strong magnification, others minimum magnification whilst others no magnification. Some may need a long white cane and others not. Some may need braille and others print of varying sizes and contrast.

Many learners with visual challenges may never have experienced 'normal' sight and would as such not understand comments or questions such as 'you cannot see properly' or 'what do you see?' because of their vision being quite stable throughout their lives. On the contrary, learners who lose their vision because of an injury, tumour or genetic condition may experience a great loss, with such a feeling of loss continuing throughout the learner's life each time some more vision is lost,

or when the visually impaired learner experiences a life challenge, which may be more of a challenge than can be expected because of the loss of vision.

The losses typically associated with blindness and low vision are summarised in Table 7.4.

The ability of learners to use their functional vision can be affected by numerous factors – both pathological and psychological. These factors include the onset of visual loss,

**TABLE 7.4:** Losses associated with blindness and low vision.

<b>Losses</b>	<b>Types of loss</b>
Losses to psychological security	Loss of physical integrity Loss of confidence in the remaining senses Loss of reality contact with the environment Loss of visual background
Losses in basic skills	Loss of mobility Loss of skills of daily living
Losses in communication	Loss of ease of written communication Loss of ease of spoken communication Loss of informational progress
Losses of appreciation	Loss of the visual perception of the pleasurable Loss of the perception of the beautiful
Losses concerning occupational and financial status	Loss of recreation Loss of career Loss of vocational goal Loss of job opportunity Loss of financial security
Resulting losses to the whole personality	Loss of personal independence Loss of social adequacy Loss of obscurity Loss of self-esteem Loss of total personality organisation

Source: Carroll (1961).

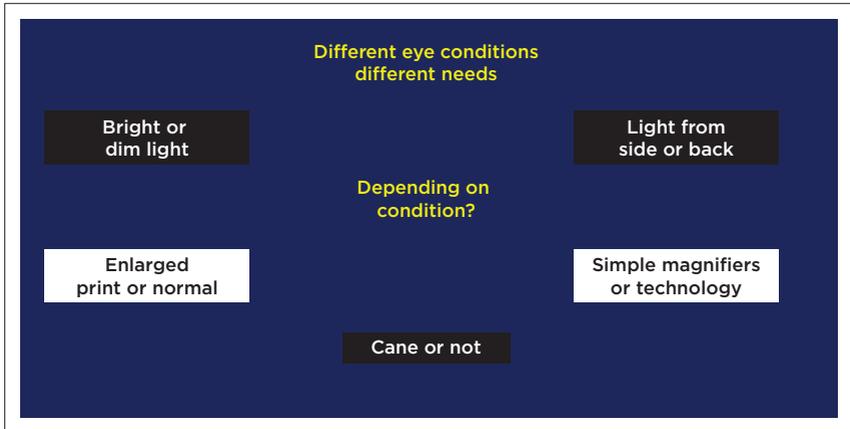
degree of visual loss, stability of the remaining vision, fluctuations in the remaining vision and emotional challenges related to the vision. In addition, other physical or perceptual challenges may play a role as well as intellectual and perceptual ability to interpret what is being seen, length of time of visual loss, challenges on functioning on a daily basis because of fatigue, stress or pain, use of medication, self-confidence, self-esteem, motivation, resistance to using vision, motivation to using adaptive devices, motivation in adapting to the environment and the extended support system.

## ■ Teaching learners with vision impairment

The role of vision in learning is complex, as 80% of learning is done through vision (Northway 2008). Learning challenges cannot merely be related to intellectual ability as a learner experiencing learning challenges may just see, hear or understand things differently.

Learners affected by visual impairment may find it hard to 'see' their educator, classmates, the black or white or green board, television monitor, computer, overhead projector and visual presentations. Accordingly, they will generally experience difficulty to take notes, complete assignments, move around, read and complete tests. It is important for any teacher of learners with visual impairment to recognise such challenges and keep this in mind when presenting lessons and dealing with school-based tasks.

The range of medical conditions which may give rise to visual impairment is both large and complex. It is not the responsibility of the classroom teacher to know and understand all of these, however, it is important to understand the functional vision of learners in order to be able to put this into effective use. Figure 7.11 summarises some examples of the different effects and requirements of visual impairment on functional vision.



**FIGURE 7.11:** Adaptations that the teacher can implement.

It is important for any teacher to recognise the individuality of each learner and especially of learners affected by blindness and low vision.

Early recognition of signs of visual impairment is imperative as the learner may run the risk of social and emotional challenges as a result of an inability to cope with the demands of a highly visually orientated world, if not detected and supported. Scholastically, if visual needs remain undetected or treated in an unsuitable or non-empathetic manner, it may result in poor reading and writing skills, inattention, disruption, poor presentation and poor accuracy of work.

However, teachers may find it hard to recognise the signs of visual challenges when a learner, who has never seen ‘normally’, does not know what they are supposed to see. Thus, even though a learner affected by visual impairment may find it difficult to express the challenges experienced in the classroom, teachers may be on the look-out for signs such as bloodshot eyes, cloudy eyes, unusual eye movement, excessive blinking, eye rubbing,

constant frowning, the shutting of one eye, holding objects close to the eyes, bringing the eyes down closer to the school work, movement of the head and not the eyes or irritability when doing work requiring good eyesight for fine work. In addition, the learner with visual impairment may appear clumsy, knock things over, trip over objects on the floor, appear to walk with a shuffle with the head looking down or may bump into other learners. Furthermore, difficulties with reading, writing and drawing, colour recognition or concentration may also occur.

In this regard, teachers may be alerted by what learners say, for example, 'I can't see that', 'I see two', 'I feel dizzy', 'My head hurts' or 'I feel sick'. Learners may even want to put their heads down on the desk to relax as it is very tiring to concentrate when using functional vision. Teachers should also be aware of the fact that functional vision may fluctuate, depending on circumstances. Such circumstances may include situations of emotional distress, medical illness, tiredness or changes in natural or artificial lighting.

If the teacher suspects that a learner is experiencing a visual challenge, the learner should be referred to an optometrist so that the learner's vision can be tested and if possible be fitted with spectacles to achieve the best vision possible. If a learner's visual challenges continue, an O&M practitioner and/or low vision optometrist can be consulted. Diagnosis and assessment of a learner's vision can be carried out and steps taken to provide appropriate support and equipment to help minimise the effects of visual impairment. During such a process, it is important that the relevant information and reports on a learner affected by visual impairment be made available to all those involved in the teaching of the learner. In the same manner, all necessary information should be passed on to new teachers when a learner changes classes or schools. Teachers should be aware that each learner affected by blindness or low vision is unique and will deal with their vision loss in their own way and will use their functional vision according to their individual characteristics.

## ■ Value of a support network

The context of visual impairment necessitates the involvement of sound support systems which should be available to both teachers and learners, and remain available for the learner throughout life. Such support systems can include parents, siblings, family members, the community, peers, fellow teachers and professionals. Even though it is ideal to have a professional network team situated together in an institution, this is not always possible because of, for example, financial constraints and availability of the various professionals within a community. Be that as it may, any teacher, whether teaching in a special needs school for learners affected by blindness or low vision or within a mainstream school, should be able to access other professionals in order to support not only the learner but also the teacher themselves.

These professionals include O&M practitioners, specialist teachers, low vision optometrists, ophthalmologists, neurologists, social workers, psychologists, occupational therapists, physiotherapists, speech therapists, geneticists, braille instructors, reading specialists and adaptive technologists. It is important that all persons involved in supporting a learner in the school setting understand the learner's eye condition and how the condition can affect the learner's visual performance and way of functioning in life. A primary role-player in facilitating the independence of such learners is the O&M practitioner, who may not only be involved in training a learner but could also assist the teacher(s) in implementing an extended curriculum for individual learners.

## ■ Collaboration between the orientation and mobility practitioner and the teacher

The O&M profession plays a vital role in the inclusion of people affected by blindness and low vision into South African society as independent, confident individuals wherever they may find

themselves to be. This is particularly important within the education system, where the teacher and O&M practitioner should complement each other in enhancing learners' independence. As teachers spend more contact time with learners, teachers need to understand the scope of O&M practice, and in addition be able to facilitate any training that has been recommended by an O&M practitioner.

Any teacher who has gained knowledge of blindness and low vision, and is guided by an O&M practitioner should also be thinking outside the box and come up with some suggestions to assist learners in the classroom or school environment. As professionals, teachers may sometimes miss simple, common sense solutions such as, for example, merely adjusting learners' seating positions in order to address the effects of glare. In addition to coming up with suggestions and ideas, teachers may also train other learners in the class in human guide skills that have been acquired from the O&M practitioner. In addition, the teacher may pass newly acquired skills to other members of staff and even the family members of learners affected by blindness or low vision. Such skills may include skills related to a human guide, pre-cane skills, development of the senses, skills of daily living and visual training.

In addition to the O&M practitioner's role in the classroom being one of O&M skills training and facilitation, the practitioner should also provide the teacher with clarifications in terms of the visual needs and rights of visually impaired learners. As O&M assessment includes a functional vision assessment, the practitioner should guide the teacher to obtain a good understanding of the importance of such an assessment and how to adapt the classroom environment to provide for the needs of learners affected by blindness or low vision. An extended curriculum could, for example, include the development of the senses, basic O&M skills, visual training and skills of daily living to ensure the development of independence of learners affected by blindness or low vision. Figure 7.12 captures an O&M practitioner using an adapted human guide to begin teaching basic cane skills to a multiply challenged child affected by blindness.



Source: Photograph taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 7.12:** Developing orientation and mobility skills.

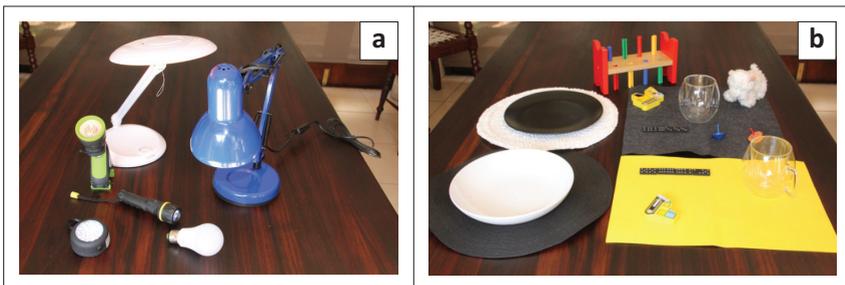
## ■ Implications for classroom practice

On a practical level, the following phrase can be used when teaching a learner with low vision: 'I Can See' (Metcalf 1994). This refers to the following:

- the 'I' indicates the use of 'Illumination' or correct lighting (refer to Figure 7.13a)
- the 'C' indicates the use of colour and contrast (Figure 7.13b)
- the 'S' indicates the use of changing the size, by moving closer to an object and/or using magnifiers (Figure 7.14).

Figure 7.13 and Figure 7.14 provide an overall view of some non-optical and optical devices available to assist learners in using their vision in the classroom. However, the teacher needs to understand how these devices work and how they can be used by the learner.

In addition, the use of 'traditional' technology (see Figure 7.15a and Figure 7.15b) for the learner affected by blindness and low vision is valuable even though society has been developing digitally with the invention of smart phones, tablets and ever more sophisticated laptops. The learner affected by blindness or low vision may benefit from such technological developments, for example from software that is continually developed and can



Source: (a & b) Photographs taken by Ann Heard, exact date and location unspecified, published with permission from Ann Heard.

**FIGURE 7.13:** (a) Illumination and (b) colour and contrast.



be of assistance to the learner. Some examples of existing useful software include voice recognition, optical character recognition and screen magnification.

Many learners affected by blindness and low vision will use a selection of non-optical, optical devices and technology (traditional and the latest technology available for society). The teacher needs to remain aware of the value of using these devices in the classroom. The provision of specialist equipment or other support for learners affected by blindness or low vision will assist the learners to learn on equal terms with their sighted peers. In the sections that follow, some practical guidelines are provided for organisation of the classroom and learning activities, in support of learners affected by blindness or low vision.

## ■ Lighting

Correct lighting is essential, which implies the provision of light throughout the room. If this is not possible, it is important to seat learners affected by low vision in a suitable position in the room, which can be determined in discussion with the learner. Attention should be paid to avoid any glare from desktops, shiny paper or white boards, and to position these learners away from direct sunlight. Green fluorescent lighting can also be used, not only assisting the learner affected by low vision but also other learners affected by ADHD.

Some learners affected by low vision may need their own desk lamp to provide an even and local light source; however, the positioning of the desk lamp should be determined in discussion with the learner. Closely related, the position of the learner in the classroom should be adjusted according to the effects of glare, illumination, shadows, overhead lighting, lighting at different times of the day and position of windows. The teacher can furthermore encourage the use of a clear black felt tip or black roller-ball-pens rather than blue ball-pens or pencils. Some learners may also need to wear dark glasses or even a peaked cap in the classroom.

## ■ Reading

Learners affected by low vision may need to work very close to the page. To this end, a sloping (tilted) desk top or reading stand may be helpful. Reading material should always be held at a distance that will enable the learner to see the print and could for example be 5 cm, 10 cm or more. The learner may furthermore need to move their head towards the script so that the better eye is used. They may also need to move the script from side to side.

Learners affected by low vision may furthermore be assisted through the practical use of colour and contrast. In addition, it is desirable for reading material to be clearly printed in black on white or yellow paper. Certain learners may require different coloured paper. All photocopies should be clear, and printing should be easily legible. Some learners may require print to be enlarged, which needs to be done in an appropriate size and be of a quality that does not deteriorate in the process of making copies.

In terms of optical devices, non-optical devices or technology, it is important to ensure that learners use these devices correctly. The learner should be encouraged to always scan text from left to right and then go back to the beginning and drop down to the next line. This includes text on the white board, chalk board, books, handouts, tablets, computers and closed-circuit televisions (CCTVs). A learner may, however, need to change the background contrast colour on technology or may need a specific font. The use of typoscopes can benefit learners affected by low vision by underlining the line they read.

## ■ Writing

As with reading, it is important to ensure that assistive devices for close work are used properly. As stated, the teacher should thus encourage the use of a clear black felt tip or black roller-ball-pens rather than blue ball-pens or pencils. Black lined paper of varying spacing may also be better than blue-lined paper.

In terms of colour use, some learners may not be able to see the teacher's marks and remarks if written in red or blue. In this regard, it may be easier for a learner affected by low vision that the teacher uses different colours according to the learner's functional vision.

## ■ Chalk board or white board work

Learners affected by low vision should always be encouraged to use any assistive devices (telescopes) provided in support of using remaining distance vision. Learners can for example be encouraged to develop scanning skills. For this purpose, it is however important that the teacher uses the board in a logical rather than random way. Furthermore, chalk and white board pens should be chosen so that the learner is able to see, for example, using a good contrasting colour of chalk or pen on the board.

In a class accommodating learners affected by low vision, the learners may need to sit at the front of the class and even walk up to the board to check information from time to time. In attending to this, a teacher can read aloud whilst writing on the board. Boards always need to be clean, in order to allow for good contrast between the background and the writing. Hard copies can also be provided to the learner when necessary. Photographs of work on the board can similarly be taken with a tablet or mobile phone to be studied later.

## ■ Seating

If a learner has better sight on one side compared to the other, the teacher needs to take account of this when seating the learner in the classroom. In this regard, the selected seating should ensure that vision is maximised. For example, a learner with better vision in the left eye will benefit by sitting on the right-hand side of the classroom when looking at the board.

## ■ Classroom environment and support

Safety is of primary concern when teaching learners affected by blindness or low vision. Important considerations include a focus on keeping rooms free of clutter particularly on the floor, making sure that lighting in corridors and stairs is adequate, marking stairs with a white or yellow line, marking glass doors to make them more visible, and avoiding sharp protrusions on furniture and fittings (cf. Dalke et al. 2004:12 of 102). It is furthermore important that classroom displays are accessible to these learners, which can be supported by positioning them at an appropriate height and in good light. The displays should not be cluttered.

It is furthermore possible to provide a learner affected by blindness and low vision with a support teacher or teaching assistant. Scribes can be appointed to assist in reading and writing as well as during tests and examinations. During tests and examinations, the learner may also be accommodated in a separate room in order to allow for verbal testing. In addition, any learner affected by blindness or low vision should be allowed additional time to complete tasks, tests and examinations.

## ■ Optimising assistive devices

Learners affected by blindness or low vision should be allowed to use smart phones or tablets in order to record their lessons for later study. Textbooks are currently also available in digital format, implying the possibility of the learner listening to the text in class by using headphones.

Various types of equipment exist which can be used to assist learners affected by blindness and low vision, as illustrated in the case study discussed further. More specifically, learners affected by blindness and low vision may benefit from non-optical assistive devices, optical devices and various other forms of technology. Despite the misconception that the price of a device will determine its effectivity, assistive devices can only be regarded

as useful once tested by a learner, who is in the position to determine the value and use of the device. It is however vital that a learner is properly trained to use specific equipment before relying on it and is encouraged to use the equipment whenever suitable. Even though a sighted person may be impressed by the results of an assistive device, people who are affected by blindness or low vision will not necessarily 'see' the image the same as the sighted person. The case study discussed further provides an example.

### □ Case Study 3: Polla

Polla is an 8-year old Grade 3 learner who has been attending a local primary school since Grade R. He was diagnosed with partial achromatopsia at the age of two which means that he sees a few colours but mostly black and white. With his remaining functional vision, Polla is able to see 2m in front of himself. He is however very insistent that he is not blind.

Prior to Polla's enrolment in Grade R, a workshop was presented to the teachers in the school (Grade R to Grade 7), focusing on low vision in the classroom. Discussions were also held on the topic with his teacher. Polla was initially encouraged to keep his coloured pencils in order, thus knowing the colours from the positions in the box. He was also allowed to go to the front of the classroom to the board.

Polla can read letters the height of a main headline in a newspaper. He uses black lines and a very dark pencil. He needs to wear a cap and dark glasses in the classroom in order to cut out the glare from lighting. He has many friends in the school and easily interacts with others. Polla plays soccer, rides a bicycle, swims, plays cricket and is about to start hockey. At home, he functions fairly independently. He was recently re-assessed and is currently learning to use a large print keyboard with his iPad. He will be introduced to the Windows version catering for people with low vision and has also been introduced to a small camera

device attached to a spectacle frame which enables him to 'read' audio input. Polla performs in the top 10 of his class of 36 learners and is very inquisitive. The necessary assistive devices are introduced as and when needed. In addition to the school-based support he receives, Polla has a supportive family that focuses on enabling him to achieve independence and be inclusively educated.

## ■ Conclusion

Assisting a learner affected by blindness or low vision according to individual needs is not an easy task. Understanding the visual spectrum, having knowledge of how to accommodate individuals in the classroom and using adaptations and assistive devices correctly, may however enhance the role of the teacher in the lives of these learners. When adopting a holistic approach to support, the O&M practitioner can be regarded as a valuable resource in the professional network that may support learners and teachers. Such support may in turn assist learners affected by blindness or low vision in becoming socially, emotionally, economically and independent individuals who are integrated into the mainstream of society.



# Higher-order emotion identification by children with visual impairment: Developing emotional competence

**Inneke Greyvenstein**

Centre for Augmentative and Alternative Communication,  
Faculty of Humanities, University of Pretoria,  
Pretoria, South Africa

**Keywords:** Higher-order; Emotion; Identification; Competence; Outcomes.

## ■ Introduction

Forming an integrated picture of the world, and their place within it, is a formidable task for the learner with visual impairment as

**How to cite:** Greyvenstein, I., 2020, 'Higher-order emotion identification by children with visual impairment: Developing emotional competence', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired (Opening Eyes Volume 1)*, pp. 227–255, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.08>

none of the other senses can adequately replace the lasting, comprehensive and distinguishing details offered by vision (Sandler & Hobson 2001). Learners with visual impairment are at risk for various developmental delays, including a delay in emotional development and, specifically, emotional competence (Bracher & Matta 2017).

In essence, emotional competence refers to the ability to identify, respond to and manage one's own emotions (Na et al. 2016), as well as utilising this capacity for the purpose of accurately identifying and understanding the emotions of others. Emotional competence is a necessary prerequisite for both immediate and long-term functional outcomes. This includes establishing and maintaining friendships, academic success, managing independent functioning and larger-scale integration of the learner into their community. The three overarching components of emotional competence are those of emotion identification, emotion response and emotion regulation. These components encompass a set of eight skills a learner needs to achieve across different stages of the emotional developmental pathway (Saarni 1999, 2011).

The emotional development of infants and young learners with visual impairment takes place differently in comparison with learners without any impairment. A central difficulty in achieving emotional competence by learners with visual impairment is inferring the emotional states of others. Learners with (especially severe) visual impairment are not able to read the facial expressions and visual non-verbal cues of their communicating partners (Chen 1999). This renders them vulnerable regarding numerous risk factors such as insecure bonding with significant others and peers, deficits in adaptive functioning, academic difficulties and emotional incompetence.

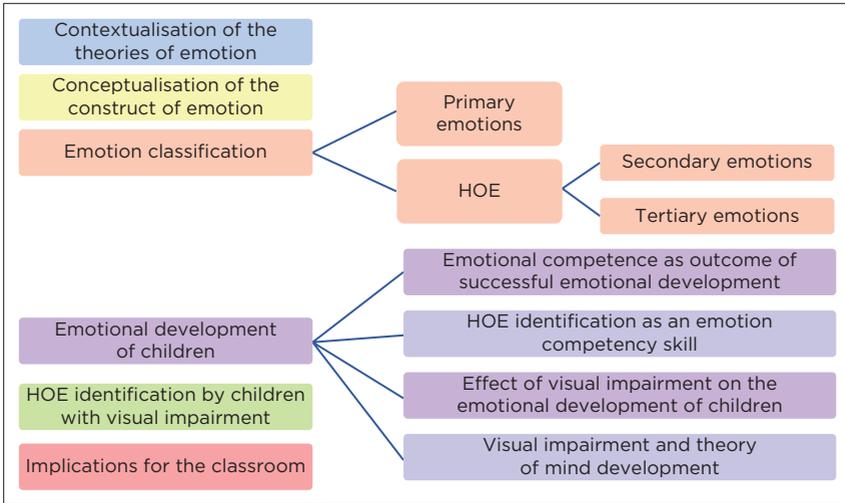
The ability to accurately identify the emotions of others is central in achieving emotional competence. Understanding the content of the emotional states of others requires more than the basic understanding of primary emotions such as happiness,

anger or sadness. This conventional oversimplification is not representative of a learner's actual emotional reality (Cowie, Douglas-Cowie & Cox 2005). Although learners with visual impairment may not necessarily exhibit deficits in primary emotion understanding, they do have delays in emotion identification (Dyck et al. 2004; Dyck, Ferguson & Shochet 2001) and, specifically, in higher-order emotion (HOE) identification (Greyvenstein 2018). It is through the understanding of HOE that the social world becomes coherent and intelligible to the learner. Higher-order emotions, such as nervousness, embarrassment, disappointment, amongst others, are the outcomes of the cognitive processing of the reactions to the primary emotional response. It contains both an emotional component and a cognitive appraisal component rather than the pure physiological and behavioural components of primary emotions.

## ■ Overview of the chapter

This chapter explores the inter-relatedness of visual impairment on the one hand, and HOE identification on the other hand – which is embedded in Theory of Mind (ToM) (Baron-Cohen 1995, 2005; Lacava et al. 2007). To this end, attention is paid to how these concepts relate to accomplishing emotional competence in early to middle childhood. The most prominent schools of thought pertaining to the construct of emotion are discussed, after which the main encompassing components of emotion are highlighted. Next, an overview is provided of what constitutes an emotional episode and how this differs from an emotion itself. The classification of emotions into categories is then explained, denoting which and how these are relevant to the discussion in this chapter.

To identify possible risks in the emotional development of learners with visual impairment, the emotional development of learners without barriers to learning is described with particular emphasis on the role of sight in attaining emotional competence. Saarni's (2000) model of emotional development and its related



HOE, higher-order emotions.

**FIGURE 8.1:** Overview of the chapter.

concepts is foregrounded, paying specific attention to the role that HOE identification plays in attaining emotional competence, the latter being the end goal of the emotional development of young learners. Next, the development of ToM of learners with visual impairment is conferred. The pillar constructs of the discussion are contextualised within the overarching theoretical perspective of social constructivism. Figure 8.1 shows a visual outline of the chapter.

## ■ Definition of key concepts

### ■ Emotion(s)

Burum and Goldfried (2007:407) provide a multidimensional definition of emotions as being ‘holistic constructs comprising of facets such as behavioural expression, physiological substrates, phenomenological experience, cognitive processes, and a social context’. In simple terms an emotion is understood as a strong affective sensation that stems from one’s circumstances, mood or relationships with others.

## ■ Emotional competence

The construct emotional competence refers to a set of behavioural, cognitive and regulatory skills, all with an underlying affect-laden component that emerges over time as a person develops within a social context (Saarni 1999, 2011). In essence, emotional competence refers to the ability to identify, respond to and manage one's own emotions (Na et al. 2016; Saarni 1999), as well as implementing this ability to accurately identify and understand the emotions of others. This personal competency is a necessary prerequisite for both immediate and long-term functional outcomes (Na et al. 2016).

## ■ Emotion identification

Emotion identification denotes the ability to accurately perceive, discern and interpret the emotional states of others during interpersonal interactions (Bänziger, Grandjean & Scherer 2009; Scherer 2009a, 2009b). It comprises one of the two major domains of emotional competence, with the other being emotion expression (Scherer & Ellgring 2007). In other words, emotional competence consists of the ability to effectively express one's own emotions whilst also being able to correctly understand the emotions expressed by others.

## ■ Primary emotion(s)

These emotions occur as a direct result of an external cue that affects individuals emotionally, in close proximity to the event that has brought them on. It entails an individual's most elementary, direct initial reaction to a specific situation. In essence, these emotions refer to the evolutionary physical sensations that people experience as immediate fundamental responses to stimuli (Greenberg & Pascual-Leone 2001). In other words, they are instinctive and intuitive rather than the result of a thought process. In this chapter the following emotions are considered as primary emotions: happiness; sadness; anger; fear; surprise and disgust (Golan, Sinai-Gavrilov & Baron-Cohen 2015).

## ■ Higher-order emotion(s)

Higher-order emotions entail the synchronisation of several chains of thought pertaining to the cognitive appraisals of situational stimuli. These emotional responses can be viewed as the outcome of a sequence of feelings and thoughts (i.e. cognitive processing) (Becker & Wachsmuth 2006; Greenberg 2006). They are social in nature, have important implications for interpersonal responses and refer to learned emotions, which require mentalising in both the self and others (Lacava et al. 2007). They can thus be understood as the emotions that follow as a result from thinking rather than the instinct used for primary emotions. Higher-order emotions refer to the combination of secondary and tertiary emotions (Greyvenstein 2018).

## ■ Mind-reading

This term is used in direct association with ToM, denoting the understanding of the emotional minds of others (Korkmaz 2011). In this chapter it implies a specific orientation to HOE identification in others.

## ■ Social constructionism

This refers to a process of shared meaning-making, that is making sense of reality through social interaction. People construct understandings of the world they live in together through the joint construction of understanding the thoughts and emotions of each other (Balbi 2008).

## ■ Theory of Mind

Theory of Mind describes the ability to put oneself in the place of another and to see things from the other person's psychological perspective (Baron-Cohen 1995, 2005; Lacava et al. 2007). The term 'perspective-taking' is often used in conjunction with it. Such an ability to comprehend the emotional and mental states of others underlies the effective practice of social skills and is

central in the process of emotional competence (Baron-Cohen 2002; Golan et al. 2015).

## ■ Understanding the construct of emotion

Against the background of an extensive field of available literature on the topic, some purposefully selected sources of literature guide the discussion in this section, which have a direct bearing on the constructs of importance in this chapter.

## ■ Contextualisation of the theories of emotion

When considering theories of emotion, Scherer (2009b) groups the three most prominent schools of thought as (1) basic emotion theories, (2) appraisal emotion theories, and (3) constructivist emotion theories. In addition to the three major theoretical approaches, several other psychological theories of emotion exist, which focus on a different characteristic or component of emotion, such as motivation or action. Although such additional approaches are noted, these will not be deliberated upon in this chapter. The focus rather falls on social constructionism, which is employed as an overarching approach from which the emotional development of the learner, more specifically that of the learner with early onset visual impairment, can be understood.

Social constructionism examines the development of cooperatively constructed understandings of the world they live in that form the basis for people's shared assumptions about that world (Leeds-Hurwitz 2009). People actively organise and give meaning to the things within this world to which they have to respond (Balbi 2008). They create these meanings together through the interpersonal understanding of the thoughts and emotions of one another. Emotional interaction and particularly the ability to accurately identify emotions in others are essential in this process of joint psychosocial construction.

Averill (2012) points out that the social construction of emotion is central to emotional development of individuals. What needs to be explained from a constructionist perspective is how these various mechanisms that come into play during the emotional development of learners with early onset visual impairment are integrated into what we call 'emotions' (Hibberd 2006). This is explained further.

## ■ **Conceptualisation of the construct of emotion**

Conceptualisations of 'emotion' and its related constructs vary widely amongst researchers (Kang & Shaver 2004), and caution is often expressed to avoid a singular over-simplified definition of 'emotion' (Rafaeli 2004). In this chapter, the concept is defined as one of the instruments with which we construct our personal and interpersonal realities within a social context (Parkinson 2012). Accordingly, emotion is to be understood and investigated based on the multidimensional perspective as presented by Burum and Goldfried (2007). They defined emotions as all-inclusive ideas comprising aspects such as behavioural expression, physical qualities, lived experience, cognitive processes and a social context. Thus, this definition describes emotion as an experience that is the result of the combination of these elements that all take place within the social context in which the person functions (Solomon 2002).

Authors such as Frijda (2007), Frijda and Scherer (2009) and Moors (2009) propose that 'emotion' possesses specific features which are relatively universal. You will notice that some of these features overlap with the broader concept of the emotional episode (discussed shortly), which the emotions form part of. Table 8.1 shows these features.

Frijda and Scherer (2009) also argue that it is these central features that distinguish emotions from other affective states such as feelings, moods or attitudes. Moors (2009) distinguishes

**TABLE 8.1:** The universal features of emotions.

<b>Universal feature</b>	<b>Description</b>	<b>Example</b>
When do I have an emotion?	When something happens to you that has a direct impact on your needs, goals, values and general well-being.	You are alone at home at night. You suddenly hear a strange noise. You want to be safe (general well-being), and this may have a direct impact on your goal of safety.
Why do we have emotions?	Because our own subjective evaluation of a specific experience determines that it has a direct impact on us.	If this noise means there is an intruder, you may be in danger (personal evaluation). When you realise it is an intruder – you become afraid (emotion).
What do emotions do?	They are a strong motivational force preparing the individual to handle important life events (such as a break-in at your house) by making you ready to take the appropriate action.	You realise that you need to protect yourself and get help. Thus, the fear motivates your own protection. For example, your heart starts beating faster to pump more blood to your limbs in case you have to run or fight.
How do emotions work?	They engage the entire person by coordinating several systems in the body and mind.	Your heart is already racing and you are ready to run. You start to think of a plan to escape and protect yourself. You run to the bedroom door to lock it and grab your phone to call the police.
What is the outcome of emotions?	They exercise control over the expression and the behaviour we choose based on our experiences.	You express your fear by screaming for help and taking some actions such as breaking a window and escaping to the neighbour's house for help.

Source: Adapted from Frijda and Scherer (2009).

emotions from ‘feelings’ by proposing that the latter lack a cognitive component; for example, feeling cold or pain requires no thinking as it focusses more on the physiological aspect of an affective experience. However, emotion does indeed contain a feeling component. Furthermore, ‘moods’ differ from emotions in both duration and intensity in that moods last longer at a lower intensity than emotions.

It is important to understand what is meant by an ‘emotional episode’ (Moors 2009) and how ‘emotions’ operate within this episode. Table 8.1 sheds some light on this. In essence, emotions arise when some event or significant change occurs in a person’s

environment that impacts upon their well-being (Calvo & Marrero 2009). The purpose of emotions is to serve as regulators of intra- and interpersonal behaviour (Denham 1998) when this happens. 'Intrapersonal' refers to the person's own internal process, in other words what happens *within or inside* the individual, whereas 'interpersonal' refers to what happens *between* people. The emotional episode is the process by which this regulation and behaviour take place.

The emotional episode is a broader concept compared to that of an emotion (Moors 2009). An emotion such as the example of 'fear' experienced because of an intruder mainly focused on an intrapersonal process, but the emotional episode includes more than that. It consists of a number of typical components that serve specific functions (Frijda 2007) and can include, but are not limited to:

1. **A cognitive component:** where the learner thinks about how or what to feel in response to the stimulus such as feeling embarrassed because she or he gave the wrong answer and classmates laughed at her or him.
2. **A feeling component:** which refers to the emotional experience itself (Table 8.1 shows how this happened with the example of fear).
3. **A motivational component:** preparing the learner to take action, such as hug someone to comfort them or run away when in danger.
4. **A physical component:** consisting of bodily responses such as trembling when afraid.
5. **A motor component:** helping the learner to express the emotion through behaviour such as crying when sad or the actual running away from danger when feeling threatened.

Looking at Table 8.1, describing the emotion and integrating it into an emotional episode can be summarised as follows. The emotion is the subjective affective experience or the 'feeling component' ('fear' in Table 8.1) that is the result of the entire

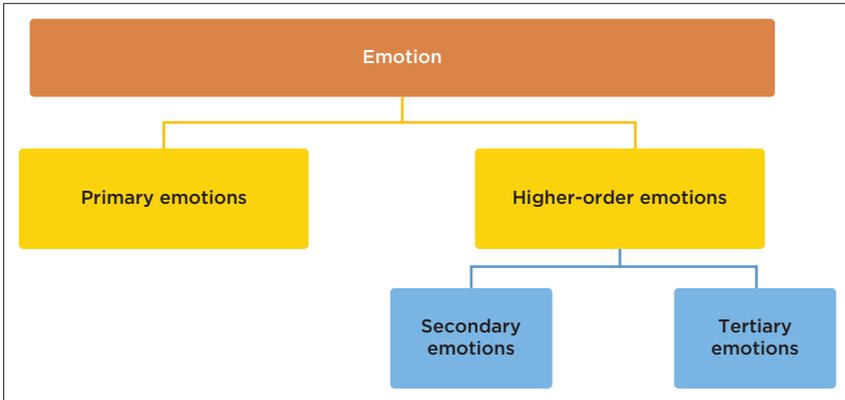
emotional episode, which refers to the *process* of how you came to be fearful and what you did about it.

## ■ Classification of emotions

‘Basic emotions’, sometimes named ‘primary emotions’ (Greenberg & Safran 1987), are perceived by most as a limited set of emotions constituting the building blocks of emotional life. These authentic primary emotions can be combined or expanded to form non-basic or learned emotions, frequently referred to as ‘complex emotions’ in older literature (Damasio 1999; Greenberg & Pascual-Leone 2001), or ‘HOEs’ in recent studies (Greyvenstein 2018). In this case, ‘higher-order’ emphasises the cognitive component taking the form of meta-emotion (Bateman & Fonagy 2010; Lacava et al. 2007). Meta-emotion thus elevates to the next level of emotion where we not only experience the basic feeling component itself, but also think about what we are feeling. We may then develop another emotion based on the thoughts about the first. For example, we may feel fearful (primary emotion) of the intruder mentioned in Table 8.1, and perhaps when we realise we are powerless to protect ourselves or that there is no escape, we may start to feel apprehensive (HOE) as we may not know what to do or how to handle the situation. Figure 8.2 shows the summary of the emotion categories (Greyvenstein 2018).

## ■ Primary emotions

Primary emotions are in-the-moment emotional responses to a pleasant or unpleasant stimulus or situation (Greenberg 2010). They happen as a direct result of an external cue that affects one emotionally; thus, they occur in close proximity to the event that brought them on, for example ‘anger’. It is the individual’s most elementary, direct initial reaction to a specific situation. These emotions are the physical sensations experienced as immediate responses to stimuli (Greenberg & Pascual-Leone 2001).



**FIGURE 8.2:** Classification of emotions.

Primary emotions are regarded as being universal, and furthermore, as inborn and pre-organised (Gray et al. 2005). Theorists vary with regard to the number and significance of primary emotions (Moors 2009) as different theorists apply different sets of criteria for inclusion and discrimination within the respective sets of emotions (Ekman 2007; Ekman, Levenson & Friesen 1983; Frijda 1986; Izard 1977; Lazarus 1991; Oatley & Johnson-Laird 1987; Panksepp 1982, 2000, 2004; Roseman 1991; Roseman & Smith 2001; Russell 2003; Scherer 1984, 1994). In their organisation of the work of various researchers, Ortony and Turner (1990) note that primary emotion categories vary from sets of 4 up to 11 primary emotions. More recently, between four to six primary emotion sets seem to have become the norm. In this chapter, the primary emotion set as presented by Golan et al. (2015) is used. This set consists of the following six primary emotions: happiness, sadness, anger, fear, surprise and disgust.

## ■ Higher-order emotions

Moving beyond primary emotions, HOEs are further refined into what Greenberg (2010) separates as primary or ‘authentic’ emotions on the one hand and secondary and tertiary, or ‘learned’, emotions on the other hand.

Secondary emotions are responses to how we think about (i.e. appraise or judge) the situation rather than directly physically reacting to the situation itself as is the case with primary emotions (Greenberg 2010). For example, 'rage' follows as the end product of thinking about the original immediate response of 'anger' as illustrated in Table 8.2. Secondary emotions can be viewed as the outcome of a sequence of feelings and thoughts (i.e. cognitive processing). They can be understood as social emotions (Damasio 1999), which enable us to deal with our role as social beings when managing interpersonal responses (Becker & Wachsmuth 2006; Greenberg 2006; Hess et al. 2000; Lemerise & Arsenio 2000). Gray et al. (2005) explain that the experience of secondary emotions occurs when the individual begins to establish connections between the primary emotions themselves.

Tertiary emotions include secondary emotions and, in most cases, offer an expansion thereof. They are complex combinations of secondary emotions and are the most difficult to identify. Although secondary emotions can be understood as a meaning-making process through thinking about emotions (i.e. combining the original primary emotions to socially make sense of the original primary emotion they were feeling), tertiary emotions combine these (several) chains of thought and so construct their emotional frame of reference and assist them in negotiating future experiences and social interactions. An example is 'loathing' (Parrott 2001), which stems from the primary emotion 'anger' and secondary emotion, 'rage', as shown in Table 8.2.

The 'learned' emotions from the secondary and tertiary categories require mentalising in both the self and in others (Lacava et al. 2007). Mentalisation is a social construct and refers to the process by which individuals make sense of themselves and others by being attentive to the mental states and emotions of those they interact with (Bateman & Fonagy 2010). This perception of emotion processing is strongly linked to ToM (Baron-Cohen 2005). Accordingly, the categories of secondary and tertiary emotions are collectively referred to as

**TABLE 8.2:** Categorisation of emotions.

Emotion category		Examples of emotions					
HOE	Primary	Love	Joy	Surprise	Anger	Sadness	Fear
	Secondary	Affection	Enthrallment	Exasperation	Rage	Disappointment	Nervousness
	Tertiary	Adoration	Rapture	Frustration	Loathing	Melancholy	Apprehension

Source: Adapted from Parrot (2001).  
HOE, higher-order emotion.

HOEs (Greyvenstein 2018; Lacava et al. 2007) in this chapter. Parrott’s (2001) model of the categorisation of emotions depicts these three categories on his tree structure of emotions as demonstrated in Table 8.2.

There is thus a frequent overlap between the two categories of secondary and tertiary emotion (Parrott 2001), which makes a definite distinction not only extremely complicated but to some extent also redundant when discussing emotional development. For the purpose of the discussion of this chapter, the collective grouping of secondary and tertiary emotions as HOEs not only relates to ToM, but also ties in strongly with the overarching approach of social constructionism. Next, the development of emotion in learners is discussed and the role of ToM in the developmental process is explained.

## ■ Development of emotions in learners

In the section that follows, specific attention will be paid to the role of HOE identification in the accomplishment of emotional competence as part of the emotional development of young learners. It will explain the inter-relatedness of visual impairment and HOE identification – which is embedded in ToM – and how these concepts relate to emotional competence. To this end, ToM will be discussed as the vehicle by which emotional competence is obtained as the end point in the process of emotional development, and HOE identification can be seen as the main

navigational system by which this vehicle is steered. In the discussion below, the end point of this process is first described, followed by a clarification of how to reach this objective.

## ■ Emotional competence as an outcome of successful emotional development

The concept 'emotional competence' (Saarni 1999, 2011) has been described as a set of behavioural, intellectual and adjustment skills, all with an underlying emotion component that emerges over time as an individual develops within a social context. This personal competency is required for successful interaction with others, which, in turn, are guided by their own emotional states. Suveg et al. (2007) emphasise the importance of emotional competent functioning in learners' psychological as well as social adaptation. Thus, the concept of emotional competence – with its related skill set – especially that of emotion identification forms a fundamental part of the emotional development of a learner.

A set of eight skills point to emotional competence (Beck et al. 2011; Saarni 2011), namely:

1. Awareness of one's own emotional state through the ability to perceive and express one's own emotions (that is, internal emotion identification).
2. Being perceptive of the emotions of others (external emotion identification in others).
3. Employing emotion-related vocabulary and expression in terms of language concepts familiar and/or acceptable to the receiver of the communication.
4. The capacity to empathise with others' emotional experiences.
5. Acknowledging that an inner emotional state may not necessarily correspond with the outer expression thereof.
6. A capacity for adaptive coping with antagonistic or distressing emotions.
7. Awareness of the role of emotions in the structure and nature of interpersonal relationships.

8. The capacity for emotional self-efficacy whereby one is accepting one's own emotions as conforming to what one views as being the norm in the functional context.

In the classroom, these skills can be recognised when learners can display social skills that demonstrate that they can successfully recognise, interpret and react to emotions within themselves and their classmates (Saarni 2000). They will be able to self-regulate their experience and expression of emotion more effectively by exercising better self-control over, for example, aggression, crying spells and hurtful behaviour towards others. The emotionally competent learner will be able to better verbalise what they are feeling to have their needs met without any emotional outbursts taking place (Garner 2010; Hagenauer, Hascher & Volet 2015). They will be able to keep their disruptive impulses and behaviour in check, creating an optimal environment for learning for themselves and others. Learners who are emotionally competent also tend to perform better academically (Garner 2010). Healthier and more stable friendships will be established and maintained for longer periods of time. Teamwork will be facilitated with more ease by the teacher because learners will be able to cooperate better within groups (Denham et al. 2009). Learners will be more reliable and take more personal responsibility for their performance, choices and actions in the classroom and on the playground. They will have better adaptability as they will have more flexibility in handling change. One of the most prominent abilities of the emotionally competent learner is the capacity for possessing and practising empathy. Empathy is one of the fundamental outcomes of having reached emotional competence as it makes many of the other above-mentioned skills and their applications possible. Empathy is like an emotional compass. Being able to identify the HOEs of others assists the learner in developing empathy, which, in turn, forms part of ToM, and ultimately helps them achieve emotional competence. Higher-order emotion identification, as a means of achieving emotional competence, will now be explored in more detail.

## ■ Higher-order emotion identification as an emotional competency skill

As indicated earlier, apart from emotion regulation, the other two major skill areas that make for emotional competence are that of emotion production and emotion understanding (Scherer & Ellgring 2007). Competence in emotion production allows the individual to successfully respond to an event by adapting and implementing their physical and behavioural changes, and self-regulation often assists in this process. In turn, competence in emotion understanding refers to the ability to accurately interpret the emotional states of others during interpersonal interactions. Emotion identification is acknowledged as forming part of this second skill area, that is emotion understanding (Adolphs 2002; Bänziger et al. 2009). Pao et al. (2006) confirm the ability to accurately identify the emotional states of others as the most important emotional competency for achieving successful interpersonal interaction, and accordingly this is where the focus of this chapter rests. This is discussed below.

The ability to discriminate emotions begins during the first year of life (Mash & Wolfe 2002). As early as 10 weeks of age, infants start to respond differently to facial and vocal expression of their caregiver's emotional states. From the age of seven months, infants are capable of picking up differences between facial and vocal expression of emotional states (Caron, Caron & MacLean 1988). It is during the second and third years of life that a learner starts employing vocabulary expressing mental states during speech (Golan et al. 2015; Izard & Harris 1995). This emotion vocabulary expands throughout childhood. The speed and accuracy of emotion identification (De Sonnevile et al. 2002) as well as the ability to increasingly detect more subtle mental states (Vicari et al. 2000) improve during the entire developmental course of childhood. Emotion processing, including emotion identification, and mental state recognition skills become progressively more advanced during adolescence and into adulthood (Golan et al. 2015).

Rieffe, Terwogt and Gowan (2005) indicated that learners start to display a sophisticated understanding of emotions from the age of five to six years as they begin to understand that HOEs are based on people's beliefs, that is their cognitive interpretation thereof, rather than an objective reality (Korkmaz 2011). Accordingly, based on this development of a more sophisticated understanding of emotion, authors such as Bensalah (2011) and Garfield, Peterson and Perry (2001) have indicated that ToM develops from around the same age (i.e. five years). More discussion on ToM will follow later in the chapter.

Learners without barriers to learning should be able to recognise emotion words by age seven (Baron-Cohen et al. 2010). According to the sequential development of ToM, it is during the early childhood, middle childhood and pre-adolescent stages of the developmental process, as explained by Saarni (2000), that HOE understanding and identification begin to take place (Astington & Dack 2008). More specifically, it is during the middle childhood stage (Saarni 2000) that the learner begins to understand belief-based emotions. During the pre-adolescent stage the understanding of higher-order mental states arises through the interpretive abilities of more complex emotional states (e.g. HOE identification of emotions such as embarrassment; nervousness; disappointment and amusement, amongst others).

## ■ **The effect of visual impairment on the emotional development of a learner**

Visual impairment has far-reaching implications for the developmental pathways of a learner and can more specifically have adverse effects on psychomotor, social and emotional development (Gilbert & Awan 2003). Vision is regarded as being superior to most other modes of observation and as the one on which we rely most heavily in effectively perceiving what another person is attending to or acting upon (De Gelder, Pourtois & Weiskrantz 2002; Kujala et al. 2009; Sandler & Hobson 2001). As such, vision plays an important role in social and affective

communication (Iversen et al. 2015). It follows that an impairment in vision will impede the learner's ability to engage in social referencing and constrain the ability to adopt multiple perspectives in creative and flexible symbolic play during later development. It can furthermore hamper a learner's ability to acquire language skills, which depends on a learner and adult establishing joint attention for the teaching and learning of words. Because emotional development is closely associated with, and influenced by, many other aspects of development as well as social experiences, the absence or impairment of sight is highly likely to have an effect on emotional development. In this regard, Roch-Leveq (2006) views sight as a necessary precondition for successful emotional interaction and ultimately emotional competence.

When exploring the emotional competence of learners with visual impairment, a great deal of focus has been placed on the elements of attachment (Campbell & Johnston 2009; Demir et al. 2014) and expression (Cole, Jenkins & Shott 1989; Galati, Miceli & Sini 2001; Galati et al. 2003) rather than on the identification of emotions. Regarding attachment, it has been found that in parent-child relationships of learners who have visual impairment, the learner will need explicit cues about the emotions of others, in particular their parents, for effective attachment to occur (Campbell & Johnston 2009). Although young learners with visual impairment may face a high risk of forming insecure attachments, adaptive mechanisms facilitated by teachers and family members may serve as compensatory factors and support more typical attachment formation. In adolescence, learners who have visual impairment typically show no differences in attachment formation when compared with learners with full sight (Demir et al. 2014).

In terms of emotion expression, Cole et al. (1989) indicate that visual impairment will not necessarily inhibit the spontaneous expressive control of negative emotions when comparing learners who have visual impairment with their sighted peers. Galati et al. (2003) also found that the facial expression of emotions by

learners with visual impairment is similar to that of their sighted peers in the age group 8–11 years. Certain facial movements are found to be more frequently used by learners with congenital blindness and visual impairment than by their sighted peers. Where expression of emotion is concerned, social influences only appear to have an impact on the expressions of the sighted learners, who often mask their negative emotions. This is, however, not the case with learners with visual impairment.

When discussing emotion identification, Minter, Hobson and Pring (1991) indicate that learners who have a visual impairment tend to pay more attention to the emotion or ‘feeling’ element of a conversation than their sighted peers. However, although they are more focused on the affective component of conversations, learners with visual impairment are less able to correctly identify verbal expression of emotions when compared with their sighted peers. Dyck et al. (2001) confirm that learners with visual impairment can understand emotion concepts in general terms and their emotion vocabulary may generally even exceed that of other peer groups, but they experience a significant emotion identification deficit. The accurate identification of HOE allows for interpretation of the emotional and mental states of others (Golan et al. 2015; Lacava et al. 2007), which requires additional knowledge that cannot be obtained only from the interpretation of the sensory characteristics of the stimulus. It also requires an understanding of the life-world of the individual (Adolphs 2002; Bänziger et al. 2009). Higher-order emotion identification facilitates this ability to comprehend the emotional and mental states of others in their lived experience by putting oneself in the place of another and to take the other person’s psychological perspective. This is also simply known as ‘perspective-taking’ through the use of empathy, which in essence are the basic mechanisms by which ToM operates (Baron-Cohen 1995, 2005; Lacava et al. 2007; McGuire & Michalko 2011). Empathy has previously been highlighted as one of the fundamental requirements for

possessing adequate ToM. Thus, although ToM may be the vehicle moving the developing learner towards emotional competence, HOE identification is the navigation system steering the process by making use of the right instruments at the right time, such as psychological perspective-taking through empathy as well as the other emotion competency skills.

The term ‘mind-reading’ is closely related to perspective-taking and is often understood to reach the same objective, namely an understanding of the other person’s point of view (perspective-taking) by putting yourself in their shoes by thinking about their thoughts and emotions (mind-reading). As previously indicated, apart from learners with visual impairment having a general delay in ToM acquisition (Dyck et al. 2001; McAlpine & Moore 1995; Minter, Hobson & Bishop 1998; Peterson, Peterson & Webb 2000), very little is known about the ToM ‘mind-reading’ ability of learners with visual impairment or how this may impact their emotion identification ability. Theory of Mind ‘mind-reading’ refers to the ability to ‘conceptualise other people’s inner worlds and to reflect on their thoughts and feelings’ (Gilberg 1992:835). In other words, it assists a learner’s ability to understand the emotional states of others and accurately identify these emotions. From this explanation it becomes evident that ToM and HOE identifications are inseparably joined and mutually dependant, the one is made possible by the other. The relationship between visual impairment, ToM and, by implication, HOE identification, will be explored in greater depth in the next section.

## ■ **Visual impairment and Theory of Mind development**

Comprehending the minds of others is possible through interaction, as emotions are primarily interpersonal rather than purely intrapersonal (Parkinson, Fischer & Manstead 2005) because they are actually part of that same shared emotion

episode in a shared reality or context. This is particularly applicable to the HOEs such as social emotions (e.g. pride and arrogance) as well as moral emotions (e.g. contempt) (Morris, Doe & Godsell 2008). Higher-order emotions can accordingly be seen as being present in shared experiences of a joint psychological reality, which we understand as the mechanism of ToM.

In the case of a learner without any barrier(s) to learning, the process of developing a ToM is mainly facilitated through sight. As such, a visual impairment will prevent the development of important ToM fundamentals, such as shared experiences based on joint visual attention and visual observations of subjective emotion states (Bedny, Pascual-Leone & Saxe 2009; Begeer et al. 2014; Minter et al. 1998). This is based on the fact that ToM development is based on non-verbal communication that starts at birth (Korkmaz 2011). In the same manner, the perception of faces and facial expressions of emotions, specifically when identifying HOEs, is necessary for ToM development.

Although learners, as a result of severe visual impairment, do not achieve success on ToM tasks before the age of 11, sighted learners can solve simple false belief tasks (the most common ToM test) by the age of 4 or 5 (Wellman & Liu 2004) and pass higher-order tasks by ages 6–7 (Baron-Cohen 2003). Learners who have a visual impairment will display poor results and delays in terms of ToM achievement, yet the extent of the delay will be determined by the materials used during testing, for example the inclusion of tactile and auditory material (Brambring & Asbrock 2010; Glumbić, Jablan & Hanak 2011; McAlpine & Moore 1995). By the age of 11–12, learners with visual impairment generally display no significant difference in ToM tasks when compared with their sighted peers (Glumbić et al. 2011). They are thus perceived to ‘catch up’ as time progresses, with a limited or no effect in adulthood (Koster-Hale, Bedny & Saxe 2014).

As HOE identification in others is regarded as an ability that requires perspective-taking (i.e. ToM), a delay in the development of ToM would likely be associated with a delay in HOE identification

in others. One may even expect that the ability of learners with visual impairment to identify HOEs will follow the same developmental patterns of delay and ‘catching up’ as in the case of their development of ToM. In an attempt to better understand this, Greyvenstein (2018) undertook a study investigating the levels of accuracy with which learners with visual impairment and learners without any barriers to learning could identify HOEs in others. Higher-order emotion identification is associated with the learner possessing ToM skills, which implies a self-awareness of one’s own emotions (Morris et al. 2008), as well as the ability to understand the emotions and thoughts of others (Astington & Dack 2008). This ability develops with chronological age, suggesting the development of emotional competence possibly following a similar track (Saarni 2001, 2011). Such a possible developmental pathway was investigated by Greyvenstein (2018) and will be discussed in the next section.

## ■ Identification of higher-order emotions in others by learners with visual impairment

Apart from sensory input, as pointed out by Adolphs (2002), emotion identification requires the ability to perceive emotion based on information about the environment in which interpersonal interaction takes place. In this regard, Von Salisch (2001) states that social boundaries of emotional understanding are shaped by face-to-face interactions between learners and the people they communicate with. Such interactions rely greatly on non-verbal cues, which can often only be observed through sight. Such an absence of contextual cues may therefore contribute to the difficulty of identifying HOEs that are generally experienced by learners with visual impairment.

Based on the study conducted by Greyvenstein (2018), it was concluded that learners who are blind and/or have a severe visual impairment identify HOEs with significantly less accuracy than

their peers. This is because of the fact that the mode of sight is irreplaceable and superior in the sense that the input obtained via sight surpasses that of the other senses (De Gelder et al. 2002; Kujala et al. 2009; Sandler & Hobson 2001). Furthermore, visual impairment has a negative effect on the development of ToM, with learners who are blind being the most severely affected. ToM and HOE identification in turn have a negative effect on emotional competence.

Greyvenstein (2018) has also found that older learners, 10–11 years of age, who are blind and/or have a severe visual impairment, are able to identify HOEs with significantly higher levels of accuracy than younger learners of eight to nine years of age, as is also the case with sighted learners. A possible reason for this finding relates to the fact that the ability to detect the intensity of emotion expression increases with age (Gao & Maurer 2009; Stifter & Fox 1990). Older learners who have a severe visual impairment may therefore be able to pick up subtle variations in emotion expression with greater accuracy because of increased sensitivity to, for example, differences in speech rate, pitch, energy and intonation (Hirschberg, Liscombe & Venditti 2003). Furthermore, it is possible that learners who have a severe visual impairment gradually learn to compensate for the absence of facial and gestural modelling of emotion through personal constructions of emotion meaning-making (Greenberg 2010). Their emotion vocabulary (Na et al. 2016) is thereby broadened, and the meanings attached to emotion and the connections between these meanings are expanded (Barrett 2011). These skills may assist the learner in making sense of emotional experiences (Greenberg 2010) through a uniquely developed skill set.

In terms of differences between age groups, the speed and accuracy of emotion identification (De Sonnevile et al. 2002) as well as the ability to increasingly detect subtler mental states (i.e. HOEs) generally improve as a result of the development that takes place during childhood (Vicari et al. 2000). As a result, emotion processing, including emotion identification and mental state recognition skills, will thus become more advanced as a

learner develops. This will happen regardless of whether the learner is sighted or has a visual impairment. For learners who have a severe visual impairment, only a 19-month delay can be expected by the age of 11, when compared with their typically developing sighted peers (Vicari et al. 2000). Closely related, by the age of 11-12 years, no significant differences related to ToM should exist between learners who have a visual impairment and those with no barrier to learning (Glumbić et al. 2011). This is because of HOE identification being a central component of ToM, as indicated earlier in the chapter.

## ■ Implications for the classroom

As highlighted previously, visual impairment can expose young learners to a range of developmental risks, including vulnerability in terms of emotional development, which form an important part of psychosocial functioning (Suveg et al. 2007). As such, learners who have visual impairment may experience socio-emotional difficulties (Greyvenstein 2018) more often. To assist learners with visual impairment timely, it may be helpful to determine delays in their HOE identification skills at an early developmental stage. The aim is to proactively avoid or minimise possible emotion-related complications as the learner matures.

In support of the early identification of vulnerability and backlogs, teachers can focus on the development of the ability to identify HOEs as part of emotion-related interventions for learners with visual impairment. Such programmes can, for example, start with a focus on the recognition of intrapersonal HOEs and then gradually progress to the recognition of HOEs in others. Such screening and intervention initiatives can be performed within the school context, involving various professionals from the support team.

In the everyday classroom, the teacher of a learner who has a visual impairment can employ strategies such as action-based participation exercises to assist with the development of the above skills. Firstly, ensure that each learner's emotional needs

are met. It is very difficult for a learner to pay attention to the emotions of others while their own remain unmet. The goal is to teach the learners to express their emotions in an acceptable manner without an outburst, tantrum or bullying. Also, when learners understand how they feel and are able to name those feelings, they may develop a quicker and easier understanding of the emotions of others as well as exhibiting more appropriate responses. Examples of action-based participatory exercises will now be provided.

One example may be to have an emotion list wall chart in the classroom with removable stacks of laminated emotion cards underneath it. At first, each week the teacher chooses an emotion from the emotion wall chart that can be taught through asking learners to take turns to try and demonstrate or express this emotion. An interactive discussion can facilitate the learning of the emotion word and its meaning. Once emotion vocabulary and understanding expands, a daily morning routine may be established where each learner chooses a word from any of the emotion word stacks that best describes their current emotional state as they enter the classroom. It assists the learner to not only ground themselves but also to tune into their own internal emotional world. Throughout the day when a learner acts up or inappropriately gives expression to, for example, anger or frustration, redirect them back to the emotion chart and ask them to choose a word describing how they are feeling at that moment. Then ask if, and how, they may respond differently to that emotion than what they just did. It also ensures their emotion needs are truly heard and met, which optimises the environment for learning and understanding the emotions of others. A further advancement can be that at the end of each day one learner may volunteer to bring their own personalised stacks of emotion cards for discussion. The ensuing open-ended interactive discussion can teach 'emotion observation and interpretation' as well as the realisation that emotions are dynamic and ever changing.

Teaching learners to look at a situation and understand how it might be experienced from another person's point of view teaches them perspective-taking, an important ToM skill. A group discussion exercise through the use of short fictional story scenarios can be arranged where learners can be asked, how it might feel for a mother with four children to push a shopping trolley in a busy shop and buy groceries? Or for an elderly person to walk home alone from the shop carrying the heavy groceries? They may attempt to explain how might it feel for another learner to give the wrong answer in front of everybody in the class? Learners who are skilled at understanding others' perspectives are more likely to successfully develop and express empathy, one of the major components of ToM facilitating HOE understanding.

Role-play exercises may personalise the learning experience of the emotions of others in the classroom. At first this may take place between a learner and teacher as demonstration with the teacher providing sufficient emotional holding for the participating learner, and later between pairs of learners. This can happen in separate pairs building up to taking turns in front of the class as the learners gain confidence and familiarity with this exercise. It may be helpful to bring into the learner's awareness what others are feeling, and how to observe, notice and identify emotions. Again, a hypothetical scenario can be given, suggestions of examples may be requested from the learners themselves and then during the role-play the teacher may interject at the moments where emotions are demonstrated. The teacher may then ask the class to firstly identify those emotions by guiding them to notice non-verbal cues, such as body movements or posturing, changes in rate, volume and tone of voice, or any other behaviour the learner(s) may have exhibited. The teacher can then further explore, either during or after the role-play, how one learner may have felt when the other learner did or said something specific depending on how the other learner responded to the emotion they tried to express. This exercise will teach *how* to notice and recognise the emotions as well as the actual identification or

naming thereof. It will also demonstrate the interpersonal impact of the emotions in both directions (expressing and ‘receiving’ or interpreting), as well as instilling appropriate responses for the best possible outcome(s). The teachers may make use of modelling reflective listening skills themselves, for example ‘am I right in thinking you are feeling very embarrassed right now?’ and appropriate responses, for example ‘is it okay for me to give you a hug?’ or ‘do you want to tell me more about it?’

A morning circle, and perhaps one at the end of the day as well serving as a reflective exercise, is another example. Learners can take turns to express feelings, and learn to use language to verbalise those feelings, such as asking for suggestions from the group of what the ‘emotion word’ may be for the emotional episode a learner described, that is how to ‘extract’ the emotion. Furthermore, in the mornings, reflections of their personal experiences from the previous day and/or expectations, anxieties and anticipations for the coming day may be discussed. At the end of the day it will provide an opportunity where learners can reflect and verbalise on the emotional experiences of others during that day to encourage awareness of others’ emotional experiences and how their own and others’ actions and behaviours may have impacted on each other.

In addition to the school context, community-based initiatives and programmes may involve family members in similar intervention programmes as those for the learners with visual impairment. Activities in these cases can be home-based, conducted in a clinical setting or facilitated at the school in a group-work context. This will assist the families of learners who have a visual impairment in understanding their child’s unique emotional development and possible difficulties experienced, thereby strengthening familial relationships and empowering families to address some of the struggles they may face. Some of the exercises explained above can be promoted as a joint parent-child activity at home, which may be possible through skills transfer by the teacher to the parent(s) or caregiver(s).

Furthermore, family members may be informed of the content of clinical emotion training programmes implemented at school by multidisciplinary teams to reinforce this in the home-setting. Parents can then continue implementation of techniques such as progressive muscle relaxation and breathing or counting exercises to ground themselves and gain control of overwhelming emotions.

## ■ Conclusion

This chapter focused on the inter-relatedness of visual impairment and HOE identification, which is embedded in ToM, and how these concepts relate to emotional competence, which is typically reached during early to middle childhood. In addition to discussing the underlying theory in this field, an overview was provided on the conceptualisation and classification of emotions, and the expected emotional development of both sighted learners and those who have a visual impairment. Specific attention was paid to the role of HOE identification in the accomplishment of emotional competence as part of the emotional development of young learners. The development of ToM formed part of the discussion. The chapter was concluded with some guidelines for application in the general classroom, in support of the emotional development of learners who are visually impaired.

## ■ Acknowledgement

Sections of this chapter represent more than 50% reworking of the PhD thesis: Greyvenstein, I., 2017, 'Higher-order emotion identification: Comparing children with blindness to typically developing peers', under the supervision of Dr K.T. Tönsing and Prof. Dr J. Bornman, Centre of Augmentative and Alternative Communication, Faculty of Humanities, University of Pretoria.



**SECTION 3**

**Providing support  
beyond the school  
and classroom**



# Promoting a collaborative partnership approach to support families of learners with visual impairment

**Karien Botha**

Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa

**Keywords:** Collaboration; Communities; Families; Partnerships; Schools.

*Go to the people*

*Live among them*

*Learn from them*

**How to cite:** Botha, K., 2020, 'Promoting a collaborative partnership approach to support families of learners with visual impairment', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 259–288, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.09>

*Plan with them*

*Work with them*

*Start with what they know*

*Build on what they have*

*Teach by showing*

*Learn by doing...*

(Credo for the Rural Reconstruction Movement by James Yen, 1920)

## ■ Introduction

Learners with visual impairment learn and function best when the significant adults collaborate to support them in their lives, such as their parents, teachers, family and community members. One may wonder what the central aspects of such collaborative partnerships involve, or why these collaborative partnerships are important to learners with visual impairment in order for them to achieve success. In this chapter, the aim is to provide some insight in terms of these questions, taking successful support to imply mutual collaboration between the teachers and families of learners with visual impairment. At its core, when teachers and schools actively form collaborative partnerships with parents, families and other community members, they are more likely to support the development, health-related needs and well-being of learners with visual impairment (also refer to ch. 10 by Diale).

In this regard, Margaret Mead (as cited in Keys 1982:79) indicates the following: 'Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has'. Although the value of collaborative partnerships to strengthen and support learners, families, teachers, schools and communities is well documented and not a new idea (DSD 2011), teachers sometimes find it hard to facilitate and put such collaborative efforts into action (Epstein 2002). The focus of this chapter is specifically

on the role of teachers - practical steps to promote collaboration between schools and families of learners with visual impairment.

## ■ Overview of the chapter

The purpose of this chapter is to guide teachers in understanding and promoting the value and functioning of a collaborative partnership approach to support families of learners with visual impairment. The significance of collaborative partnerships between teachers, families and community organisations and the different approaches to facilitate these partnerships are foregrounded. Throughout, emphasis is placed on the way in which different stakeholders can become key partners in the development of supportive strategies for learners with visual impairment, in support of their holistic functioning and performance.

## ■ Definition of key concepts

### ■ Collaboration

Collaboration is the agreement and process of working together to achieve a mutual goal that may be difficult to accomplish when functioning as individuals (UCLA Center for Mental Health in Schools 2008). In this way, multiple solutions can be accessed, for example by families of learners with visual impairment, who may experience improved access to essential services, opportunities for development and support for addressing identified barriers.

### ■ Communities

Communities are groups of people within a specific geographical area, which may consist of a variety of 'cultural, economic, educational, religious and social groups' with shared norms, values, identities and needs (DSD 2011:72). Within the context of

this chapter, communities are seen as capable of offering services, support and care to individuals, families and schools in the specific community, provided they are strengthened and empowered by mobilising the capacities of the local people and building strong connections or relationships (also refer to ch. 10 by Diale).

## ■ Families

Families are a group of interacting people who are unified by either marriage, blood, adoption or living together, and can be characterised by a common household or not. The South African DSD (2011) identifies the following different types of families (also refer to ch. 10 by Diale):

[7]three-generation, nuclear, skip-generation, elderly only, single unmarried parent with at least one child, single married parent (absent spouse) with at least one child, single adult, child-headed, married couple, married couple with adopted children, one adult with adopted children, siblings only and other such as the extended family. (pp. 28-29)

## ■ Partnerships

Partnerships are intentional and 'collaborative relationships between various parties in which all partners agree to work together to achieve a common purpose or undertake a specific task' (UNICEF 2014:17). In forming collaborative partnerships, it is important to stipulate the roles and responsibilities of each partner, and to ensure that each member is committed to participate and facilitate positive change.

## ■ School-family-community partnerships

School-family-community partnerships are collaborative efforts with the intent to sustain such partnerships over time, weaving together some critical resources and creating caring communities

that have the mutual goal of supporting learners with visual impairment as well as their families. The concept school-family-community partnerships can be used interchangeably with the concept stakeholders because school-family-community partnerships include a wide variety of stakeholders (Glossary of Education Reform 2014).

## ■ Schools

‘An educational institution which enrolls learners in one or more grades from Grade R to Grade 12’ can be public or independent in nature, within the South African context (*South African Schools Act* No. 84 of 1996:2). Effective schools are regarded as schools that are designed to provide a safe and caring learning environment for learners (DoE & UNICEF 2008). Within the context of this chapter, schools are taken as being responsible to facilitate family-school-community partnerships and an enabling environment in support of families of learners with visual impairment.

## ■ Stakeholders

Stakeholders can be any person, group or organisation ‘with a stake or interested in’ (Nthonho 2017:4) the well-being of schools and their learners, for example school administrators, school governing body members, teachers, learners, parents, caregivers, families, community members, government departments and representatives, local community and business leaders, local businesses, organisations, community groups, faith-based organisations, NGOs, universities, as well as health and other educational professionals (Glossary of Education Reform 2014). The concept ‘stakeholders’ is associated with the concept ‘partners’, which implies equivalent involvement in decision-making (Fisher et al. 2006).

## ■ **Fostering successful school-family-community partnerships with families of learners with visual impairment**

Collier, Keefe and Hirrel (2015) draw attention to the significant role teachers can play in reaching out to parents and encouraging families to become more involved in a learner's education. In this regard, teachers who motivate families to be more involved in their children's education are in a better position to provide the necessary support to families to engage more constructively with their children. Against the background of the education system in many countries (such as South Africa) still lagging behind in delivering equal support and services to all learners, more specifically learners with visual impairment, collaborative school-family-community partnerships hold a lot of potential. By investing in such partnerships, essential services and support can be more accessible and distributed in communities by communities to families of learners with visual impairment. This means that schools, families and communities will not passively await service delivery and support by external agencies such as the government. Schools, teachers and families can initiate sustainable services and support themselves in a way that could enable learners with visual impairment to flourish at school and positively contribute to society.

For a teacher to fulfil this role and build successful collaborative school-family-community partnerships, in support of families of learners with visual impairment, the teacher needs to be enthusiastic about working as a team, believe all systems have assets and resources that may be utilised, be able to act as a facilitator and willing to participate and work collaboratively. Such a paradigm shift may challenge the teacher to enter the unfamiliar ground of searching for solutions to problems within the self and the community, rather than waiting for an external entity or 'expert' for solutions. Such an approach has gained ground worldwide over recent years, with individuals in different kinds of communities learning

how to collaborate with each other in addressing the challenges they face (Holt et al. 2013).

Despite families from diverse cultural, ethnic and socioeconomic backgrounds typically being concerned and interested in supporting their children optimally, Raver and Childress (2015) emphasise that families will generally rely on some guidance by teachers before interacting with the school.

## ■ Principles for building a collaborative school–family–community partnership in practice

In Table 9.1 some principles are described that teachers may rely on to facilitate and build collaborative school–family–community partnerships. These principles are important constructs that can assist the different stakeholders in a community to work together based on a strong collaborative school–family–community partnership.

## ■ Practical implementation of the key principles in building collaborative school–family–community partnerships

Three key principles are core to building sustainable school–family–community partnerships, namely collaboration, partnership and planning. These principles are important in working together towards a common goal, which implies joint action plans in support of the families of learners with visual impairment.

### □ Key principle 1: Collaboration

Building a successful school–family–community partnership requires careful planning and the selection of members suitable to collaborate and work as part of a team. All members need to

**TABLE 9.1:** Principles for building a collaborative school–community partnership.

<b>Principles</b>	<b>Description</b>
<b>Participation</b>	Participation involves connecting and involving people in the process of planning and decision-making when supporting families of learners with visual impairment. Active participation is a key principle for the successful facilitation of collaborative partnerships. Involving different groups of people (such as teachers, principals, district representatives, families, parents and other community members) will give them the chance to share, integrate and implement their ideas in supporting the families of learners with visual impairment optimally and furthermore establish a sustainable school–family–community partnership.
<b>Partnership and collaboration</b>	Collaboration implies a process of participation through which a group of people work towards a common goal. A collaborative partnership generally consists of people from diverse backgrounds working together towards a goal, based on the belief that joint efforts are more effective than individual attempts to solve problems (Ebersöhn & Eloff 2006). In such collaborative partnerships all who contribute are taken as having equal worth, yet different expertise (Ebersöhn & Eloff 2006).
<b>Encouragement</b>	Encouragement can support partners to become more aware of each other’s strengths and take collaborative action to facilitate positive changes. In this manner, the various individuals can become an integral part of the solution (collaborative school–family–community partnerships), jointly attempting to reduce the challenges faced by families of learners with visual impairment (Building caring communities 2002).
<b>Diversity</b>	Collaborative school–family–community partnerships are focused on assisting community members (families of learners with visual impairment) of all ages, races and ethnicity, and religious or political orientation. As such, such partnerships should embrace diversity and collaborate across any potential differences.
<b>Planning</b>	Planning implies the setting of priorities and being proactive (taking action to prevent a situation from becoming a crisis) rather than reactive (acting only when a crisis already exists). The importance of an action plan is to move from a mutual vision, mission and goals to specific strategies. To achieve any set goals, planning forms a key principle to facilitate and build collaborative school–family–community partnership.
<b>Relationship</b>	School–family–community partnerships are relationship-driven. This implies that all exchanges that take place between individuals result in the exchange of ideas, wisdom, services or objects, which can all provide a foundation for relationships and building school–family–community partnerships.

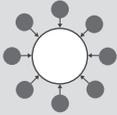
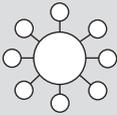
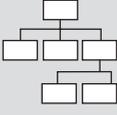
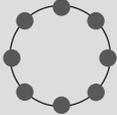
Source: Adapted from Building caring communities (2002).

be able to maintain their focus to reach the formulated goal. Therefore, the person (typically a teacher) initiating such a partnership and successful collaboration will need to take responsibility for the following practicalities (Fisher et al. 2006; UNICEF 2014):

- deciding on a shared vision for the school–family–community partnership and continuously remind oneself of the purpose of the partnership
- identifying and utilising existing resources in the school–family–community partnership
- identifying and introducing new resources in the school–family–community partnership
- celebrating small successes in the school–family–community partnership
- working with others in all sectors of the community (e.g. neighbouring schools) rather than in isolation, to be able to support families outside the existing school–family–community partnership as well
- focusing on long-term outcomes rather than short-term activities in the school and community
- remaining flexible, adaptive and receptive to new ideas and finding a common ground of interest amongst different group members
- using leaders in the community and their connections to get other people interested
- avoiding authoritarian leadership styles
- valuing and recognising the contributions of all members of the school–family–community partnership.

In Figure 9.1, two decisions are described that may assist the members of a school–family–community partnership to collaborate more effectively (Building caring communities 2002). The first decision relates to the choice of people whom are invited to collaborate in supporting the families of learners with visual impairment, to decide where the final decision-making responsibility will reside, as well as how the different role players

and stakeholders will communicate with each other (illustrated in Figure 9.1). Secondly, a decision needs to be made on the hierarchy of implementation, in other words who will be responsible to make and implement decision or plans (hierarchical, individual-based or group-centred).

<p><b>First decision:</b> Decide what kinds of groups are needed to carry out the action plan. Who will make decisions and how will the group communicate with each other?</p>	
<p><b>Option 1: Table structure</b> All the members of the school–family–community partnership come together and are involved in any decision-making process. This strategy usually works well with smaller groups.</p>	
<p><b>Option 1: Table structure</b> Small groups of people act as the spokes of a wheel, with each group working independently. The executive group in the middle coordinates information and activities. Smaller groups have little contact with each other and only meet occasionally. This strategy works well with bigger groups where more complex actions need to be taken.</p>	
<p><b>Second decision:</b> Determine how flat the structure will be, in other words, how many people will manage and do the work</p>	
<p><b>Option 1: Hierarchical group</b> In this group one or two people are in charge of subgroups, with the responsibility of ensuring that everyone follows through on their responsibilities. Some people may however find this to be intimidating.</p>	
<p><b>Option 2: Individual-based group</b> For this option, each member has a certain responsibility for a certain aspect of the work. When choosing this option, all members will typically feel involved and valued.</p>	
<p><b>Option 3: Group-centred</b> For this option, work is delegated to teams. However, some sections of the work may be delegated to individuals.</p>	

Source: Building caring communities (2002).

**FIGURE 9.1:** Decisions during collaboration.

The structures presented in Figure 9.1 should always be taken as flexible and adaptable to changes in the school-family-community partnership. Furthermore, these are not the only structures that exist and should only be selected if applicable to the specific circumstances and challenges that the school-family-community partnership is focusing on. When groups are formed, the school-family-community partnership thus firstly needs to review their mission, vision, goals and resources. Although the formation of collaborative partnerships can vary, it remains important that the roles and responsibilities of each participant are clarified regardless of the structure selected for the group (Building caring communities 2002). In addition, it should always be kept in mind that the key to success will lie in the identification of people who will be committed to participate.

## □ Key principle 2: Participation

Many school-family-community partnership-building efforts are unsuccessful because of the inability to engage citizens in the community. Participation means moving from planning *for* people to planning *with* people. The first step towards involving people in any group is for the facilitator (usually a teacher) to answer the following questions:

- What are my own attitude and beliefs about collaborative participation to support families of learners with visual impairment?
- How open and willing am I to involve different groups of people in a collaborative effort to support families of learners with visual impairment?

To answer these two broader questions, the facilitator (teacher) can be guided by the checklist for successful and collaborative participation (shown in BOX 9.1, adapted from Building caring communities 2002).

**BOX 9.1:** Checklist for facilitator regarding participation.

**Collaborative participation: What do you believe?**

**Mark Yes/No**

I believe that citizens from the community, families and our school will bring unique expertise to a partnership that is established.

**Yes/No**

I believe that non-professional participation in decision-making about support programmes, interventions and at policy level is important.

**Yes/No**

I believe that the opinions and perspectives of citizens are just as important as those of professionals.

**Yes/No**

I believe that citizens can contribute to collaborative partnerships in a unique way.

**Yes/No**

If a collaborative partnership is established, it must create an environment in which all members of the partnership feel supported and comfortable enough to speak freely and share their ideas.

**Yes/No**

I listen respectfully to the opinions of other citizens.

**Yes/No**

I feel comfortable to delegate responsibility to others.

Source: Adapted from Building caring communities (2002).

If a facilitator (or teacher who would like to establish a partnership) answers 'Yes' to most of the questions, it indicates a positive attitude towards collaborative partnerships that can support the families of learners with visual impairment.

For questions with negative responses, the facilitator (teacher) may consider the reasons for these responses. Once satisfied about being positive to establish collaborative partnerships, the facilitator (teacher) can be guided by the practical suggestions listed below (Building caring communities 2002), for successfully involving citizens in collaborative partnerships to support the families of learners with visual impairment:

- Sensitise professionals in terms of the value of all citizens when it comes to school-family-community partnerships.
- Orientate both non-professionals and professionals in terms of school-family-community partnership-building processes.
- Arrange meetings at times and locations convenient for all the partners who should form part of the team.
- Provide accurate, timely and clear information prior to meetings.
- Provide clear information about the goals of the collaborative partnership and of individual members.
- During and after meetings, specifically recognise the value of all members' participation and contributions.
- Do not provide payment for participating; however, expenses such as meals or transportation can be covered.

These practical guidelines capture just a few of many things that can be done to encourage participation. In addition, Table 9.2 shows an example of guiding questions with regard to decisions about possible partners for a collaborative partnership. The example provided in Table 9.2 concerns Mrs Chauke, who works at Blind SA. In completing the table, one needs to consider the potential partner's organisation skills and resources that may contribute to the support of families of learners with visual impairment when implementing a school-family-community partnership approach. After deciding to involve a specific partner, the facilitator (teacher) can formally invite the person to join the partnership, explaining the person's potential role in the partnership. This process can be followed for all potential partners and stakeholders.

**TABLE 9.2:** Example of a planning guide for participation.

<b>Individual or organisation</b>	<b>What are the skills and resources of the individual or organisation that can support the work of the school-family-community partnership?</b>	<b>Pointers for recruiting the individual or organisation to join the school-family-community partnership</b>
Mrs Chauke from Blind SA	She is a mobility trainer at Blind SA and can support the families of learners with visual impairment, the school, teachers and other community members with advice and training regarding mobility.	Use the telephone directory or google Blind SA to search for the telephone number of Blind SA, or send an email to invite Mrs Chauke for a meeting at the school. Discuss how she may be of service to the school and an asset for the school-family-community partnership.

Source: Adapted from Building caring communities (2002).

### □ Key principle 3: Planning

To avoid frustration in the process of building a collaborative school-family-community partnership, the teacher needs to pay careful attention to the planning process. Planning includes the stipulation of the desired outcomes and developing a workable plan to reach these. The Iowa State University suggests the following practical steps in such a planning process (Building caring communities 2002):

- Form a team of collaborators and identify citizens who may also form part of the group. Build trust amongst members during this step.
- Establish common ground and clarify the issues that brought everyone together. Work on a common vision and mission and formulate a purpose and goals that should focus on the work and give direction to all actions of the group.
- Assess community strengths.
- Develop an action plan.
- Implement the action plan.
- Evaluate and monitor the action plan, by regularly assessing whether or not activities are being implemented as planned and whether any adjustments are required.

Besides these suggested steps, Box 9.2 captures another example of a practical framework that may be followed when creating an action plan. According to the steps suggested in Box 9.2, one needs to state in understandable terms what the goal is to achieve, then compile an inventory of existing resources that can support achievement of the goal and list expected benefits of achieving the goal as well as the possible risks. Based on these steps, a decision can be made whether or not the goal is worth taking the risks involved. Next, a few strategies can be identified that may enable one to reach the goal and a timeline can be

**BOX 9.2:** Possible framework for action planning.

### **Action planning**

- **Goal:** State the end that wants to be achieved in concise and easy-to-understand terms.
- **Capacity:** Compile an inventory of the resources that can be committed to the goal, such as expertise, volunteers, local organisations, etc. Ensure that there are sufficient resources to achieve the goal.
- **Payoff:** Describe the expected benefits that may result from meeting the goal in specific terms.
- **Risk:** Consider the possible downside of pursuing the goal, what may be lost if the goal is not achieved and whether or not the group is willing and able to bear the risk.
- **Strategy:** Identify one or more idea/s and state what needs to be accomplished to achieve the goal; in other words describe the means to the end.
- **Tasks:** Identify and list the specific activities that are required to carry out each strategy. List the activity, responsible person/s for the action and when the activity needs to be completed.

*Source:* Adapted from the work of Building caring communities (2002).

drawn up that indicates what should be done, by whom and when. This framework can be implemented for every goal that the collaborative school-family-community partnership pursues.

## □ **Building a collaborative school-family-community partnership**

According to Epstein et al. (2002), specific practices by schools and communities may encourage families and parents to become more involved at school (also refer to ch. 10 of Diale). These practices typically include the sensitisation of families to understand that aspects such as parental education, family size, marital status, socioeconomic level or student grade level are unimportant when it comes to parental involvement. For partnerships between families, schools and communities to be successful, characteristics such as reciprocal trust and consideration for each other, continued communication and an exchange of ideas, concurrence in terms of goals and a sense of shared responsibility are important. In support of the 'school-to-home and home-to-school' (Epstein et al. 2002:14) environment, as well as an increase in involvement from families, schools and communities, the following practical actions may be taken by schools:

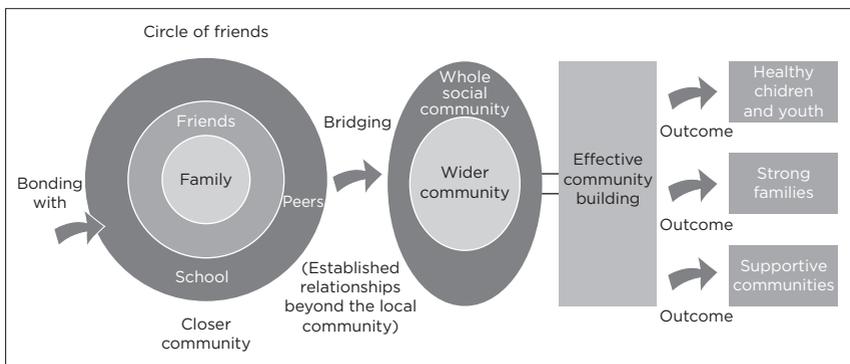
- Promotion of collaborative partnerships between families, schools and communities.
- Creating significant learning opportunities for learners at home, school and within the community.
- Highlighting the importance of early childhood education.
- Guiding and educating teachers to work with and understand the role and value of parents.
- Decreasing any possible cultural challenges.
- Effectively dealing with any possible language challenges.
- Determining parents' needs.
- Keeping parents' work schedules in mind when envisioning their involvement.

- Utilising technology to connect families and parents with the teacher, school and the classroom.
- Electing a dedicated home-school coordinator. Providing the parents with the opportunity to be involved in decision-making at school.

## □ The process of building school-family-community partnerships

Supportive communities can support the families of learners with visual impairment by developing and sustaining strong relationships, increasing community decision-making and improving the ability for all stakeholders to collaborate. Woolcott and Narayan (as cited in Mathie & Cunningham 2002) differentiate between bonding and bridging social capital, with the outcome of these in building school-family-community partnerships in support of families and learners with visual impairment shown in Figure 9.2.

Bonding social capital can enable people to get by (families of learners with visual impairment) and therefore refers to the people close to an individual whom they can depend on in times



Source: Woolcott and Narayan, as cited in Mathie and Cunningham (2002).

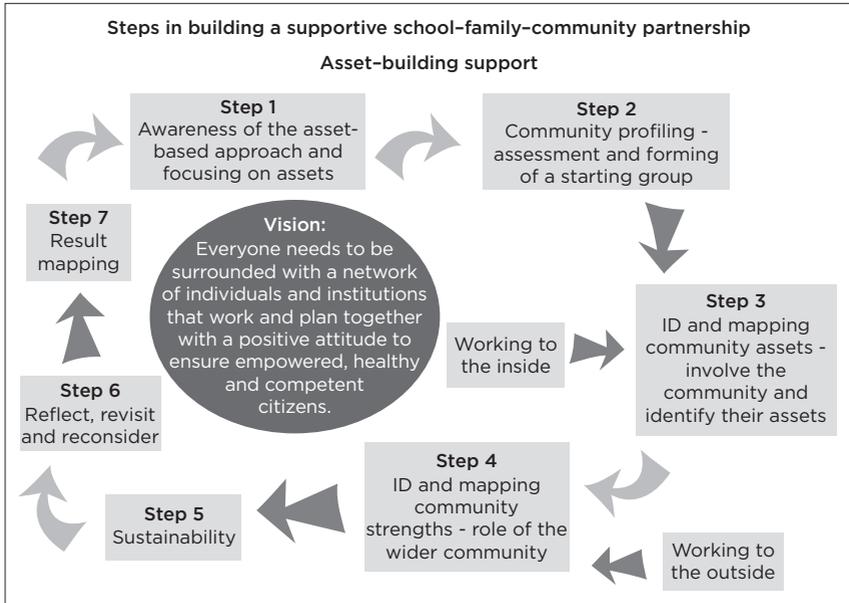
**FIGURE 9.2:** Bonding and bridging social capital.

of need. This relates to the concept of circle of friends. On the contrary, bridging social capital entails the link between the family of learners with visual impairment and the external environment, in support of sustainable development and prosperity. This can enable individuals to get ahead, with the outcome of bonding and bridging social capital, as illustrated in Figure 9.2, being strong school-family-community partnerships that may support families of learners with visual impairment.

To mobilise both internal and external resources, an asset-building support process can be followed. This process entails the building of communities from the inside out rather than from the outside in (Kretzmann & McKnight 1993). When establishing school-family-community partnerships, this will imply collaboration with different community partners, recognising learners as part of families, families as part of the community and the community as part of broader society. Throughout, the aim is to build on existing family and community assets, provide supportive connections for families of learners with visual impairment in the school-community and link them to the necessary resources. For this purpose, it is important to involve ordinary citizens in the school-family-community partnership-building process, citizens who have a positive vision and who respond proactively to change.

## ■ Practical steps in building a supportive school-family-community partnership

This section describes a practical seven-step model (Figure 9.3) for building a school-family-community partnership (Fisher et al. 2006), based on practical strategies of networking and relationship building. The steps in this section thus constitute a possible framework for an action plan and may provide guidelines for identifying and mobilising the available strengths, resources and assets to support the families of learners with visual



Source: Building caring communities (2002).

**FIGURE 9.3:** Steps in the asset-building support process for families of learners with visual impairment.

impairment by means of the collaborative school-family-community partnership.

Although the practical steps in the asset-building support process for families of learners with visual impairment are numbered, they do not necessarily have to occur in a specific order. Steps can even overlap, or a process of going back and forth between the various steps can be followed, thus overlapping during planning and implementation phases.

## ■ Step 1: Awareness of the asset-based approach and focusing on assets

The asset-based approach recognises that all communities have strengths and assets that can be mobilised to improve the quality

of life for everyone through collaborative partnerships. In addition, the asset-based approach is a framework that guides us in working towards goals that will create a society in which people are valued and can thrive. This approach teaches us to look within our own communities to find solutions to our problems. We should not be passive onlookers expecting experts to come and give us solutions. If certain services are not available, we must focus on the services that are available and use them to connect with other communities who may have services available (Kretzman & McKnight 1993).

## ■ **Step 2: Community profiling – Assessment and formation of a starting group for a school-family-community partnership**

This step is all about understanding the story of the community – the successes, needs, aspirations and challenges. It is important to understand a community before starting the process of building a supportive school-family-community partnership. As such partnerships imply the probability of development and positive change, a mix of local leaders, who have access to resources, may become involved in addition to local citizens (residents, associations and congregations) forming part of the partnership, all with established relationships, trust and knowledge of the specific school-community. In forming a starting group for an envisioned school-family-community partnership, a group of people with a shared vision and willingness to share their existing assets and resources for the greater good of families and learners with visual impairment will thus come together and take the process forward. As part of this initial process of establishing a group that can form a partnership, it is important to identify which existing assets families and learners themselves can potentially access. At this stage it is a good idea to compile a list of all the potential people who may be invited to join the school-family-community partnership in pursuing the

shared goal of supporting families and learners with visual impairment. These may include individuals, groups of people or organisations. Various ways can be considered to identify and recruit role players, including methods such as social media, community radio stations, local newspapers, posters, fliers, word of mouth, messages through WhatsApp groups or even community notice boards.

In identifying potential role players that may form part of the envisioned school-family-community partnership, the following practical questions may be asked:

- Which positive aspects and events are present in the community that may benefit families of learners with visual impairment or in which they can take part?
- Which organisations or people made these aspects and events possible and how did they do it?
- What is working well in the community that can be utilised to support families of learners with visual impairment?

Once established, the school-family-community partnership can start putting their vision into action by compiling a data (information) plan (see Table 9.3 for an example). Such a plan provides an overview of ways of addressing challenges or needs by focusing on available data or information. In Table 9.3 the practical example of Letlotlo is captured.

**TABLE 9.3:** Example of data (information) collection plan.

<b>Identified challenges or needs to be addressed</b>	<b>What are the prevention and support strategies?</b>	<b>Who will be the responsible person or organisation to mobilise the required support?</b>
Possible psychosocial well-being and/or learning support to Letlotlo	Mrs Moloko will contact the mother and the educational psychologist and they will arrange a consultation session	At this stage, the teacher as part of the SBST, the educational psychologist and Letlotlo's mother

Source: Adapted from Fisher et al. (2006).  
SBST, school-based support team.

Letlotlo is a 10-year-old learner with a visual impairment. His teacher, Mrs Moloko, is concerned about his schoolwork as his academic performance has deteriorated. Mrs Moloko decided to report the case to the school-based support team (SBST) and was informed of an educational psychologist from the school-community that is available to assist learners with special needs on a pro bono basis.

In executing this action plan, the relevant information can be captured in the way illustrated in Table 9.3, which also highlights the importance of networking skills and the sharing of information about available resources in the community.

### ■ **Step 3: Identify and map the available school-community assets – Involve community members**

Completing this step will depend on the context or school-community in which the collaborative partnership functions. When identifying available assets and resources in a particular school-community, it should be kept in mind that all people and communities have capacities, abilities, strengths and gifts (Berkowitz & Wadud n.d.), but that available resources are not limited to people. The following possibilities can be considered when identifying resources and assets:

- The teacher initiating the partnership can possess assets and strengths, just as their colleagues or friends, being able to assist in one way or another.
- Individuals in the community can possess assets and resources, for example a housewife who organises a playgroup, a church member who starts a support group for single parents or a star high school soccer player.
- Physical structures or places can be resources, for example a school, hospital, church, library, recreation centre, social club or public place such as a park or other open spaces.

- Businesses can be resources by for example providing jobs and supporting the local economy.

When compiling an inventory (list) of potential assets and existing resources, the following four practical steps may be useful to implement (Berkowitz & Wadud n.d.):

- Start by facilitating a few brainstorming sessions at meetings, interviews or focus groups with members of the school-family-community partnership, with each sharing examples and ideas of possible resources and assets.
- Document all examples that are mentioned and the facts that are known.
- Access additional resources of information to add to the list. These can include for example social media, the Yellow Pages, town directories, a list of businesses, lists of organisations, the local newspaper or the input of friends and colleagues.
- Finalise the list of all possible role players and stakeholders, who can be anyone interested in the well-being and support of families and learners with visual impairment, such as parents, caregivers, other family members or people and organisations with a duty to provide protection and support to such families and learners.
- In addition, community-based role players can be identified such as community health centres or clinics, child- and home-based care forums, key government and NGOs, traditional healers, churches, community forums (for example, police forums), community newspapers and local radio stations (Rudolph et al. 2008).
- Furthermore, local small business people can be involved in discussions as they form an important part of the community and generally have a great deal to contribute (Berkowitz & Wadud n.d.).
- Decide which role players and stakeholders to meet with first and arrange meetings accordingly to discuss their involvement.

When facilitating meetings with identified community members, it is suggested that they are invited in person, either by telephone or face-to-face, granting them the opportunity to ask questions about the purpose of the meeting. The date, time and location of the meeting should be clearly indicated in all invitations. Once meeting with the potential role-player, it is important to explain the asset-building support approach to school-family-community partnerships in order for them to make an informed decision in committing themselves. Discussions can be initiated by for example discussing the strengths of the school-community, or the possibility of the community to support families and learners with visual impairment. Next, the benefits of a collaborative school-family-community partnership can be highlighted, mentioning practical examples of how learners and families of learners with visual impairment may potentially be supported through this avenue (Berkowitz & Wadud n.d.).

The main function of a school-family-community partnership is knowing where to look for and being able to connect an identified challenge or need with an available asset or existing resource. An important part of resource assessment is called asset-mapping, which involves the drawing of a map (plot) of the available assets in the school-community on paper. Such an asset-map can serve as a guide to connecting the assets and resources available to the needs or challenges that families and learners with visual impairment experience. During the process of asset-mapping, it is important to recognise the strengths and capacities of all organisations and members of the school-family-community partnership.

As such, asset-maps are visual representations in which the assets, resources and links between these are summarised, thereby indicating a potential social support network. Asset-maps can be used to assist school communities in sharing their understanding with each other, to inform people of accessible services, to make information visual and display it in the school-

community and to inform people about key individuals in the school-community who may be contacted for assistance or support. In this way, asset-maps can lead to a mutual awareness of the available assets around a school-community (Rudolph et al. 2008). After identifying and mapping the assets and resources, ways need to be determined as to how to mobilise these resources to individuals who require support, being families and learners with visual impairment. In this manner, school-community assets and resources can be put to use to build strong, mutually beneficial partnerships in the immediate school-community system (Ebersöhn & Eloff 2006).

### ■ **Step 4: Identifying and mapping school-community strengths – The role of professionals**

Professionals can provide valuable assistance to the school-community, especially when adopting a facilitative and supportive role rather than a directive or expert one. As a result, it is important that the members of the school-family-community partnership learn how to make use of the help of professionals without letting it take away their sense of control. Ebersöhn and Eloff (2006) suggest that the key is to uphold the social network to create a cycle of continuous support and enablement. Step 5 deals with the maintenance or sustainability of the supportive school-family-community partnership.

### ■ **Step 5: Ensuring sustainability**

Sustainability starts at the beginning of any action plan and continues through all steps of the process. As things may not always go as planned, it is important to carefully monitor the whole process, to ensure sustainability, as some adjustments may be required to accommodate any unexpected events. Throughout, it remains important to keep the school-family-community

partnership informed and involve everyone if major decisions or changes are required.

Fisher et al. (2006) make some practical suggestions in support of sustainability, as outlined in Table 9.4. In using this checklist, any negative or uncertain responses should be considered by team members, more specifically in terms of the actions required to change that perception or action.

**TABLE 9.4:** Sustainability plan checklist.

Sustainability goals	Yes	No	Not sure	What can we do?
<b>Vision:</b> A vision has been developed through the shared efforts of the collaborative partnership.				
<b>Relationships:</b> Relationship building is emphasised as the basis of all efforts by the team. Relationships are based on strengths, which can provide a basis for skills development, behavioural change and decision-making.				
<b>Diversity:</b> Diverse families, learners, community engagement and active participation at all levels of the work done are cultivated and embraced.				
<b>Goals and outcomes:</b> A plan to be developed for what needs to be said and to whom.				
<b>Effectiveness:</b> The team is proactive by identifying efforts that may be worth sustaining.				
<b>Capacity:</b> Infrastructures are planned and built, and capacities identified that can improve the work already done.				
<b>Plan:</b> Planning and doing are integrated to implement the planned projects and strategies.				
<b>Process:</b> The planned process remains open to new people and fresh ideas and insights.				
<b>Improvement:</b> Progress is systematically assessed and reviewed, and changes are implemented where necessary.				

Source: Adapted from Fisher et al. (2006).

## ■ Step 6: Continuously reflecting, revising and reconsidering

Because of the flexible and dynamic nature of the asset-building support approach, this step can enter the process of building a supportive school–family–community partnership at any time (Ebersöhn & Eloff 2006). If one thinks of monitoring a learner’s progress, one will realise that in doing so, the learner will be able to access support whenever required. The same applies to the process of building a supportive school–family–community partnership, which needs to be assessed regularly to be able to know whether or not the provided support or attempts are useful.

According to Watson (2001), reflection entails:

[T]he use of creative and critical thinking skills to help prepare for success and learn from service experience and to examine the larger picture and context in which service occurs. (p. 2)

When implementing reflection within the context of collaborative partnerships, the following questions may be used as a guide:

- What have we done well during this process?
- Did the leaders of the process complete their tasks successfully?
- How well did we acknowledge others?
- What new insights and skills have we gained?
- What do we need to do differently?
- What have we as a group learned about how we work together?

## ■ Step 7: Result mapping

As such, result mapping focusses on the changes that are evident in the community and on which evidence supports such changes. For example,

**TABLE 9.5:** Result mapping for community change events.

<b>Description of change (Why is it important? What happened as a result? Who was involved?)</b>	<b>What caused the change? How did your input cause the change?</b>
Siya became less aggressive and more open-minded in accepting his visual impairment. He started to sing in the school and church choirs and later on became the leader of the school choir. His teacher was the key person to facilitate a process that resulted in these behavioural changes in Siya.	Siya's teacher's sensitivity to identify his assets led to Siya being chosen for the church and school choirs. The success he experienced in the choirs made him feel empowered and valued.

Source: Adapted from Fisher et al. (2006).

Siya is 14 years of age, has a visual impairment and is embarrassed about it. He got teased by his peer group and, as a result, did not want to attend school any more, became withdrawn at home and was aggressive at times. However, Siya's teacher recognised his talent in singing and arranged for him to sing in both the school and church choirs. He subsequently became the leader of his school choir, which enhanced his self-esteem and as a result, he was less aggressive and more open-minded towards his visual impairment.

In Table 9.5, result mapping is illustrated for the case of Siya, by describing the changes that occurred, as well as its causes.

Focusing on small successes like these will generally also boost the energy levels of the members of school-family-community partnerships. If changes are observed that are sustainable, members of the partnership may be inspired to continue mapping assets and connecting people with resources.

## ■ Practical guidelines for teachers to form and maintain effective school-family-community partnerships

In Table 9.6, some practical guidelines are provided for teachers to practise, with the aim of these eventually becoming habits. In this way, teachers may establish automatic patterns of behaviour

**TABLE 9.6:** Practical guidelines for teachers to form and maintain effective school–family–community partnerships.

<b>Guideline or habit</b>	<b>Description</b>
<b>I have to be a proactive teacher</b>	To take initiative means recognising one’s responsibility to make things happen. Adopting an attitude that is collaborative, facilitative and responsible is fundamental in all efforts of becoming proactive members of school–family–community partnerships. This will require a shift in thinking from focusing on a deficit-based model of education to a capacity-based model.
<b>I have to keep the end goal in mind</b>	This guideline is based on the ability to foresee potential and to create with one’s mind what one cannot see with the eyes. Before developing a profile of a learner, the learner’s possibilities, strengths, needs and dreams should thus be envisioned and explored. Once this picture has been formed one can decide what to teach and which actions to take.
<b>I have to situate first things first</b>	Create a clear understanding of what needs to be achieved. Focus on the what and the results, not the methods. Prioritise, as learners cannot accomplish everything at once.
<b>I have to keep mutual benefits in mind</b>	This implies that arrangements or solutions are mutually beneficial. Demanding parents or dictating teachers will not contribute to a win-win solution. Be specific in stating the desired results of objectives, the guidelines for achievement and when to decide if a goal is not appropriate.
<b>I have to understand to be understood</b>	Listen with the intent to understand. In a true collaborative process, teachers and parents will listen to and understand each other.
<b>I have to keep team work in mind</b>	This implies true collaboration, team-building and the expansion of unity and creativity with other team members. As such, this involves working with and developing a multidisciplinary team.
<b>I have to keep on trying to do better and celebrate small successes</b>	This implies continuous efforts to improve. Celebrations of success can be regarded as the key to effective teams; as such celebrations will energise people to continue with collaborative partnerships.

Source: Hammar and Malatchi (2004).

in reaction to specific situations that require support by a member of the school–family–community partnership.

## ■ Conclusion

In this chapter, the processes involved in building supportive school–family–community partnerships were discussed. The aim

was to introduce teachers and practitioners to some strategies and steps of building collaborative partnerships that may contribute to the well-being and support of families of learners with visual impairment. It is important to realise that, when initiating and building collaborative school-family-community partnerships, teachers can make a difference merely by focusing on the identification and mobilisation of existing resources and strengths in the school-community. There is thus no need to passively wait for external experts to relieve the pressure of families and learners with visual impairment as teachers themselves can be active change agents who take responsibility for uplifting learners, families and communities in a sustainable manner.

# Role of the family in the life of a learner with visual impairment

**Boitumelo M. Diale**

Department of Educational Psychology,  
Faculty of Education, University of Johannesburg,  
Johannesburg, South Africa

**Keywords:** Transitioning; Inclusion; Foster care; Peers; Barriers to learning.

‘Among the yardsticks by which to measure a society’s respect for human rights, to evaluate the level of its maturity and its generosity of spirit, it is by looking at the status that it accords to those members of society who are most vulnerable, disabled people, the senior citizens and its children’. (Mbeki 1997:3)

## ■ Introduction

Since the dawn of democracy, South Africa has achieved great strides in the implementation of acts and policies that promote

**How to cite:** Diale, B.M., 2020, ‘Role of the family in the life of a learner with visual impairment’, in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 289–313, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.10>

social justice, equal access to services and inclusive practices for all its citizens. Amongst the many developments, the DBE strives for the provision of adequate education to the majority of children and to build an inclusive and tolerant society for all (DoE 2001), including learners affected by visual impairment. It further strives to provide equal learning and development opportunities through the introduction of full-service schools (refer to ch. 4 by Ferreira-Prevost and ch. 6 by Manis). Amidst all the progressive acts and policies, schools and families are still confronted with learners experiencing a myriad of barriers to learning and development. This requires active involvement of the immediate environment, more specifically the primary support system or family. Very often, families' implementation of support structures for children with barriers to learning may fall short of efficiency, in particular when, for example, supporting learners affected by visual impairment.

Existing studies that focus on supporting learners affected by visual impairment in South Africa are few and far between (Morelle 2016; Mosca, Kritzinger & Van der Linde 2015; Naipal & Rampersad 2018). More specifically, limited research has been undertaken with regard to the role of the family in caring and supporting the educational processes of learners with visual impairment within the South African context, thus taking into consideration that learners affected by visual impairment can be categorised across a broad continuum, as a result of factors such as the nature of impairment, geographical location, socio-cultural experiences, economic positioning and parental status. Such lack of attention to this field of study is difficult to comprehend; more so, because of family members often being central role players for supporting children with visual impairment (Correa-Torres & Zebehazy 2014; Lee, Tsang & Chui 2014; Fayez Alshehri 2016; Ely, Gullifor & Hollinshead 2017).

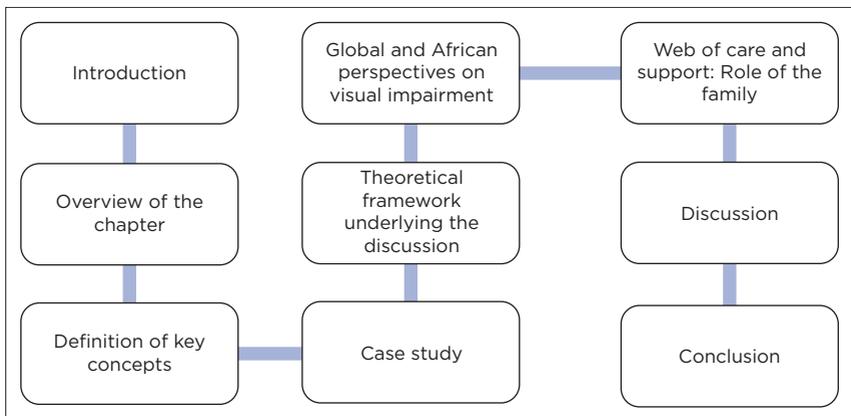
In this chapter, the significant role that families can fulfil in the education, care and support of learners affected by visual impairment is looked at. In addition to the family system taking on a central function, several considerations dictate the need for

an integrated approach to the care and support of learners with visual impairment, thus implying not only the important role of the school and classroom teacher, but also that of external stakeholders who may potentially provide support (also refer to ch. 9 by Botha).

## ■ Overview of the chapter

Figure 10.1 shows a visual roadmap that may guide the reader through the content of this chapter.

The discussion in this chapter is steered by existing theory, as well as a case study that grounds the realities of families with learners affected by visual impairment. Bio-ecological theoretical lens is relied on as a basis to explore the role of the family in caring and supporting learners with visual impairment. Although the focus of the chapter is based on the central part that parents fulfil in the lives of their children, this system can never function in isolation from other systems that are also present in the life of the learner with visual impairment. Therefore, attention is also given to other methods and role players that may work with and support parents in the learning and development of learners. Furthermore, also mentioned are some of the challenges often



**FIGURE 10.1:** Overview of the chapter.

faced by families whilst endeavouring to fulfil this role, as well as exploring the role of other stakeholders in providing circles of support. The chapter concludes by discussing the implications for classroom teachers, the community (NGO, non-profit organisation, religious organisations) and existing legislative frameworks (acts, policies, as well as government departments).

## ■ Definition of key concepts

Although various definitions can be found for the key concepts delineated below, their meaning is described in a contextually relevant way in this section, as used in this chapter.

### ■ Care and support

This term is used to describe what type of help and assistance is needed by learners with visual impairment to be able to live independently and be functional in the best possible way, despite their barriers to learning.

### ■ Family

Within the context of this chapter, family refers to a group of people living together and sharing similar value systems but who are not necessarily biologically related (also refer to ch. 11 by Botha).

### ■ Parent(s)

Parent(s) refers to an adult caregiver who takes care of and supports children who are placed in their care. The relationship does not have to be biological or ancestral. Where adults and children live in the same household, the adult is typically recognised as the caregiver.

## ■ Learner

Learner is a child between the ages 6 and 20, who is attending a school.

## ■ Teachers

Teachers are adults who are qualified and employed to help learners acquire knowledge, skills and competencies, thereby guiding them to be able to meaningfully contribute to the economy of society as future adults.

## ■ Community

Community is a unified group of people who share particular characteristics such as geographical location, values, beliefs, customs, language and identity, amongst others.

## ■ Case study: Differently gifted, misunderstood by the system

‘Dr, I don’t know why I am taken to so many doctors and moved to different schools and classes’. These were the words of \*Gift<sup>9</sup>, a learner with visual impairment in a community centre where I do therapy with vulnerable children. Gift is a 12-year-old learner who is repeating Grade 4 at a school for the visually impaired. Gift lives at a church-based foster home with three of his foster siblings and an adoptive mother, Mam Lerato. Gift started Grade 1 at Mercy primary school. Halfway during the year his mother, Mam Lerato, reported that Gift complained about his eyes and he constantly rubbed them as they were always teary. Ms Thuso,

---

9. All names in the case are not real but pseudonyms. Personal identifying information and locations have been altered to maintain the privacy of the learner, the teacher, the school and the family systems.

Gift's Grade 1 teacher, also said that Gift's eyes did not seem to focus. He was generally clumsy and continuously running into big, clearly visible objects and hurting himself in the process. He also appeared to have a short attention span and frequently blinked and complained about the light when they were busy with outdoor activities. His writing and pencil grip showed signs of weak eye and hand coordination, and his academic performance was poor overall. Ms Thuso recommended that an Educational Psychologist should see Gift for an assessment. During the assessment, the psychologist came to the conclusion that Gift was struggling with his eyes, and he was referred to St John's Eye Hospital for a full evaluation. Gift was diagnosed with Amblyopia (lazy eye) in both eyes, which is a functional defect characterised by decreased vision without detectable anatomic damage to the retina or visual pathways. This diagnosis meant that Gift's brain 'shuts off' one eye to favour the eye with better vision. Gift underwent several surgeries, and corrective lenses were also prescribed. According to his ophthalmologist, Gift's vision is currently deteriorating, and there seem to be additional significant visual impairments that might lead to partial blindness. As Gift's academic and visual struggles continue, he has now moved to a school for visually impaired learners.

Although the school caters for his barriers to learning, it follows the mainstream Curriculum and Assessment Policy Statement curriculum, meaning Gift still needs to have the academic ability to perform. This is a struggle for him, and he has now been placed in a learning support class within the school that caters for learners with specific learning disorders (SLDs). The new teacher reports that Gift is presenting social adjustment problems, is not coping with his academics and his hyperactivity and inattention are now 'out of control'. Because of his deteriorating vision, as well as his learning and behavioural challenges, the current school has recommended that Gift be moved to a special school at the beginning of next year. Gift's mother reports that she is currently not capable of managing his learning and behavioural challenges and is at a loss as to what to do. At this stage, she is simply tired of constantly being summoned

to the school, only to be told about everything that Gift has done wrong. Reports that other parents are complaining that Gift hinders their children's progress in class and takes most of the teacher's time and attention are disturbing for her. She is unhappy that the school fails to give her the assistance and support needed on how to manage Gift in a more constructive manner.

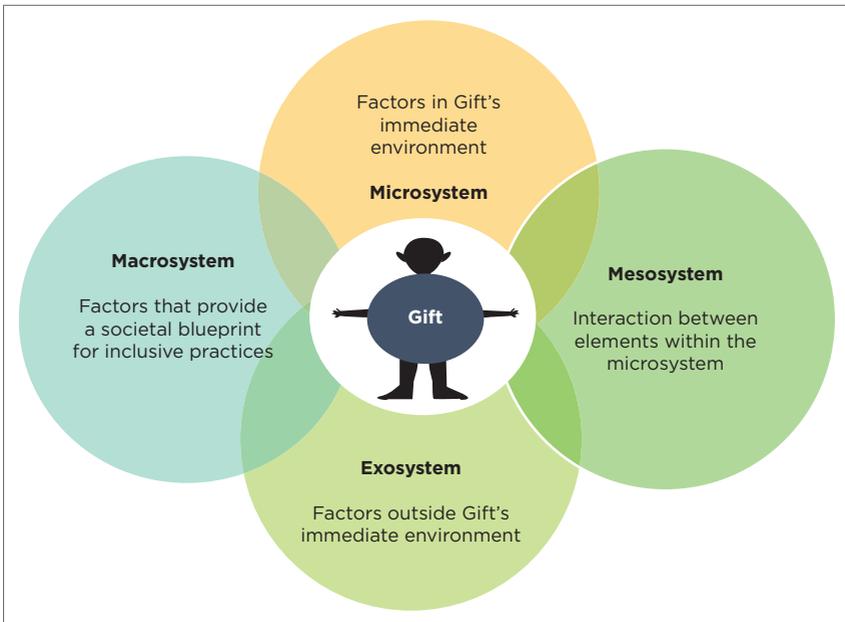
Although Gift's story seems to be a 'barrier-saturated narrative', there is an opening to turn his challenges into opportunities, bringing in a story of hope for him. Gift loves animals and owns a dog. He usually tells his mother that he has to take care of the dog as one day it will take care of him, so he is 'training it to be his guide dog as depicted on movies shown on TV'. Gift loves music, has a beautiful voice and loves singing. He is currently attending guitar and drum classes and is always with the church worship team during band practice, assisting them in setting up and tidying up after the church services. When asked what he wants to do when he grows up, Gift laughs and says, 'I am going to be anything I want to be, but I will also sing and play a guitar like \*Mpumelelo' (the only black guitarist on the worship team). The church and the community-based organisation support Gift and his mother well, and he attends extra lessons and activities after school.

## ■ **Bio-ecological theoretical framework as a basis to understand the case of Gift**

Within the inclusive education framework, the transformational and educational goal is to enable learners affected by visual impairment to adapt to the mainstream education system and to become successful and productive citizens who can contribute to the country's economy (Booth & Ainscow 2011; Donohue & Bornman 2015). In explaining Gift's life narrative, the bio-ecological theoretical lens is used. Although it is beyond the scope of this chapter to provide a full description of this theory, the different systems that contribute to Gift's experiences will be explored.

The bio-ecological theory of development by Bronfenbrenner (1979, 2005) posits that ‘development is a joint function of the person and all levels of their environment’ (Lewthwaite 2006:3). All systems are interlinked and intertwined, and no one system exists in isolation. As illustrated in Figure 10.2, in the African context, the interconnected nature of the theory can be likened to a spider web: ‘its elements cannot be touched without making the whole web vibrate, everything is connected, interdependent’ (Abrams 1991:126). Levine and Perkins (1997:113) further explain this connection in saying: ‘To understand a tree, it is necessary to study both the forest of which it is part as well as the cells and tissue that are part of the tree’.

At a micro-level, personal and family attributes will influence how learners with visual impairment adapt to the learning environment. These factors will similarly determine the learning and development needs of the learners and how these may



**FIGURE 10.2:** Viewing Gift and his family from a bio-ecological perspective.

influence how the formal and informal curriculum is delivered to them. At an environmental level, it is valuable to consider the physical (i.e. 'time constraints, resource inadequacies, space and facilities') (cf. Hollnagel 1998:69), social and cultural (i.e. friends, family, school, neighbourhood, religion, belief systems and where they live) features of the immediate settings that the learner with visual impairment functions in. In understanding these levels, it is important that families acknowledge that, to enable learners with visual impairment to successfully and meaningfully contribute to the economy as envisaged by the quality education for all frameworks (UNICEF 2007), their individuality, uniqueness, care and support in a multi-system context are crucial. Noltemeyer and Bush (2013) assert that for learners to excel at school, connectedness between the school and the home is required at a meso-level. This is even more important in the case of learners with visual impairment as they are strongly dependent on both systems for successful social and educational transitioning. At this level, the school and the family need to work together and remain committed to develop and implement strategies that can cater for the unique needs of learners with visual impairment.

In the case of limited school-family-community connections, learners with visual impairment may be unable to achieve academically. This will in turn negatively affect their inclusion into society and having access to equal opportunities (Salkind & Rasmussen 2009). Furthermore, Mampane and Huddle (2017) denote that such a breakdown in connection may lead to families believing that their opinions and contributions are not embraced by other school community members, leading to the disintegration of the mesosystem.

The environment in which learners with visual impairment operate will require them to adapt and adjust themselves in a variety of contexts in order for them to survive and prosper (Diale, Pillay & Fritz 2014). Thus, care and support of these learners are central for their optimal learning and development. In this regard, the bio-ecological theory of human development posits that 'development is a joint function of the person and all

levels of their environment' (Lewthwaite 2006:3). This suggests that learning and development for learners with visual impairment can be better understood if the context in which it takes place is considered, more specifically in terms of the role of the family system in their learning and development.

At the exo- and macrosystem levels, external environmental influences, life events and experiences may negatively or positively affect the relations between learners with visual impairment and the environments they find themselves in. This will create a dynamic that may initiate developmental changes (Bronfenbrenner 2005). In understanding these levels, it is important for all stakeholders to acknowledge that, to enable a meaningful and successful contribution to the national, social and economic development by learners with visual impairment, their individuality and uniqueness in a multi-system context are crucial to their learning and development. Failure to acknowledge learners' uniqueness and accommodate their needs may lead to what Gindis (1995) refers to as a 'secondary' barrier, or in other words, the distortion of higher psychological functions because of social factors. In the case of learners with visual impairment, the role of the family in assisting with the development of the learners' unique skills is vital, as these learners are mostly dependent on their families. This need in turn emphasises the importance of adult guidance or peer collaboration as key to achieving the necessary skills (Wadegaonkar, Sonawane & Uplane 2015).

## ■ Family perspectives on visual impairment

'The chief handicap of the blind is not blindness, but the attitude of seeing people towards them'. (Keller n.d.:n.p.)

To fully care and support for a learner with visual impairment, it is important to not only know the family systems they come from, but to also explore the perceptions, knowledge and beliefs they have about visual impairment. Visual impairment can lead to a

learner experiencing a situation where physical and mobility functioning affects the learner's day-to-day learning and development. Although visual impairment is classified as an intrinsic disability, multiple ecosystems contribute to the visually impaired learner's academic and social functioning, whether it is in a negative or positive way. For the purpose of this chapter and to understand the case study presented and the functional definition of visual impairment, also refer to Chapter 1 by Mays and Chapter 2 by Sefotho.

If not well cared for and supported by systems around them, the physical, social and psychological well-being of learners with visual impairments can be negatively impacted as they may experience reduced quality of life in comparison with their peers (Chadha & Subramanian 2010; Khanna, Raman & Rao 2007). This can further impact their socioeconomic status as they may not be able to get into career opportunities and ultimately support themselves and their families (Naipal & Rampersad 2018).

Although the depth, type and degree of visual impairment play an essential role in the day-to-day functionality of the affected learner, other sensory nervous systems can be used as compensatory mechanisms to support them (Majerova 2017). As the first point of social interaction for child development, family members are critical intervention role players who can actively help stimulate the other nervous systems that can assist the learner with visual impairment to cope.

Visual impairment cannot be taken as a straightforward disability that occurs at a particular time in a learner's life. Rather, it entails a more complicated process embedded within the medical, genetic, social and economic contexts, involving a range of relationships and interconnections between the affected child and the surrounding systems (Bronfenbrenner 1979; Fabian & Dunlop 2007). Within the South African context, with a history of education marred by socio-cultural and political challenges, the holistic care and support of learners with barriers to learning (such as visual impairment) have often been neglected. However, the

South African government has since expressed commitment to implementing inclusive education in schools and caring for learners with barriers to learning, including those who are visually impaired, through the implementation of White Paper 6 (DoE 2001).

Based on the four critical aspects propagated by the White Paper 6 (also refer to ch. 4 by Ferreira-Prevost) for equipping all learners with skills necessary for transition (ch. 11 by Sefotho and ch. 12 by Heard), key aspects include the development of emotional well-being, social interaction and sensorimotor skills in preparation of early learning. In addition, the focus should fall on language development and storytelling, as well as play, creativity, critical thinking and exploration. Furthermore, the development of underlying concepts for early literacy and numeracy is a central focus area.

Considering these skills, the role of the family is foregrounded as the basis for learners to develop each of these areas at home. As such, the family can be viewed as the cosmos in which the learning and development of learners with visual impairment start. It is within this system that the child can either be well prepared or excluded to engage with the outside world despite a disability or impairment. If family members are not well orientated on how to care for and support learners with visual impairment, these learners may ultimately find themselves excluded from actively contributing and playing a pivotal role in their own social and economic development and that of society. Despite various policies being in place to advocate the full inclusion of learners with barriers to learning across the various schooling systems (refer to ch. 3 by Bornman and ch. 4 by Ferreira-Prevost), no specific policy exists that focusses on the collaborative role of stakeholders – in particular, the family system in supporting learners with visual impairment – that can support them through family involvement in their learning and development. This subsequent lack of involvement which is often seen is reported in a study by Xu (2007), indicating that teachers generally do not implement strategies that may bridge the gap between the home and school environments. In the same manner, families of learners

with visual impairment have been found to feel disempowered to engage with teachers.

Amongst others, Correa-Torres and Zebehazy (2014) regard issues of culture, language and resources as possible barriers to effective school-family collaboration, which may negatively affect the care or support of learners with visual impairment. In this regard, in another study by Lee et al. (2014), parents expressed their frustration and concern about the future of their children with visual impairment. Parents often experience social isolation and inadequate support from the school and community in caring and supporting their children, as well as receiving high-quality education alongside their peers. These experiences are seemingly experienced globally, resulting in parents facing the responsibility of caring for their children, often with limited systemic support. Against this background, although the South African government has made strides towards coordinating national strategies to systematically address the challenge, there is an urgent need for the formulation of policies or guidelines on schools' collaboration with parents. The education, health and welfare systems should not attempt to facilitate support without involving the family.

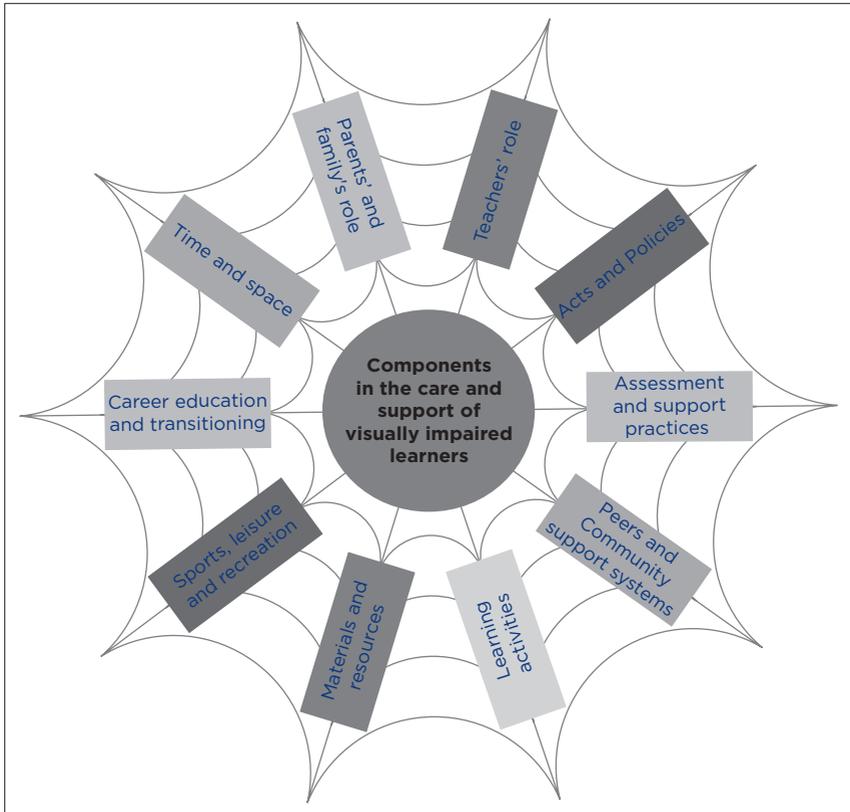
## ■ African systems perspective

The African context of 'self' can be viewed as an interdependent entity shared with all members of the community. Therefore, in the lives of learners affected by visual impairment, this community interconnectedness becomes the lens through which to understand the role of care and support. As espoused by Belay (2005), interdependence constitutes a fundamental aspect of human co-existence; however, for learners with visual impairment, this interdependence is often compromised because of their dependence on others. If not addressed and supported at an early age, such dependence may result in profound and multidimensional adverse effects that are often hard to reverse (Belay 2005; Fayez Alshehri 2016).

As families can be regarded as essential drivers of the social and economic development of their children, families need to know how to support children being challenged by for example visual impairment in the home environment. Yet, they also need to understand the role of the family in the learners' educational trajectory within the school and classroom context, in support of successful inclusion of the child into mainstream education and the existing economic systems. In this process, sound relationships between the family and various other role players are important. These include the child's peers, extended family members, neighbours, the class teacher and the broader community system. In an attempt to demonstrate the role of the family in caring for a learner with visual impairment, Van den Akker (2004) uses the metaphor of a spider web (Figure 10.3), indicating the various components which may have a ripple effect on the care and support of such learners.

The complexity of these components, in particular within a home, school and classroom triangle, relates to their interconnectedness. In this regard, Van den Akker (2004) asserts that pulling one or more strings of the web will cause the web to move, with any dramatic occurrences in the balance resulting in the entirety being pulled out of alignment. In the same vein, prolonged imbalance will result in causing the system to be broken down. As such, it is vital to ensure internal consistency amongst the components as far as possible. However, in the lives of learners with visual impairment, this web may be partially disturbed by the disability. The result is that a failure to harness the remaining strings of the web can potentially lead to the web breaking down. This in turn will limit the learner's prospects of becoming an independent and economically contributing citizen of the country.

Hiatt (2006) asserts that a combination of factors will determine the degree to which learners with visual impairment can successfully adapt to transitioning. These factors may, amongst others, involve the level and severity of the impairment, any comorbid disorders the learner may present with, the



Source: Adapted from Van den Akker (2004).

**FIGURE 10.3:** Spider web model for possible components in the care and support of learners with visual impairment.

capacity to learn, availability of resources and access to required information. In addition, the socioeconomic and educational dynamics that revolve in the various systems will play a role, in terms of 'who' defining 'what' and 'how' relevant to the care and support that is offered by the teacher, school, family and society, as well as how this is transformed into the classroom (Chrisholm & Leyendecker 2008). Thus, it follows that the family is not just a crucial role-player in caring for the physical and material needs of the learner with visual impairment, but also in being active participants in the school and classroom contexts.

## ■ **Role players in the care and support of learners with visual impairment**

For centuries, life skills have been used to empower people to cope with life-transforming circumstances (Ebersöhn & Eloff 2006). Such skills can function as buffers to the complex and dynamic life challenges that learners with barriers to learning may face, including those with visual impairment (DoE 2001). Parents are the first and most significant source of learning and development for their children and can play a vital collaborative role in easing transition difficulties experienced by learners (Yeboah 2002), even more so in the case of learners with barriers to learning such as visual impairment. Various studies (e.g. Britto, Yoshikawa & Boller 2011) highlight the significance of the parental role in specifically the early childhood development years of their children. As many children in South Africa are brought up by significant others, the biological parents may not always be involved in their children's early childhood learning experiences (Mampane & Bouwer 2011). This situation emphasises the importance of not only the parents but also of all immediate role players in the lives of learners, who may contribute to their development and learning experiences.

Although active family involvement is important in the case of learners with visual impairment (Fayez Alshehri 2016), the danger exists that parents of such learners may become overindulgent. This in turn may disable the learners with visual impairment from becoming independent and not allowing them to transition at the different stages of learning and development. On the other hand, parents may also be negligent in caring for their child who is visually impaired, resulting in the learner missing essential developmental milestones and life opportunities, with the possibility of the learner being dependent on others for survival throughout life.

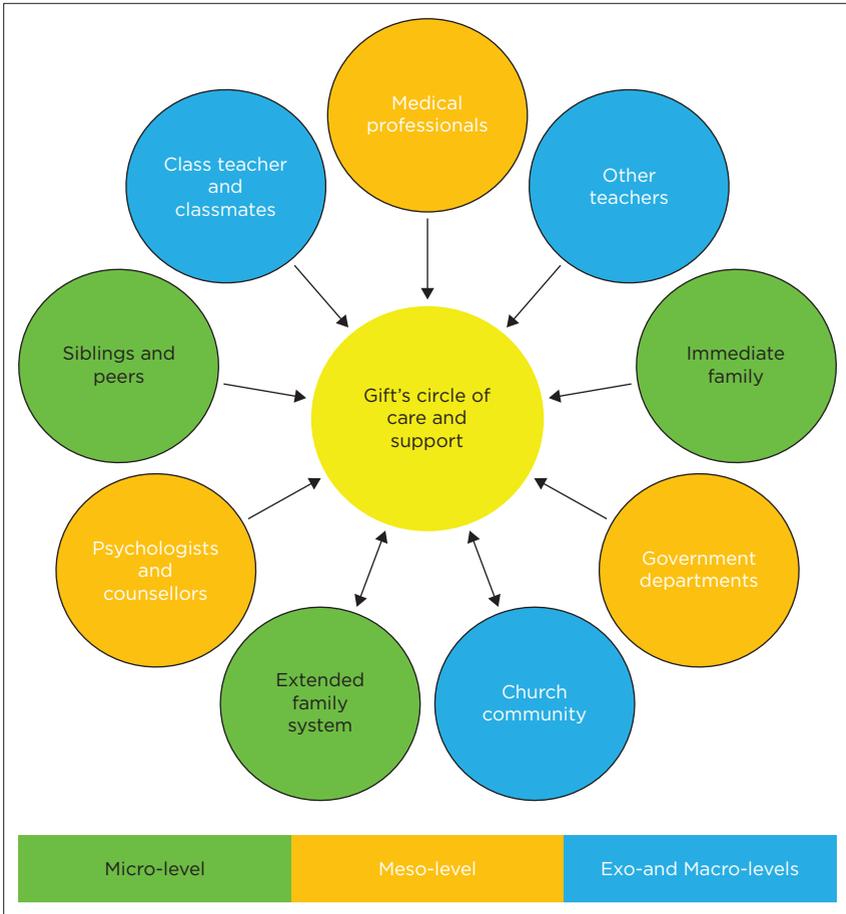
As such, it is crucial for all family members of learners with visual impairment to balance their acts in terms of caring and

supporting the learners with visual impairment. Within the African context, friends (in addition to family members) form an essential part of the close system of the individual and will affect learners' attitudes and behaviours (Singh 2014). The role that friends can play as part of the broader family system in the case of a learner with visual impairment is to provide support during activities where the need exists for peer integration, for example, when parents cannot be involved. Such involvement can in turn circumvent some of the biases, prejudices and stereotypes that are socially embedded within communities with regard to people with disabilities, such as visual impairment (Kef & Deković 2004).

## ■ Application to the case of Gift

In this section, the discussion focusses on the role of the family in the different systems that Gift finds himself in. As indicated earlier, an ecosystemic approach (Bronfenbrenner 2005) is applied to explain the roles of the various supporting structures in the school community, as any learner (such as Gift) is strongly influenced by the social context in which he or she lives and functions. As such, the perimeters of support that are provided to a learner with a barrier to learning, such as visual impairment, can never be limited to the immediate family system. Instead, the totality of the learner (in this case, Gift) should rather be located in the various circles' functions, as illustrated in Figure 10.4.

The critical role played by the family in the learning and development of Gift cannot be underestimated, as learners with visual impairment, together with their families, typically face a plethora of challenges in their day-to-day functioning. They need support to be able to function at an optimal level. Thus, as alluded to by Morelle (2016), it is crucial that learners with visual impairment be supported on various levels and have access to educational interventions that may help them reach their full potential. In Gift's case, both the internal and external circles of support are important for his optimal learning and development.



Source: Adapted from Diale (2010).

**FIGURE 10.4:** Circle of support networks for Gift and his family.

As such, supportive and caring relationships at various levels are key to optimal functioning. This includes his significant carers within and outside the immediate home and school environments (micro- and meso-levels), as well as people from other institutions and communities, in the social, cultural, economic, national and global contexts (exo- and microsystem levels) (Lewthwaite 2006).

## ■ Support at microsystem level

At a personal and biological level, Gift has been diagnosed with Amblyopia in both eyes, with epilepsy and ADHD as co-existing conditions. The comorbid diagnosis poses a significant challenge in terms of his learning and development. This, for example, can be observed in his frustration and acting out behaviour, causing him to be labelled as hyperactive and disruptive in class. In this regard, disruptive learners are prone to be viewed by peers and teachers as 'bad' because of their undesired behaviours, which often result in them being isolated from the group (Marais & Meier 2010). Gift's visual impairment, together with the epilepsy and ADHD, as comorbid disorders, has a specific negative effect on his academic performance as he is said not to be coping with his school work, resulting in the further diagnosis of SLD (Bandla, Mandadi & Bhogaraju 2017).

The support rendered by the family has been practical and was initially provided internally within the home environment; however, once Gift left the nested home and entered the external support system environment, the situation changed. Gift's mother, specifically, experienced the external support that Gift received as being limited. Although Gift and his mother could rely on a healthy relationship with, and continued support from, the other foster parent, she experienced limited support from significant others. This experience is explained by Lee et al. (2014), who postulate that many parents of learners with visual impairment experience frustrations and are concerned about their children's future as they struggle to obtain helpful information and adequate support from the school and community. To this end, stronger family support may ease the learning barriers experienced by Gift, in addition to supporting his emotional or behavioural development and functioning (Kriek & Grayson 2009).

Peer support is seen as the second layer of the circle of support for Gift and his family within the microsystem, both at school and at home. This form of support can be achieved through the

establishment of a peer buddy system and implies positive relationships between Gift and his able counterparts, resulting in the formation of friendships, social interaction and acceptance, in support of Gift fitting into the classroom (Schwab 2017). This system is vital for Gift (or for that matter any learner with a visual impairment) who will require support from outside the immediate home environment to shape and enhance the overall educational experience, strengthen social skills and limit unwanted disruptive behaviour (Adams 2016).

A peer support system implies mutual benefits for Gift and his family as well as his peers, as it enables everyone to gain a better understanding of Gift whilst learning about themselves at the same time (Lee et al. 2014; Alqahtani & Murry 2015; Adams 2016). On the other hand, lack of support for Gift (or any learner affected by visual impairment within the school and family circles) can be detrimental to the cognitive, social, emotional and academic development of the learner. If implemented correctly, peer support can be a significant protective factor in the life of a learner with visual impairment, and thereby an asset to not only the learner but also the immediate family. Although a learner with visual impairment will typically struggle academically, the support and encouragement received from peers can provide a springboard for changing a problem-saturated narrative to a solution-focused story, in the process turning pain into hope.

## ■ Support at meso- and exosystems levels

The mesosystem involves relationships and processes that take place between two or more settings or microsystems (e.g. the home and school, the school and community or social support groups and informal groups) (Gladstone et al. 2017). Although the connections between the different settings are essential, it is also important to consider the transition from one environment to the other. These include the different schools Gift has attended, the different foster home contexts, churches, extramural activities and the expectations from each setting that may have been confusing for Gift as a learner experiencing multiple challenges.

More specifically, at the family level, Gift's mother for example has experienced the support from school as limited, because she is regularly called in to 'discuss what Gift has done wrong but never to talk to me on how they can support me to parent him better'. This has resulted in her feeling frustrated and sometimes not even going to school when called in, in turn leading to Gift's perception that he has to sit in the naughty corner as a result of his mother not attending meetings with the teacher. Although parents of learners with visual impairment are mostly willing to support their children, they also need the support from others. With a lack of such support, parents may become less involved, ultimately resulting in limited parental involvement in the child's school life (McDermott & Rothenberg 2000; Mncube 2009). Lack of sufficient parental involvement may in turn have a negative effect on efforts of support offered by the school system to the learner with visual impairment, as it takes a joint effort to support these learners to optimally develop and learn.

In addition to the school, Gift's mother referred to the support they received from the church community and the community centre as having a positive effect on her parenting role as well as Gift's self-image. In referring to the second foster family, she once again valued the support received from them – either directly for Gift or by taking care of the siblings when Gift's mother had to attend to him. For instance, when taking him for medical appointments, which could take up a full day at the public hospital. Such forms of interactive support and collaborative efforts by others can have a positive effect on the emotional, social and academic development of learners with visual impairment, as also emphasised by Villegas-Reimers (2003).

## ■ Support at the macrosystem level

The third level of possible support for Gift and his family was at the macrosystem level. This refers to the 'overarching pattern of micro-, meso-, and exosystems characteristic of a given culture and setting' (Gladstone et al. 2017:609). Particular reference is made to the large-scale societal factors that may have an impact

on Gift's life such as ideologies, lifestyles, opportunity structure, laws, values, patterns of social interchange and even governmental policies and legislations that are embedded in each of these systems (Bronfenbrenner 2005).

In this regard, Gift's mother referred to the support they have received as a result of networking with different sectors including government organisations, community organisations and non-government organisations. Huberman (2001) emphasises the importance of using networks in strengthening the role of families and providing a circle of care and support for the parents of learners affected by visual impairment. In Gift's case, professional stakeholders such as social workers, psychologists and medical doctors were identified as fulfilling a valuable role in supporting the family system.

Winkler and Bodenstein (in Louw 2008:10) define a circle of care as 'a group of people and organisations within the community who commit themselves to provide care and support' in support of community upliftment. This circle of care and support may include the school, health workers, religious leaders and NGOs, as in the case of Gift. Such a circle of care and support is shown in Figure 10.4, representing the value of a bio-ecological approach when providing care and support to learners with visual impairment. From the above, it is clear that there is a need to develop, implement and share practices that can add value to the lives of learners with visual impairment and address their needs. These needs can only be met through a collaborative effort involving the families of these learners, their peer networks, education stakeholders and relevant outside experts (Schlager & Fusco 2003). In this regard, Bronfenbrenner and Morris (1998) assert that such proximal or near processes with people and objects in these settings can be regarded as central to human development.

## ■ Implications for teachers

It is important to note that although the family is the primary caregiver for the visually impaired learner, by virtue of their loco

parentis status, teachers become the secondary caregivers as they spend most of the day with these learners. This parenting role takes place at both the micro- and mesosystem levels, and this has implications for the teachers in the classroom. Amongst other support systems available, teachers and schools need to understand some of the practical ways of caring and supporting for visually impaired learners such as (also refer to ch. 9 by Botha):

- Teachers need to understand the direct impact of visual impairment on early child development and thus provide opportunities that allow them to play, interact and explore their immediate environment. Within a microsystem level, and taking into consideration inclusive education, teachers can use a buddy system where they pair the visually impaired learners with their friends who are full sighted.
- At a mesosystem level, the family, together with the teachers and the school, must take into consideration that a learner with visual impairment might have a number of other medical needs or other impairments. It is therefore important for these stakeholders to constantly communicate with each other and to communicate their observations of the learner's behaviour, or reaction, to situations. Such observations will assist the other professionals involved in the care and support of visually impaired learners, thus alleviating the stress on the family system as the primary caregivers.
- Teachers must be able to encourage unstructured yet safe play sessions both in school and at home for the visually impaired. Such sessions have the potential to encourage enabling environments for the visually impaired learners as well as encourage them to play, which will assist a learner with visual impairment to feel confident and comfortable within their environments before they explore other unfamiliar environments.
- At an exosystem level, the teacher must develop links with organisations and/or professionals that are involved in the learner's development. The school and these organisations can develop programmes that are geared towards empowering

the family, as primary caregivers, to support their visually impaired children, whilst indirectly influencing the processes within the community to support these learners.

The ultimate implication for teachers working with learners with visual impairment is to ensure that they encourage these learners and their families to thrive and develop to the best of their abilities, irrespective of the impairment. However, it is important to consider that such development may sometimes be challenging for many learners in a poverty-stricken context. No matter how effective the interventions may be, if policies that pertain to socio-cultural, economic and structural factors at the exo- and macrosystem levels are not addressed, these interventions will have little or no impact in encouraging visually impaired learners to thrive and develop within their communities, with the aim of ultimately contributing to the world of employment.

## ■ Conclusion

In this chapter, the central role of the family in the education, care and support of learners with visual impairment was highlighted. Based on the discussion, it can be concluded that the success of such learners lies in the outcome of collaborative efforts by the different stakeholders at all ecosystemic levels. More specifically, at an individual level, learners with visual impairment should be taught social and life skills that can enhance their emotional and behavioural development and allow them to become independent of other family members from an early age. At the micro- and mesosystems levels, significant adults in the homes, classrooms and schools where learners spend their time are required to reflect on how their behaviours and actions may model positive or negative attributes that may contribute to the resilience of learners with visual impairment. At an exosystem level, the schooling system (policies) and community can make a positive contribution to the inclusion of these learners within society.

Finally, at the macrosystem level, as a nation, some reflection is required in terms of areas for improvement for policy implementation. In this regard, the need exists to promote a positive bond amongst all systems that are responsible for the care and support of learners with visual impairment. In the words of Hellen Keller, 'Blindness is an unfortunate handicap, but the true vision does not require the eyes'.



# Transition, entrepreneurship and decent work

**Maximus M. Sefotho**

Department of Educational Psychology,  
Faculty of Education, University of Johannesburg,  
Johannesburg, South Africa

**Keywords:** Transitioning; Inclusion; Comorbid; Peers; Barriers to learning.

## ■ Introduction

Transition within the South African context is often perceived as merely related to the move away from apartheid in 1994 and the years that followed (Hammett & Staeheli 2013). Although this may be true for the socio-political and economic contexts; in education, transition for learners with visual impairment, in particular, is to be understood to mean 'life changes, adjustments,

**How to cite:** Sefotho, M.M., 2020, 'Transition, entrepreneurship and decent work', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 315–335, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.11>

and cumulative experiences that occur in the lives of young adults as they move from [home], school environments to independent living and work environments' (Wehman 2006:4, as cited in Wehmeyer & Webb 2012:3). Against this background, in this chapter, transition is examined from home to school, post-school and into the world of work. According to Malan (2018), some parents experience shock when their children have to leave home, because they as parents were never being prepared. As such, the journey of both young people with visual impairment and their close family members is generally filled with opportunities, yet also pose distinct challenges. As opportunities may be stifled by disabling societal attitudes and contexts, challenges may easily outweigh the opportunities for the people involved because of the visual impairment.

South Africa does not currently have a transition programme in place that is dedicated to support learners with disabilities in general, or those with visual impairment in particular. Whilst learning support caters for the academic development of learners, their career trajectories are generally not targeted, leaving many of them in a position where they do not know what to expect or how to react when leaving school. This chapter is an attempt to moot this idea of the transition for learners with visual impairment in light of not 'leaving them in the dark'.

## ■ Overview of the chapter

The chapter reviews transition and visual impairment, career development and visual impairment, transition education and self-determination, entrepreneurship as empowerment, and concludes with decent work and visual impairment. This chapter provides fundamental reflections to aid our understanding of transition to the world of work. Anchored on our indigenous knowledge systems, the chapter includes the family as part of being important role players in the transition of learners with visual impairment. The use of the case study in the chapter provides for practical applications of the theoretical aspects to

enhance further understanding. Transition is a novel concept in South Africa, or at least one that has not developed well. However, this chapter highlights the importance of transition in the face of uncertainty surrounding career guidance and counselling. The chapter does not pretend to replace career guidance and counselling, but it sets out to inter-link where possible and to fill gaps that may be evident in the transition of learners with visual impairment.

## ■ Definition of key concepts

### ■ Decent work

Entails work that is aimed at 'promoting the dignity of workers, advancing human rights at workplaces and helping to eradicate poverty' (Suttawet & Bamber 2018:540).

### ■ Entrepreneurship

Presupposes an informal, necessity-driven enterprise to cater for self-employment that can later develop into a formal enterprise.

### ■ Transition

Life changes, adjustments and cumulative experiences that occur in the lives of young adults as they move from school environments to independent living and work environments.

## ■ Case study

Thuso grew up having full vision, until the age of seven when he was hit on the head by a stone whilst playing with others. Since that day, he started experiencing severe headaches and tearing eyes. Owing to poverty, he was not attended to by medical practitioners and his vision started deteriorating. Throughout his primary school years, Thuso struggled to read and write. His performance was below par and the teacher was very impatient

with him, labelling him as ‘dumb’. Thuso repeated every year, yet no one ever asked how they could assist him. He subsequently learned braille, but found this to be challenging.

When Thuso entered high school, there was less use of braille, with the use of computers being encouraged. Because, at that stage, he had not mastered braille sufficiently enough, he found it extremely difficult to transfer the little he had learned in braille to the computer. The pace of teaching at high school level was much faster than in primary school, resulting in Thuso not being able to keep up with daily work and falling behind terribly. Thuso consequently spent more years in high school than normal whilst developing into a young man ready to join the world of work. However, he did not know what kind of work he wanted to do. His school teachers were not supportive in terms of his career design and often told him that he was disabled and should just accept his fate.

One day, Thuso met a teacher from another school who introduced him to a concept called hephapreneurship (Sefotho 2017). The teacher explained that this concept meant that Thuso needed to think about what he was most passionate about in life and developed himself along those lines. Thuso immediately indicated that he liked singing and business, and was encouraged to cultivate these abilities within the school context and see what happens. As a result, Thuso started a choir at the school which led to a positive change in his morale. He was allowed to play the school piano and an external teacher was brought in to tutor him. His performance in his subjects began to improve drastically, which once again had a positive effect on his self-concept. Thuso decided to ask the school whether he could start giving music lessons to other students after school hours and charge them a small fee. Upon graduating from high school, Thuso’s business had grown and was attracting learners from neighbouring schools. Thuso won a scholarship to study at a music academy outside the country on condition that he would return and plough back into his home country. After four years of study, he graduated

with distinction in music and business studies, and returned home. Thereafter, with the savings he had made, Thuso started the Thabaneng Music Academy, where he taught music to students from disadvantaged areas and assisted them in establishing their own music bands.

## ■ Transition in the context of visual impairment

As indicated earlier, the transition of learners with disabilities must be traced from the moment they leave home to enter school, through to the world of work. Transition is critical for learners with visual impairment as unfamiliar contexts generally become too complex for them to navigate. As indicated in the Introduction of this chapter, transition is taken as 'life changes, adjustments, and cumulative experiences that occur in the lives of young adults as they move from [home] school environments to independent living and work environments' (Wehman 2006:4, as cited in Wehmeyer & Webb 2012:3) for the purpose of this chapter. The first part of this definition embraces the understanding of transition to not only start at school but to run from home right through to the world of work, as life changes commence as soon as learners with visual impairment change familiar contexts.

Considering the apparent gap in literature related to transition being generally linked to experiences from school to the world of work only (Sharp 2018), it is clear that many learners are excluded, such as those not being in school because of disability and being confined to their homes. On the contrary, the argument in this chapter encourages the idea that transition should be considered as a societal issue that involves all stakeholders interested in the success of a learner with a disability and how they navigate the different developmental stages in their lives. The chapter thus places a strong emphasis on transition starting at home and in terms of the educational arena, it starts at early childhood and continues through to adults with disabilities who may not have

had a chance to achieve at, or benefit from quality schooling (Vaks et al. 2016).

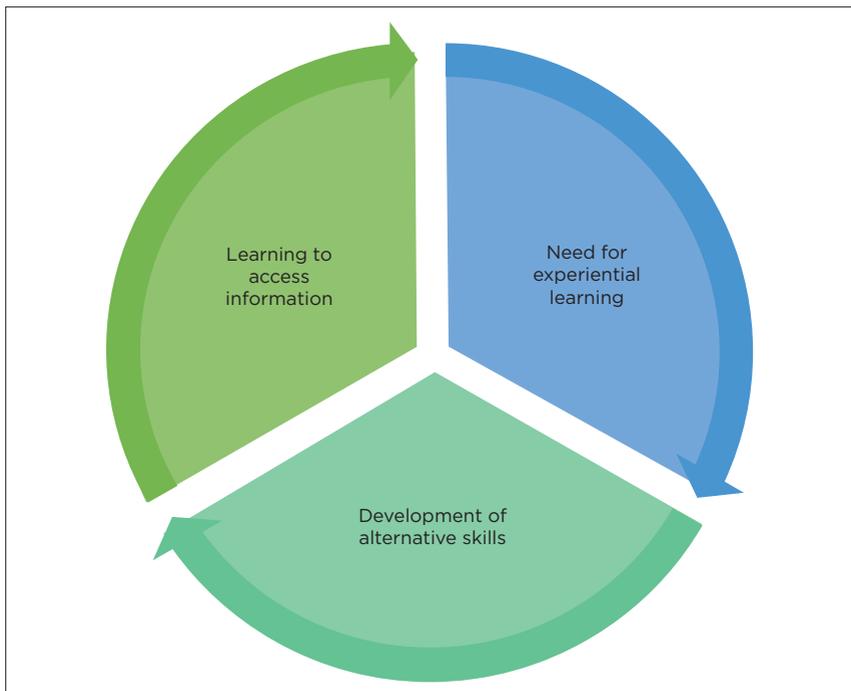
Sharp (2018:10), however, notes that there is generally ‘...inadequate transition planning and support, a lack of coordination, and inadequate communication between service systems’. This is of specific importance for learners with disabilities such as visual impairment. Against this background, this chapter aims to encourage transition services that begin with the families of learners with disabilities in order to assist them to transition into supporting their children in transitioning from home to school. Transition should be perceived as a social responsibility and never as an experience that may merely lead learners with disability on the road to nowhere (Beresford 2004). Following a study with blind and partially sighted young people in the UK, Hewett, Douglas and Keil (2016) found that young people with visual impairment are typically categorised as not in employment, education or training, and that there is a significant difference between the employment levels of these people and their sighted counterparts. Furthermore, the implications of being not in employment, education or training imply normative exclusions from employment as no skills would presumably have been acquired from education and training. However, people with visual impairment must enjoy the same equal rights as anyone else (refer to ch. 3 by Bornman), including the rights to education and employment as well as living as they prefer. However, without proper education and training, it is complex to acquire employment, often resulting in the need for lifelong support by people with visual impairment.

## **■ Life changes and adjustments required by people with visual impairment**

Key to the definition of transition provided above is life changes and adjustments required of learners with visual impairment. The way in which life changes are experienced will differ from person to person and from the type of disability in terms of the

adjustments to be made. Career development is, however, perceived to be well placed in playing a pivotal role in providing direction to people with visual impairment to navigate their transitional stages. For this to happen effectively, three important areas need to be considered, as depicted in Figure 11.1. These are the need for experiential learning to be facilitated with the learners, the development of alternative skills, and for them to learn how to access information. Teachers of learners with visual impairment can promote these both in educational contexts and during career development.

Experiential learning can provide learners with visual impairment with the environmental information they need to navigate their contexts. Orientation is generally required for a



Source: Adapted from VDOE (n.d.).

**FIGURE 11.1:** Experiences of life changes in transition.

person to become accustomed to the environment (refer to ch. 7 by Heard), with the classroom teacher potentially fulfilling a supportive role. Campbell (2017) echoes Gearheart (1976) in arguing that:

[7]he concepts of 'learning by doing' and 'teaching by unifying experiences' are... particularly important to the student with impaired vision because they may not have the same experiential background as other students of the same age. (p. 63)

It follows that learners with visual impairment should be provided with multiple opportunities to experience the various contexts into which they will transition even prior to the actual transition. This will prepare them not to be too anxious when having to make the transition. Where possible, simulators should be used, followed by real-life experiences.

Next, learning to access information is fundamental for the transition process of any learner with visual impairment as these learners may not necessarily have the opportunities to be provided with the information they require at all times in their future lives. The skill to know how to access information is crucial in the case of people with visual impairment as inaccessible information can be a major barrier in daily functioning (Tichauya et al. 2012). For the sake of lifelong career development, Malan (2018:59) encourages the development of such skills and transition for the various areas of transition from 'home to school, transition from low vision to blindness, and transition from school to society and/or the world of work'.

Finally, the development of alternative skills can facilitate learners' readiness for transition. These may be accommodated through modifications and accommodations in support of the processes of transition which will require alternative skills on the part of learners who are visually impaired (Coetzee 2016). Such skills, for example include the skills required for transition from using braille to using a computer, as was required of Thuso when he entered high school. Acquisition of alternative skills, often facilitated by O&M specialists (refer to ch. 7 by Heard),

can support learners with visual impairment to be included on more levels and encourage them to participate more actively in daily activities. Within the context of transition, learners with visual impairment are to be provided with varieties of alternatives in order to allow them to experience accommodative transitions.

## ■ Relevance of the experiences of change to transition

The music experience of forming a choir and being allowed to play the school piano provided an experiential learning for Thuso. Giving music lessons to other learners after school served as a good platform for Thuso to hone his music abilities. If learners can be placed on learnerships and internships, they must be encouraged to do so. This would provide them opportunities to interact with others, sharpen their skills and gain confidence. Experiential learning can serve as a good space for learners with visual impairment to test their skills and strengthen the areas in which they feel the need for more training. Equally, experiential learning could provide opportunities to form networks and partnerships (Ebersöhn & Ferreira 2012). Teaching for learners with visual impairment could be based on experiential education (Eyler 2009). In case the skills learned through experiential learning and accessing information are found to be lacking, this could be an opportunity to develop alternative skills.

The development of alternative skills was evident in Thuso's case. The advice he received from his teacher to consider hephapreneurship (Sefotho 2017) could have promoted the inception of the Thabaneng Music Academy. The running of an entrepreneurial project requires a different set of skills altogether. Thuso was confronted with developing alternative skills in running a business such as an academy. This could be a valuable lesson for learners with visual impairment that they should also be confident to develop alternative skills.

Early transition experiences form a platform that should inform decisions about later transition adjustments. In this section, let us apply the above model to the case of Thuso. The experiences of not being able to make the transition from using braille to computers for Thuso indicates a gap in using foundational skills and knowledge for subsequent learning experiences. Thus, Ebersöhn (2008) encourages recognising children's resilience as assets. Learning to access information, therefore, becomes critical for learners with visual impairment. Teachers must train learners to access relevant information that assists them in their transition from the acquired set of skills to the required ones. Learners with visual impairment should be supported to take advantage of technological advancement to access the information they need for smooth transition experiences.

## ■ Career development for learners with visual impairment

Career development is poised to provide professional life design and career path models for people to be able to plan their future career paths (Taylor & Beukes 2019). For people with disabilities in general, and those with visual impairment in particular, career development is anchored in an orientation that is emancipatory ('concerned with critiquing and transforming the world of work such that social justice is better served'; Sultana 2017:10). In line with the spirit of this chapter which emphasises the importance of starting transition services in the early years, Lindstrom, Kahn and Lindsey (2013) emphasise the need for navigating the early career years of people with disabilities. Supporting this, Oertle and O'Leary (2017:2) suggest 'targeted career development initiatives', for example, aimed specifically at people with visual impairment. As literature on career development for people with visual impairment is very scarce, ongoing research and initiatives are required in this field in order to address a very relevant need of a larger group of people.

As such, this field is a fertile ground for more focused and targeted research in order to develop career development models, more specifically for people with visual impairment. It will be a social injustice to paint all people with disability with the same brush, as complex diversities are evident within the phenomenon of visual impairment itself. For example, the cases of comorbidity of visual impairment and deafness, or visual impairment and other disabilities (also refer to ch. 5 by Bornman and Heard) will require unique approaches to career development, with no one-case-fits-all approach existing (Kancherla, Braun & Yeargin-Allsopp 2013). As various disabilities and unique special needs will have different effects on the developmental stages of learners, career development and career development prospects will also be affected (Elsman, Van Nispen & Van Rens 2017). Despite various initiatives and developments across the globe, people with visual impairment continue to experience high levels of unemployment (Bell & Mino 2015). As a result, targeted career development opportunities should be afforded to those who can function at the work place or wish to enter the entrepreneurship space.

Entrepreneurship, as a career for people with disabilities, however, requires support through government's political will. Instead of educating and training people with disabilities for employment by others, it could be prudent to train them for independence in creating their own business entities to answer to their employment needs, as in the case of Thuso. However, because of their disabilities, most people with disabilities may not participate on equal bases with others in mainstream entrepreneurship (Muñoz et al. 2019). They are mostly urged by circumstances to enter into 'necessity-driven entrepreneurship... pushed into entrepreneurship because all other options for work are absent or unsatisfactory' (Williams & Round 2009:96). In general, entrepreneurs with disabilities will typically enter into informal entrepreneurship, '... unincorporated ... unregistered [and]... for which no complete set of accounts... is kept' (Williams & Shahid 2016:1-25).

This scenario highlights the importance of entrepreneurship education in order to up-skill entrepreneurs with disabilities, especially those with visual impairment. It furthermore calls for practitioners who work with learners with visual impairment to acquire career development-related competencies which can address their career design needs. In line with the spirit of inclusive employment, societies are moving towards the stage of 'no limits employment', where employees consider all candidates based on the merits of the skills and abilities they possess, instead of their disabilities. However, education is paramount in this move to include learners with disabilities from their homes to the world of work.

Systematic, targeted and well-planned career guidance and counselling should thus be provided for learners with visual impairment. The 'no limits employment' approach can form the basis of developing career exploration sessions which provide career-related information to facilitate informed choices by learners. Following the principle of lifelong education, career development for learners with visual impairment should start from the cradle and can only end at the end of life, as emphasised repeatedly. As in the case of all other learners, learners with visual impairment should not only be provided with in-depth knowledge of a variety of careers according to their interests but also be made aware of careers that are often held by people with visual impairments.

## ■ Transition education and self-determination

Du Toit (2005:1) describes transition in broad terms as 'a comprehensive approach to educational program development consisting of an alignment of student goals with educational experiences and services'. This view dovetails well with the transition for learners with visual impairment, in that development of educational programme is tailor-made according to their needs and goals and will benefit them individually yet also benefit

society at large. It remains problematic that a formal transition project has not yet been implemented in South Africa, necessitating ongoing research and efforts in this field. An initiative taken in 2005 by the Human Sciences Research Council, investigating the role of career guidance and employment services in the process of transition, has seemingly not resulted in any changed practice or revised policy (Du Toit 2005), once again highlighting the importance of continued efforts in this area of research and practice.

In the field of education, preparation for transition could potentially find a home in the career development unit of the DHET, linked back to the DBE as well as education desks in all areas of disability in general, and also the education desk of national organisations focusing on the blind. More specifically, transition educational programmes are required to address the learning and employment needs of people with disabilities in general and those with visual impairment in particular. Throughout, 'the inclusive process of school-to-work transition' should form the basis (Du Toit 2005:4), which is a lifelong process which starts at home. As a result of such guidance, learners with visual impairment can be encouraged to identify possibilities where they can contribute to their own families and communities, thereby being self-determined (Wolffe & Erin 2012).

Self-determination is a central tenet of transition for people with disabilities. It can be seen as a key that can unlock potential; with people advocating and striving to fulfil their own needs and goals (Wolffe & Erin 2012). In this regard, Ryan and Deci (2000:227) note that 'self-determination theory maintains that an understanding of human motivation requires a consideration of innate psychological needs for competence, autonomy, and relatedness'. It follows that the transition of learners with visual impairment should be anchored in competencies that can be acquired, autonomy that must be gained and self-determination related to the contexts within which learners with visual impairment function. In this regard, entrepreneurship may be used as a transition principle for people with visual impairment in

order for them to develop their own enterprises. The acquisition of entrepreneurial skills can thus empower learners with visual impairment for their transition from home to decent work.

## ■ Entrepreneurship in support of empowerment

The view that people with disabilities constitute a ‘forgotten minority in the world of entrepreneurship’ may be a fallacy (Cooney 2008; Györi, Svastics & Csillag 2019), as recent directions in entrepreneurship have expanded research and look at it through the lens of disability (Williams & Patterson 2018). The intersection of disability and entrepreneurship is propelled by the human need for freedom and autonomy to construct a career of choice. Fundamental to this intersection is the human need to live meaningfully, experiencing a fulfilling life. Such a meaningful life will more often than not emerge from political and economic freedom. People with disabilities are, however, neither politically nor economically free. Based on their disabilities and circumstances in their contexts, some people with disabilities are trapped in poverty and perpetually dependent on others. As such situations are both inhuman and inhumane, the argument put forward in this chapter focuses on entrepreneurship as an avenue to empower people with disabilities in providing them with the autonomy to live as they wish. However, as also emphasised by Williams and Patterson (2018), it should be kept in mind that entrepreneurship is not for everyone, and that it is not an easy way out of unemployment or a quick fix for poverty. Nonetheless, entrepreneurship offers an alternative to the lack of employment as well as freedom and hope for a better life.

Entrepreneurship, as a form of empowerment, has been researched by Mpofu and Shumba (2013:135), who indicate that, ‘for effective economic empowerment people with disabilities need to take part in empowering activities of their communities such as entrepreneurship’. In support, Muñoz et al. (2019:2) indicate that ‘exposure to education affects students’

entrepreneurial attitude'. As such, empowerment can be regarded as an important ingredient to positively affect entrepreneurial attitudes amongst learners with visual impairment. To this end, the empowering nature of education can be used to equip learners with visual impairment throughout their transition experiences from home to the world of work.

However, for such efforts to be successful, it is important that all stakeholders involved in the life of learners with visual impairment consciously and systematically use education to promote entrepreneurship. It should be scaffolded through education in order to empower these learners. The scaffolding process may, for example, start with an employment placement organised for a learner through, for instance, a learnership as the learner transits through different educational levels. In such cases, learners can be exposed to the work place whilst allowing prospective employers with opportunities to learn to accept and work with people with visual impairment and identify the abilities they possess. In this manner, learnerships can empower learners to transfer the skills they have acquired to the workplace and work towards employability. However, society must not lose sight of the fact that '...most people with disabilities resort to self-employment as their main income-generating activities' (Muñoz et al. 2019:3).

## ■ Application of self-determination to the case of Thuso

Thoma, Williams and Davis (2005) observed that self-determination has been identified by many researchers as a critical component of transition for learners with barriers to learning in general and by extension for learners with visual impairment. Despite non-assistance from his teachers, Thuso was resilient (Ebersöhn 2013). Thuso's effort to start a choir at school and eventually establish a music academy was evident of autonomous self-determination (Patrick & Williams 2012). The principle of autonomy should be fostered through education for

learners with visual impairment. An autonomous person establishes networks and this speaks of the principle of relatedness under self-determination (Ryan & Deci 2000). Self-determination is also likely to propel the acquisition of relevant competencies by learners with visual impairment in preparation for decent work.

## ■ Decent work and visual impairment

Generally, ‘youth with visual impairment are the least likely to be employed’ around the world (Wolffe & Erin 2012:436). However, all human beings deserve participation in decent work in order to live decent lives. Decent work, as promoted through the Sustainable Development Goal 8 (SDG; Lim, Jørgensen & Wyborn 2018), aims to ‘promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all’, and has gained general acceptance as a basic standard towards which all societies must develop (Suttawet & Bamber 2018:540). As such, decent work in the 21st century seems to be taken as the standard or the norm for inclusive work. This plight for decent work emanates from the desire for human dignity and recognition of universal human rights (Morberg Jämterud 2016). Human dignity for people with disabilities can, in turn, be viewed as a moral idea to promote decent work (Zylberman 2016). In order to achieve this, when seeking employment, people with disabilities need to consider careers which match their skills, abilities and interests. The first step would be to afford people with disabilities the necessary training to support them in terms of the process of searching for employment. People with visual impairment may in addition require a specific set of skills that can allow them to participate in decent work. Therefore, it is always important to consider their profiles in relation to the demands of a specific career when guiding them, as they may have to transition into a new context dictated by the work they are expected to perform.

## ■ Preparing learners to search for employment

People with visual impairment look for jobs just like other people do who wish to be employed. However, part of empowering them would be to support them in undertaking a career and environment analysis in order to match their capabilities to the demands of a potential job. Teachers in the classroom can easily include this process as part of career development as well as discussions on labour market knowledge and analysis. At an individual level, skills repertoire of people with visual impairment has to be considered when looking for employment and identifying possibilities. When considering McDonnall and O'Mally's (2012:133) statement that, 'early work experiences are a key predictor of future employment for transition-age youths with visual impairments', it seems clear that opportunities, such as learnerships, for youth with visual impairment can place them in an advantageous position based on the opportunity to acquire some experiences. Part of an assessment of capabilities can also be based on such learnership experiences, which can, in turn, inform their work experiences.

Closely related, another strategy that could be used to support people with visual impairment to look for employment is through customised employment (Riesen & Morgan 2018), which is regarded by Riesen, Morgan and Griffin (2015:183) as a '... strategy that has shown promise in improving poor employment outcome for individuals with disabilities'. For Inge (2007:63), 'Customised employment begins with an individualised determination of the strengths, needs, and interests of the job candidate with a disability'. The aim of customised employment is thus to connect someone seeking employment with a prospective employer in order to establish common ground in terms of addressing the needs of both parties within the employment context (Ho 2018). Teachers and transition specialists are able to facilitate such a process; however, if in existence, government policies may have

a more significant effect. It follows that customised employment can provide a platform to people with visual impairment for seeking employment with both parties being involved.

Despite these possibilities, the policy landscape in some countries may still be an impediment, necessitating that advocacy plans are put into place in order to formalise employment policy that is pro-disability. For example, most people with disabilities in South Africa depend on grants for survival. In such cases it is important that governments do not impose a disincentive by taking away a grant when a person with a disability obtains employment (McDonnall & O'Mally 2012). Such grants can rather be used to support economically people with disabilities in their endeavours to find employment and establish themselves in careers.

## ■ Discussion

Transition programmes are targeted at supporting learners with different disabilities to reach their potential and participate in productive livelihoods. Transition in South Africa generally addresses ‘...the imperatives of redress, development, and equality’ (Hammett & Staeheli 2013). All these imperatives apply to the plight of people with visual impairment, especially learners who were found to have been left in the dark by Section 27 (Hodgson & Khumalo 2015). Transition in the South African education system could therefore play a pivotal role in supporting numerous learners with visual impairment in progressing between their different developmental stages from home to school and later into the world of work without being overly anxious. However, an open mindset to support is required and should include possibilities for learners to participate in entrepreneurship.

As indicated earlier, entrepreneurship is an important alternative to unemployment for people with visual impairment. Even though not every person with visual impairment will thrive as an entrepreneur, those who wish to pursue this option, in order to improve their livelihoods, need to be empowered and supported.

Against the background of a study conducted by Balcazar et al. (2014), which indicates a great under-representation of people with disabilities at the workplace, it seems clear that several opportunities may exist for this group of people for participation, for example, through entrepreneurship. However, Lindstrom et al. (2014:41) emphasise that 'career and vocational programs in school are also critical in developing the skills and connections needed to obtain post-school employment'. As such, a balance should be maintained between career guidance programmes and skills development on the one hand, and entrepreneurship education on the other.

Decent work for people with visual impairment may, however, suffer the same fate as that of all people with disabilities, despite many efforts to attend to the imperatives of redress, development and equality. According to Engelbrecht, Shaw and Van Niekerk (2017):

Although South African policy identified youth with disabilities as a priority target group a decade ago, the government has, for example, opted not to apply a quota system in labour legislation that facilitates employment of people with disabilities. (p. 1)

Against this reality, it is important that people with disabilities and all stakeholders that support their course intensify efforts of advocacy and agitate for the implementation of pro-disability policies.

## ■ Implications for the classroom

Transition could metaphorically be equated to the long white cane for people with visual impairment. More specifically, transition should serve as a fundamental support system in the classroom to identify and fill transition gaps that may be experienced by learners in class, between levels, in the navigation of the curriculum and/or the use of support material unfamiliar to the learners. Transition could also be considered as a lifelong process that addresses career design issues of learners with

visual impairment to constantly track their preparation for the world of work. Owing to the importance of this aspect, transition education should be on the agenda of every teacher who works with learners with visual impairment.

Within the problematic current scenario of high unemployment rates in many countries as well the fact that people with disabilities have limited possibilities in terms of employment, entrepreneurship should form part of any transition programme offered to learners with visual impairment. The national South African school curriculum currently highlights entrepreneurship as an alternative to formal employment which is of particular relevance in the case of learners with visual impairment. Targeted lessons on entrepreneurship may, however, address issues of redress, development and equality.

In preparing learners with visual impairment for transition, teachers and all relevant stakeholders should remain cautious of the fact that people with disabilities are generally relegated to discrimination and marginality, often not supported by policy and practice. As a result, the world of work is not yet open to them in the same manner as it is to other learners. As a result, teachers have the responsibility to create awareness amongst learners and engage in discussions with them in order to prepare them for the reality they may face when transitioning to the work environment. It is thus important that these learners realise that decent work may be a mirage for most of them if they depend on being employed by others; however, it could be a reality if they create their own employment and also employ others.

Teachers play a pivotal role as coaches, mentors and guides for learners to appreciate that well-planned transition, decidedly chosen entrepreneurship can serve as bridges towards decent work. Transition, like all other teaching and learning activities, requires competencies that each transition teacher or practitioner must have. For teachers of learners with visual impairment, the following practical suggestions are recommended to form part of a repertoire of skills required:

- Transition-focused professional development (Holzberg, Clark & Morningstar 2018:54–55)
- A focus on the four essential elements of professional development:
  - Relevant content focus that aligns with educators’ knowledge and beliefs
  - Opportunities for active learning
  - Team-based participation
  - Sustained planning and implementation, which occurs over time (i.e. coaching, feedback, ongoing training).
- Transition planning (Morningstar & Mazzotti 2014):
  - Student-focused planning
  - Student development
  - Family involvement
  - Community participation skills.

All these competencies will depend on the context, and teachers will be engaged in research that responds to the needs of their learners. Teachers stand a better chance to use their experiences as bases for knowledge and sharing of skills they use on a daily basis to support the learners.

## ■ Conclusion

Transition for learners with visual impairment can be regarded as a *conditio sine qua non* in the journey from home to the world of work. Although not yet developed in South Africa, introducing a formal transition programme in schools may benefit many learners with disabilities who are often lost in the system and subsequently become part of the so-called missing middle. Entrepreneurship appears to be a vital alternative to unemployment amongst learners with barriers to learning, such as visual impairment, and should form part of the preparation of learners to leave the familiar school setting when entering the world of work.



# Transition from school to tertiary education

Ann Heard<sup>a,b</sup>

<sup>a</sup>Private practice,  
Pretoria, South Africa

<sup>b</sup>Department of Educational Psychology,  
Faculty of Education, University of Pretoria,  
Pretoria, South Africa

**Keywords:** Articulation gap; Social model for disability; Challenges of transition; Barriers to learning; Educational transition.

## ■ Introduction

This chapter focuses on possible changes that can be introduced at school and tertiary levels that may support learners with visual impairment (see ch. 7 for definitions) to cope with the transition from school to tertiary education. Following such a transition, the learner should be able to advocate for themselves, effectively use suitable technology and be able to gain access to tertiary workforce that has some understanding of blindness or visual impairment and its effects. In South Africa, the levels of

**How to cite:** Heard, A., 2020, 'Transition from school to tertiary education', in R. Ferreira & M.M. Sefotho (eds.), *Understanding Education for the Visually Impaired* (Opening Eyes Volume 1), pp. 337–361, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2020.BK179.12>

commitment towards people with disabilities vary considerably between institutions, as is the case with resources allocated to address disability issues. This is specifically the case within sectors such as tertiary education (DHET 2018).

According to the ICEVI (2019), the following statistics capture the current status of visual impairment at a global level:

- 285 million people are estimated to be visually impaired worldwide, with 39 million being blind and 246 million having low vision.
- About 90% of the world's visually impaired live in low-income settings.
- Less than half of all learners with visual impairment are receiving education.
- Female child with visual impairment receives less attention and is more often discriminated against male child.
- Almost none of the growing number of learners with visual impairment together with additional disabilities receives any educational services.

Over recent years, the ICEVI has been running programmes that may promote advocacy amongst high school learners with visual impairment. To this end, the ICEVI underlines the need to mobilise leadership amongst youth with visual impairment in all regions in order to make them change agents who can influence policy and programme development at country and community levels. Significant progress still needs to be made in certain countries such as South Africa in order to bridge the articulation gap for learners who are visually impaired and are in the process of making transition from school to university. These learners need to be empowered to advocate for policy and programme change in line with the White Paper 5 which emphasises that government policy on early intervention has to protect the child's rights to develop their full cognitive, emotional, social and physical potential (DBE 2001).

During the past 30 years, views on disability have shifted from an outdated medical model to a social view of disability. According to the earlier medical model, people are disabled by their impairments or differences. On the contrary, the social model states that disability is caused by the way society is organised, rather than by a person's own impairments or differences (South African Human Rights Commission 2017).

This paradigm shift highlights the need for schools, tertiary institutions and employers to create environments where people with disabilities are able to function to their greatest potential, for example, by providing people with a disability with the necessary devices and equipping them with the skills required to be independent in whichever environment they function at a given time. Specific changes are required in the post-school, education and training (PSET) system. A standardised enabling environment in all PSET institutions and programmes has to be created to include people with disabilities to develop accessible learning, recreation and support environments and to coordinate and cooperate across the PSET system to mainstream disability (DHET 2018).

## ■ Overview of the chapter

In this chapter, the focus is on the challenges often faced by learners when transitioning from school to the higher education system, in other words when entering government-aided universities, private universities, technical colleges, community colleges or private colleges. As a background to the discussion, the experiences of learners with visual impairment as well as fully sighted learners, staff members of schools and staff members at disability units of higher educational institutions were explored.

Even though some of the challenges that learners with visual impairment face align with those experienced by normal sighted learners, the first group of learners face many more and much greater challenges. In discussing this, some case studies are

included in the chapter, capturing some of the challenges experienced by past, current and future learners. Possible solutions to the challenges are also explored.

## ■ Governance of education in South Africa

South Africa currently has three separate ministries that deal with the provision of educational services: the Ministry for Social Development, which is responsible for early childhood education and care; the Ministry for Basic Education, which is responsible for primary and secondary schools; and the Ministry for Higher Education and Training, which is responsible for adult education and skills training, colleges and universities. The DHET is a national department which is responsible for setting the goals and framework for the higher education system as well as the funding of the system (Statistics South Africa 2017). Throughout a person's educational life there are many periods of transition. All the government departments dealing with education have a duty to harmonise their approaches to these transitions in order to eliminate barriers during these transitional periods.

## ■ Transitioning into the higher education arena

Transition is the process or a period of changing from one state or condition to another, such as learners transitioning from one system to another. In South Africa, one of these transition periods would be moving from the school system to the tertiary system. According to Rantsi (2016:1): 'One third of the learners who qualify to enter higher education are actually prepared for the academic literacy demands of a university'. As this statement applies to fully sighted learners, the question comes to mind as to how prepared learners with visual impairment would be when transitioning from a special needs school (class comprising six learners) to a higher education environment with classes and

groups of 500–1000 students. The articulation gap from secondary to tertiary education is a major challenge in South Africa and implies a discontinuity in the transition from one educational phase to the next. This gap can largely be ascribed to the weak schooling system in South Africa (Council on Higher Education [CHE] 2013).

In preparing learners to become students, it is important to build their confidence, especially if they come from rural areas where there is often limited exposure to diverse groups of people. Raising hands in a lecture hall can be intimidating enough without the added pressure of a limited ability to express oneself and functioning in a totally new environment. Building confidence, however, involves more than merely giving a person the tools to become confident; it also entails the reassurance of students that their contributions form part of an active democracy and cohesive society, contributing to their own development. Especially those students who struggle to cope with their coursework should be raising their hands in the lecture hall, seeking additional support and engaging with peers and lecturers who, in most cases, will be from diversified groups of people. This requires confidence and affirmation that students form an integral part of their environment (Rantsi 2016). In this scenario, students with visual impairment may thus be challenged during this transition process.

Rantsi (2016:n.p.) says that ‘the articulation gap is merely one of many challenges that students may face during their journey to success’. However, early intervention and support during the school years can assist students to cope more effectively with their education journey at tertiary level. It follows that such support, assistance and preparation for the transition process is even more important in the case of learners with visual impairment.

## ■ Challenges often experienced when transitioning to higher education contexts

The transition process from school to tertiary level entails a complex process during which the student needs to dissociate

from a past community to fully integrate into a tertiary life. The challenges that students experience during this process, as well as the way in which they address these challenges, are affected by their parents, schools, social life, culture and community life. Amongst others, low throughput rates in the first year of tertiary study, as reported in national and institutional statistics, are currently a huge area of concern for higher education institutions in South Africa (Soundy 2016). Considering that Soundy (2016) involved sighted students, the vast challenges experienced by students with visual impairment when transitioning to tertiary level is evident. In addition to the predicted psychosocial challenges they experience, the students with visual impairment also experience challenges such as obtaining specialised equipment and moving around on campus, to mention just two potential challenges and thus barriers to further learning.

Research was conducted by interviewing sighted learners, sighted students, learners with visual impairment, students with visual impairment and past students who were also visually impaired. The results from the interviews with the sighted learners and students are listed below. However, the results of the interviews and questionnaires listed herein applied to the visually impaired learners as well who were interviewed. In order to have a better understanding of other challenges facing persons with visual impairment, refer to the individual case studies below.

Based on the research conducted with sighted high school learners, following are some of the most prominent perceived challenges when transitioning to tertiary level:

- Strong focus on academic performance and passing matriculation at school level with little attention to social or emotional development.
- Lack of guidance on subject of choice.
- Difference in the size of university campus and school, both inside and outside.

- Being away from home, having to face the 'real world' and function independently.
- Finding one's way around campus and becoming part of social, cultural and sports groups.
- Dealing with different cultures.
- Dealing with excessive drinking, drugs, drinking and driving, and smoking.
- Limited knowledge of services available at the tertiary institution, for example, where to go and report an incident such as sexual harassment.
- Financial challenges such as the costs related to studying at tertiary level.

Actual challenges faced by sighted students in their first year often mirrored the perceived challenges of matric learners. However, sighted students currently at tertiary institutions indicated the following as their challenges:

- The much bigger classes at tertiary institutions are difficult to deal with, making it difficult to ask questions and sitting near the back made it challenging to accurately take notes.
- Experience difficulty getting involved in extramural activities and making a new set of friends.
- Less interaction with lecturers than in the classroom at school.
- A culture shock because of the diversity of tertiary institutions.
- Weight gain in the first year.
- Lack of career guidance at school level result in poor choice of subjects at the tertiary level.
- Much larger workload and keeping up with assignments result in high stress levels.
- Disorganised and untidy lecturers.
- Having to study and being employed at a part-time job, coping with the extra burden of cooking, cleaning, laundry and other life skills made it difficult to become self-motivated.
- Using a laptop for the first time.

- Political protests that disrupt study.
- Unreal expectations regarding tertiary life.

In general, schools are not preparing learners sufficiently enough to address these challenges; thus, the transition to tertiary level can be quite difficult. As such, schools and teachers should pay closer attention to this and empower learners by supporting the development of their self-confidence, self-esteem and the ability to advocate for themselves through all the transition periods in their academic life. This cannot merely be carried out in the higher grades of school but should start at pre-school or during the early years of schooling, preferably starting with transition from home to pre-school.

## ■ Value of early intervention and support for a successful transition

Personal autonomy is one of the most important aspects of human development towards adulthood. For people with disabilities, it is necessary not only to accommodate their personal needs but also to keep in mind that obstacles and limiting conditions may be created by society. However, with necessary accommodations, assistance and changes in the environment, these individuals may enjoy an independent life.

Keeping in mind that the foundation for a successful transition begins at an early age, professionals and teachers can attend to the curriculum offered throughout various school phases, ensuring that it supports the development of basic communicative skills for social interaction from an early age. All children are required to engage in communication in natural contexts and in this way participate within their communities. In addition, when working with learners with visual impairment, it is important to focus on the mastering of independent mobility alternatives, skills of autonomous self-management, decision-making, empowerment, self-determination, and personal control and care, in order for them to subsequently become independent.

If these abilities are fostered from the early stages of life (Araya 2017), learners with visual impairment may be better equipped to transition from school to tertiary life, thereby potentially combating the high incidence of unemployment amongst people with disabilities.

According to the 2011 census (Statistics South Africa 2014), approximately 7.5% of the South African population had disabilities at that time, an estimated total of 2 395 000 people, of whom approximately just 2% were employed (Maja et al. 2011). This emphasises the importance of learners with visual impairment acquiring necessary skills throughout their educational life to be able to advocate for themselves as early as in the pre-school phase, but more specifically throughout the various transitional stages of primary school, high school and tertiary levels. If a learner or student can successfully complete the various transitional stages, they would be able to transition to employment and become emotionally, socially, financially and physically independent, thus positioning themselves to contribute positively towards the community and country at a broader level.

## ■ Coping with challenges

For learners who transition from school to tertiary level, in order to be able to overcome or address some of the associated challenges, it is important for them to understand and be aware of the nature and extent of the challenges they face. Once they understand the challenges, learners can plan and attempt to adapt to tertiary life. In addition to specific strategies that may be employed, the availability of and access to technology is generally beneficial. It has been noted in this research as well as recent experiences that all normal sighted school-leaving learners who were seemingly able to successfully transition to tertiary level had access to laptops and mobile phones, and were competent in using them. This type of equipment is important to maintain contact with lecturers and fellow students, and to function at a tertiary level. However, the question is as to how a

student who does not have access to technology will cope with the challenges of tertiary level.

The following coping mechanisms and strategies have been implemented by students in transition, generally resulting in successful outcomes:

- joining a gym outside the campus to alleviate stress
- moving to a smaller tertiary institution
- learning to prioritise
- keeping an open mind at all times
- developing a positive attitude and higher levels of self-discipline
- consistently keeping up with all communications
- learning to be more interactive in class
- not getting involved in negative activities or being negatively influenced by others
- learning to develop new friendships
- finding part-time employment with flexible hours
- approaching support services offered by the institution when needed, such as counselling services and security assistance.

## ■ Case studies of learners or students with visual impairment

In this section, a few case studies are presented as examples of learners or students with visual impairment transitioning from school to tertiary level. The subjects comprising students, past graduates or learners were interviewed about their time when exiting the school system.

A common thread across the case studies was the limited support the learners with visual impairment received from their schools for the transition period they had to face. This was evident whether the learner with visual impairment attended a mainstream school or a special needs school. Despite the wide range of visual impairments that exist and the possibility of small changes in the

environment (such as lighting, contrast and time of day) affecting how a learner may use their remaining functional vision, schools generally do not attend to this requirement in the preparation of learners for their future.

### ■ **Case study 1: Thandile (age 18 years, matriculant)**

Thandile is affected by retinitis pigmentosa, has tunnel vision but performed well at a private school receiving academic and cultural awards. During her school years the O&M practitioner regularly liaised with the teachers and encouraged Thandile to advocate for herself. According to Thandile, she found school to be much easier in the lower grades, especially with the intervention of O&M practitioner. In her high school years, Thandile's education was seemingly affected by a high teacher turnover and an unexpected change in subjects at a very late stage of her schooling when the school discontinued physics at the end of her Grade 11. Thandile as a result was 'forced' to change from physics to computer applications technology (CAT) in Grade 12. Furthermore, in June of her Grade 12, the school downgraded all learners from mathematics to mathematics literacy.

Only at the beginning of Grade 12, after Thandile's mother appealed to the DBE to intervene, did the school apply for concessions from the Independent Education Board. The following concessions were granted: large print, extra time, a scribe, a human reader, electronic reader and use a separate room from her peers. However, the only concessions that were implemented by her school were extra time and large print. Large print was inaccessible to Thandile because of her tunnel vision.

Thandile's mother contacted the O&M practitioner for assistance because of change in subjects and Thandile was introduced to the features of Windows meant for visually impaired persons. She was also introduced to the long white cane to be used when necessary. In order to strengthen her social skills,

Thandile was attending social events with her sister at the latter's school (a much larger school).

Thandile's personal computer with adaptations was taken away from her during her final exams. The change in subjects and lack of empathy from the school during her Grade 12 were extremely stressful for Thandile. However, she decided to focus on studying for her finals and to upgrade her subjects by studying physics and mathematics for an additional year at a college before applying to a tertiary institution. Her concerns regarding attending university revolved around the large number of people and not knowing the environment.

This case study illustrates how decisions made by others affect learners, more specifically those with visual impairment. The future career and study direction of learners with visual impairment are heavily influenced by changes made by educationalists in the latter years of schooling. In the case of Thandile, the school showed lack of support and resistance to provide necessary adaptations to inclusively educate Thandile during her final 2 years at schooling. This could have so easily demoralised Thandile and affected her future.

High school teachers often focus on the academic side of teaching, with psychosocial support not receiving the necessary attention. Even though this was also evident in Thandile's case, early interventions by the O&M practitioner and continued family support had a positive effect on her development. As a result, Thandile became a strong advocate for herself and others. It is evident that she, in spite of the changes that affected her in Grade 12, was able to cope with the transition from school to university. This became possible because of the ongoing support she had received from her family and the professionals who were involved with her since Grade 2. Her decision to first improve her academic background before entering tertiary education attested to this. Thus, early intervention had a beneficial impact and may support Thandile in continuing her education at tertiary level in the near future.

To ensure an easy transition to university, it will be important to introduce her to the disability unit at her university of choice before her entering the first year. This will ensure that Thandile when faced with transitional challenges has support from the university staff. The case study shows that persons with visual impairment may have additional challenges even before they transition to tertiary level and need empathy and support from professionals, school and family, in order to have the strength to advocate for themselves.

### ■ **Case study 2: Ridhaan (age 30 years, postgraduate university student)**

Ridhaan is studying at a tertiary institution through correspondence. He is busy with an honours degree in computer science, specialising in artificial intelligence. He took 6 years to obtain his first degree, and has estimated that his honours degree will take another five years. Both programmes have been through distance mode of delivery; however, Ridhaan does go to campus on occasions, but he finds this difficult.

He attended a former Model-C school as well as a school for the visually impaired. He is not certain about his eye condition but has some vision remaining. He uses a long white cane and dark spectacles. Ridhaan lives with his family. It appeared from the research interview that he perceived his immediate family as supportive but they did not understand his challenges or visual impairment.

Ridhaan uses specialised software for the visually impaired on his computer. He is also an ardent WhatsApp user and member of several groups, particularly those for the visually impaired. He 'spot' reads using a magnifier and keeps his eyes close to a book when he reads. He also uses audio translations of text, travels with Uber and finds his way around his home environment with the use of his cane.

One of Ridhaan's major challenges is to transcribe his textbooks into a form that he can 'read', as his books include many mathematical equations and graphs. According to Ridhaan, it can take up to six months to transcribe one textbook. This process involves human readers, optical character recognition, specialised mathematical software and obtaining copyright. These logistical challenges have added to the reasons for him taking so long to obtain his degree. Another challenge relates to the upgrading of software, resulting in Ridhaan, as a person with visual impairment, experiencing difficulty and needing extra time to adjust to new interfaces.

Ridhaan did not receive any O&M training at school. He was previously employed but at present he is not employed. He has sent his curriculum vitae to several potential employers but has not been successful. According to him, he has been unfairly discriminated against normal candidates because of his disability, even though he is a graduate.

Ridhaan's case highlights a few challenges experienced by him that would not normally be an issue for sighted students or even other students experiencing different visual challenges. The textbook issue is, for example, caused by the specific nature of the books (equations, graphs etc.). Thus, it appears as if Ridhaan has not been adequately supported by his family and other professionals throughout his schooling career and has had to learn how to overcome challenges by himself. The 11 years of study to obtain an honours degree serves as example.

Furthermore, this case study illustrates the importance of the development of psychosocial skills and self-advocacy during the schooling years in preparation for tertiary education. However, Ridhaan's case also points to the trend of these skills not being taught at school. As such, all educators, related professionals and families of learners with visual impairment should be encouraged to support learners on a holistic level. This, in turn, emphasises the importance and potential value of the Extended Educational

Curriculum, which may serve as a vehicle in supporting an appropriate transition of the learner following their school career.

### ■ **Case study 3: Luke (age 56 years, retired graduate)**

Luke attended a special school for the visually impaired where he obtained his matriculation. He enrolled at a traditional university immediately after school and studied BCom. The university assisted him by producing large print text on long sheets of paper. He did not use any assistive devices at university as he graduated in 1976. He continued his studies through correspondence and obtained an honours degree in economics, specialising in labour law.

Over the years, Luke has been an active sportsman with a focus on running. His sight has deteriorated over the years and he has a prosthesis in one eye and a corneal graft in the other. He also has glaucoma in his one eye. He was employed for 31 years before being medically boarded. Currently, he is an active volunteer for Egoli Blind SA.

According to Luke, he did not want to appear different from his peers when he was young, resulting in him hiding his visual impairment. The challenges he experienced at university included that he was not able to see the blackboard in lecture halls, was not able to take notes in class, and was not able to see the labels on doors, shelves etc. Luke is of the opinion that his success is a result of his good social skills and good body language. According to him, a life coach is important, and a mentor is required in the case of all learners with visual impairment. Nowadays, he uses a large screen and contrast keyboard for his computer. His mobile phone and long white cane are essential assistive devices.

Luke's case emphasises that challenges faced by people with visual impairment, who enrol for tertiary education, can be

overcome with a positive attitude and good social skills. Luke's good grounding at school and the mentorship he reportedly received from the principal laid the foundation for his positive attitude to life and subsequently the successes he experienced.

Being enrolled at a traditional university, Luke was dependent on his peers for lecture notes. As he is a very independent person, he was prompted to change to a correspondence university to complete his second degree. His current role as a prominent motivator within the wider community of persons with visual impairment further demonstrates the success that can be achieved in life when prepared and positive about the roles that need to be fulfilled.

#### ■ **Case study 4: Thabo (age 23 years, final undergraduate year)**

Thabo studies at a traditional university. He is in his final year of LLB (Bachelor of Laws) and lives at the university residence. He is uncertain about the exact nature of his eye condition but is affected by low vision. He uses his functional vision very well to navigate around campus. He does have a long white cane which he uses when he needs to, for example, when he is in a hurry to reach somewhere. He attended a special needs school for learners with visual impairment, from where he matriculated. He immediately enrolled at a university after completing schooling.

Thabo has been using a laptop and screen reader since 2012 at home, that is, three years before he matriculated. He uses audio accessibility on his smartphone during lectures in order to capture notes and recordings. Thabo is not shy to ask for assistance and interacts easily with his lecturers.

Thabo used to do Judo but had a bad accident which brought an end to his participation. The primary challenge he experienced when transitioning to university was to find his way around campus. However, he did not view this as a challenge, but rather

as an opportunity to form new friendships with sighted students. Similarly, at his residence, he saw opportunities to develop himself by interacting with the other students. Thabo is a positive individual and made the following statement during a research interview: 'If I am negative, I will end up wallowing and so I see everything as being a situation to solve'.

The case of Thabo once again illustrates the power of positive thinking. Thabo has transitioned well to university and has not allowed his visual impairment to hold him back. He advocated for himself and obtained the necessary devices and skills to pass his first three years at university. Thabo has excellent self-esteem and self-confidence which appear to have developed throughout his life. He chooses to see challenges that he encounters as opportunities to learn and develop further, rather than as barriers.

### ■ **Case study 5: Ricus (age 25 years, Master's student)**

Ricus is enrolled for a Master's (MSc) degree in bio-informatics. He was awarded a bursary from the National Research Foundation to study for his MSc. His first degree was a BSc in human genetics. He attended a special needs school for learners with visual impairment. He started schooling using printed materials but because of gradual vision loss, he subsequently learned to use braille. According to Ricus:

'[7]here was discrimination at school with some of the teachers using a divide and conquer strategy. This included putting the boys against the girls and the learners with blindness against those with low vision.' (Ricus, 25, Master's student)

Ricus also experienced the school as a 'bubble' with learners being segregated from the real world. During the period that Ricus was at school, the learners did not use any technology unless they had CAT as one of their subjects. In addition, no audio books or digital media were used at the school.

Ricus understands his eye condition, which is CVI. He has some useable vision which he uses for mobility with the help of his long white cane. He uses screen reader software on his laptop, free non-visual desktop access and touch types on a standard keyboard. He uses voiceover on his phone as well as the refreshable braille display, which allows him to input text using braille on his mobile phone and tablet.

Ricus is living at home after deciding not to stay at the university residence. The current challenges which he experiences include receiving textbooks late and then having these transcribed into a digital format. As diagrams do not translate easily, the translation process can take months before Ricus receives the digital copy.

Ricus experienced difficulty in adapting to being with sighted people when he arrived at university, despite the fact that he arranged a private visit to the university in Grade 11 in an attempt to prepare himself for the transition. He also visited the disability unit and library to organise printing and transcribing of braille as well as to enquire about the transcribing of textbooks into digital format. He thus advocated for himself.

During his undergraduate years, Ricus participated in sport, joined political parties and took part in the debating society. He is mentoring several students with disabilities through the office of the disability unit.

The case of Ricus shows that a student with visual impairment can perform well, advocate for himself and address the challenges faced when transitioning from school to university. His university experience has broken him out of the 'bubble' of his school years, and he is empathetic towards his fellow students. To summarise, his successful transition from school to university can be ascribed to his intellect, his advocacy skills and his good psychosocial abilities. This case study shows again that a lack of support and empathy in the pre-transitional stage can negatively affect learners, but Ricus has succeeded despite deficiencies in the school system.

## ■ Discussion

The case studies given above highlight variations in visual impairment, indicating the challenges of transitioning from school to university, which is unique in each case. Owing to the differences in visual functioning, the challenges for each student who is visually impaired will thus differ in scale, requiring different solutions. In general, most students with visual impairment are often challenged by the following:

- coping with large classes and fear of raising one's hand during lectures because of drawing attention to oneself
- taking longer to complete projects or assignments than their sighted peers; transcribing textbooks to digital format; getting the necessary technology and learning to use it
- interacting with sighted persons – sometimes for the first time
- becoming very tired because of the poor vision
- larger workload at university
- lack of information and guidance at school about transition
- sourcing overhead slides or lecture material as they cannot be seen in the lecture halls
- changeover from using braille at school to using technology at university
- having to change from using the sense of touch to using more the sense of hearing
- fear of being regarded as different
- occasional lack of electrical power for technology in lecture halls
- lack of O&M options on campus
- having to advocate for themselves
- sighted people not understanding differences in the levels of vision loss
- being dependent on other people for transport.

Some of these challenges are universal and will be always present, such as the transcription of textbooks, because students with visual impairment rely on other people for meeting their specific needs.

Other challenges such as navigation around campus could be solved more easily. Students coming from special needs schools that had been 'cut off' from society as a result may experience specific difficulty in adjusting to a sighted world.

Students who are visually impaired often have access to bursaries and other funding opportunities. Further support and concessions may be available at universities regarding, for example, extra time, scribes, human readers, adjustments for the presentation of assignments and the use of technology. Many tertiary institutions in South Africa have special disability units that support students with disabilities. However, it remains important for schools and teachers to prepare learners for the process of leaving school and transitioning to the tertiary system - whether in mainstream or special needs contexts. Despite this need for thorough preparation, learners are often not ready when entering the transition phase. Teachers are often seemingly not adequately trained to prepare learners for such transition processes. In addition, the emphasis in schools often falls on academic progress and the mere passing of matriculation without support on additional levels.

In addition to the teaching methods and materials not being adequately adapted for visually impaired, the physical environment in classes and school grounds may not allow easy access to these learners, thereby not preparing them for the future. In addition, teachers' readiness and attitudes towards supporting these learners may not always be optimal. Furthermore, learners may not always be sufficiently equipped with the necessary technology prior to entering tertiary education.

Another challenge generally faced by students with visual impairment relates to the difficulty in interacting with sighted peers. They can, however, be prepared to deal with this throughout their school years, in line with the Education White Paper 6 (DBE 2001:10), stating that the education system should 'systematically move away from using segregation according to categories of disabilities as an organising principle for institutions'. In addition

to allow for healthy competition between learners and enhancing social integration (Otyola, Kibanja & Mugagga 2017), such practice may positively affect the attitude and possible misconceptions about learners with visual impairment, allowing them to be prepared for their future roles in society. When learners with visual impairment interact with other learners in regular school settings, play with them, and share things and ideas, all learners learn to appreciate one another's strengths and limitations (Otyola et al. 2017). In this manner, they can acquire the norms and values of their community to prepare for the world outside.

Intervention and support by the teacher, who has a learner with visual impairment in the class, will need the services of other professionals as well as the learner's family members to provide the learner with whatever they require in order to achieve their optimum. The following case study illustrates the benefits of this type of teamwork. Although the case study describes a learner from grades R to 3, these strategies can and should be implemented throughout a learner's school years to enable them to transition to tertiary level and become a contributing member of the society.

### ■ **Case study 6: Tiaan (age 9 years, Grade 3)**

Tiaan has been at a government school since Grade R. As an infant he was diagnosed with partial achromatopsia. His eye condition limits his seeing of colours and he mostly sees only black and white. He can read 24-point text when his eyes are approximately 10 cm from the page and can see approximately 2 m in front of him to move around. He uses his functional vision to be independent in known environments, but in an unfamiliar or crowded environment, he walks next to a person. He is extremely affected by light and glare, and hence wears dark glasses and a peaked cap indoors as well as outdoors.

Tiaan's stay-at-home mother played a significant role in his development during his early years. She accessed the help of an

O&M practitioner, who, for example, conducted a workshop with all teachers at the school from grade R to 12 before Tiaan entered Grade R. She also conducted one-on-one discussions with his new teacher.

As a result, some strategies were implemented in Grade R relating to Tiaan wearing a peaked cap and dark glasses indoors; providing him with black thick lined paper for writing; using a reading stand and dark pencil; outlining drawings to be coloured-in in thick black koki. Furthermore, allowing Tiaan to approach the blackboard or pictures; teaching him to organise his crayons by colour so as to be able to choose the correct colour; allowing Tiaan to sit close to the teacher for 'ring' work, for example, during story time; teaching him how to express his needs to the teacher, and encouraging him to raise his hand when uncertain and wait until the teacher acknowledges him. In grades 1 and 2 these strategies were maintained and a tablet and reading machine were introduced. Tiaan was also encouraged to express how his eye condition affects him. In Grade 3, all the above-mentioned facilities were continued with the additional introduction of a high-contrast, low vision keyboard to be used with the tablet and a facilitator was hired by his parents to be with him in class.

Tiaan has a positive, active and high achieving nature. He rides bicycles, swims, climbs trees, participates in fun runs and socialises with friends. He uses his tablet to download images in order to see things that other people have described for him. For example, if his family saw a whale in the ocean, he would download a picture of whale.

Tiaan is well supported by his teachers and principal, the education department, his family and the professional team. His mother and O&M practitioner keep contact in case any challenges may arise in order to deal with the same as quickly as possible.

This case study is a good illustration of what can be exercised at an early age in order to support a learner with visual impairment within a mainstream school setting. Rather than being an oddity,

Tiaan has been accepted as just another learner. The adaptations made by the school and teachers have allowed him to perform as well as anybody else in his class and has been introduced as and when necessary. What is also apparent is the value of the teacher, within a multidisciplinary team, in interacting with Tiaan and his family.

## ■ Implications, guidelines and recommendations for teachers

Teachers cannot bear the full responsibility of educating the learner with visual impairment alone, and need the support of other professionals within a multidisciplinary team (see ch. 7 on 'Enabling Teachers to Teach across the Visual Spectrum'). Support is also needed from the school management, Education Department and learners' families.

Teachers should be able to advocate for changes in the environment of their schools such as marking steps, painting handrails, providing correct lighting, eliminating glare from boards and ensuring the classroom is free from clutter (not only on the floor but also on the walls). This will not only benefit learners with visual impairment but also every normal learner in the school environment. Specific courses should be developed that provide teachers with necessary insight and practical assistance when teaching learners with visual impairment. These could include diploma and short-term courses. School management should be encouraged to enlist the assistance of other professionals who can provide awareness and ongoing skills training.

Self-advocacy and psychosocial skills can be taught by including learners with visual impairment in discussion groups. The teacher can describe what everyone is looking at, can allow the learner with visual impairment to be seated closer, teaching the learners to raise hands to get the teacher's attention, and encourage the learner with visual impairment to answer questions for being included in the group.

Teachers should understand visual impairment and unique learner needs. They should anticipate possible difficulties the learner may have and adjust instructions to the learner's interests, learning abilities and current skills. Instructional strategies and activities for the learner with visual impairment should be varied.

A visually impaired learner is entitled to various concessions such as extra time, technology, large print, a scribe, sighted reader and taking exams in a separate room. Teachers should not only be aware of these needs but also know how to obtain permission for concessions required by an individual learner to be granted.

The needs of learners with visual impairment should be identified and an independent education plan should be initiated and regularly updated through all the phases of the learner's education from grades R to 12. The independent education plan should, for example, include O&M training, training in skills of daily living, the need for braille or large print, technology, concessions as well as academic planning. Using an independent education plan will holistically enhance learners with visual impairment and assist them to progress successfully through all transition periods and eventually the transition to tertiary level and onto employment.

At all times, the teacher(s) should be aware of critical periods in a learner's life such as emotional difficulties, puberty, changes in vision, changes at home, aspects of bullying and transitional changes. Having identified issues, the teacher should know whom to contact or consult for advice.

## **■ Conclusion**

Learners with visual impairment undergo many transitional phases throughout their lives. They are to be supported by schools and teachers by putting systems into practice from their early years through high school that assist learners to develop

necessary skills and tools for a smooth transition into tertiary education. By developing necessary psychosocial skills, from Grade R onwards, and obtaining tools to become independent, the learner will be able to successfully transition through all stages, especially tertiary, and ultimately fulfil their role in society. In this manner, the teachers can assist learners with visual impairment to become valuable contributing members of the society.

The following statement made by former minister of education, Kader Asmal, in the Education White Paper 6 (DBE 2001) remains relevant:

[L]et us work together to nurture our people with disabilities so that they also experience the full excitement and the joy of learning and to provide them, and our nation, with a solid foundation for lifelong learning and development. (p. 4)



# References

## Chapter 1

- Abrahamson, D., Flood, V.J., Miele, J.A. & Siu, Y.-T., 2018, 'Enactivism and ethnomethodological conversation analysis as tools for expanding universal design for learning: The case for visually impaired mathematics students', *ZDM Mathematics Education* 51, 291. <https://doi.org/10.1007/s11858-018-0998-1>
- Ahn, J.-H., Sung, W., Lee, S.W., Um, T., Kim, A.E. & Hee, J., 2017, 'COBRIX: A physical computing interface for blind and visually impaired students to learn programming', in *Society for Information Technology & Teacher Education international conference, USA Proceedings*, Austin, TX, United States of America, March 05, 2017, n.p.
- Allman, C.B., Lewis, S. & Spungin, S.J. (eds.), 2014, *ECC essentials: Teaching the expanded core curriculum to students with visual impairments*, American Foundation for the Blind, New York, NY.
- Annie, P., Ndhlovu, D. & Kasonde-Ng'andu, S., 2015, 'The challenges in teaching learners with visual impairment in Zambia', *International Journal of Multidisciplinary Research and Development* 2(4), 157-166.
- Argyropoulos, V., Masoura, E., Tsikali, T.K., Nikolarazi, M. & Lappa, C., 2017, 'Verbal working memory and reading abilities among students with visual impairment', *Research in Developmental Disabilities* 64, 87-95. <https://doi.org/10.1016/j.ridd.2017.03.010>
- Augustad, L.B., 2017, 'Self-concept and self-esteem among children and young adults with visual impairment: A systematic review', *Cogent Psychology* 4(1), 1-12. <https://doi.org/10.1080/23311908.2017.1319652>
- Baker, R.M., Ramos, K. & Turner, J.R., 2019, 'Game design for visually-impaired individuals: Creativity and innovation theories and sensory substitution devices influence on virtual and physical navigation skills', *Irish Journal of Technology Enhanced Learning* 4(1), 36-47. <https://doi.org/10.22554/ijtel.v4i1.51>
- Bernstein, L., 2014, 'No difference in blind and sighted people's understanding of how others see the world', *The Washington Post*, 11 August, 2014, viewed n.d., from [https://www.washingtonpost.com/news/to-your-health/wp/2014/08/11/no-difference-in-blind-and-sighted-peoples-understanding-of-how-others-see-the-world/?utm\\_term=.96162ea0f547](https://www.washingtonpost.com/news/to-your-health/wp/2014/08/11/no-difference-in-blind-and-sighted-peoples-understanding-of-how-others-see-the-world/?utm_term=.96162ea0f547).
- Bhalalusesa, E., 2018, 'Inclusion of students with visual impairment in a regular university setting: Experiences, challenges, and coping mechanisms', *Papers in Education and Development* 36, n.p.
- Black, R.D., Weinberg, L.A. & Brodwin, M.G., 2015, 'Universal design for learning and instruction: Perspectives of students with disabilities in higher education', *Exceptionality Education International* 25(2), 1-16.

## References

- Boroston, B., 2017, 'Inclusive education: Lessons from history', *Educational Leadership* 74(7), 18–23.
- Bruce, A., Fairley, L., Chambers, B., Wright, J. & Sheldon, T.A., 2016, 'Impact of visual acuity on developing literacy at age 4–5 years: A cohort-nested cross-sectional study', *British Medical Journal (BMJ) Open* 6(2), n.p. <https://doi.org/10.1136/bmjopen-2015-010434>
- CAST, 2017, *About universal design for learning*, viewed n.d., from <http://www.cast.org/our-work/about-udl.html#WfMb6miCyM9>.
- Conroy, P., 2016, 'Building background knowledge: Pre-teaching physical education concepts to students with visual impairments', *JBIR: The Journal of Blindness Innovation and Research* 6(2), n.p.
- Cumberland, P.M. & Rahi, J.S., 2016, 'Visual function, social position, and health and life chances - The UK Biobank Study', *JAMA Ophthalmology* 134(9), 959–966. <https://doi.org/10.1001/jamaophthalmol.2016.1778>
- Davis, P., 2013, *Including children with visual impairment in mainstream schools: A practical guide*, David Fulton Publishers Ltd., London.
- De Verdier, K., 2016, 'Inclusion in and out of the classroom: A longitudinal study of students with visual impairments in inclusive education', *British Journal of Visual Impairment* 34(2), 130–140. <https://doi.org/10.1177/0264619615625428>
- Dhafer, Y. & Clements, R., 2017, 'A virtual haptic platform to assist seeing impaired learning: Proof of concept', *JBIR: The Journal of Blindness Innovation and Research* 7(2), n.p.
- Evmenova, A., 2018, 'Preparing teachers to use universal design for learning to support diverse learners', *Journal of Online Learning Research* 4(2), 147–171.
- Ferreira, R. & Ebersöhn, L., 2012, *Partnering for resilience*, Van Schaik, Pretoria.
- Fichten, C.S., Nguyen, M.N., Asuncion, J., Martiniello, N., Jorgensen, M., Budd, J. et al., 2016, 'An exploratory study of college and university students with visual impairment in Canada: Grades and graduation', *British Journal of Visual Impairment* 34(1), 91–100. <https://doi.org/10.1177/0264619615616259>
- Florian, L., 2017, 'The heart of inclusive education is collaboration', *Pedagogika* 126(2), 248–253. <https://doi.org/10.15823/p.2017.32>
- Foley, A.R. & Masingila, J.O., 2015, 'The use of mobile devices as assistive technology in resource-limited environments: Access for learners with visual impairments in Kenya', *Disability and Rehabilitation: Assistive Technology* 10(4), 332–339. <https://doi.org/10.3109/17483107.2014.974220>
- Galassi, J.P. & Akos, P., 2015, *Strengths-based school counseling: Promoting student development and achievement*, Routledge, New York, NY.
- Gorlewicz, J.L., Tennison, J.L., Palani, H.P. & Giudice, N.A., 2018, 'The graphical access challenge for people with visual impairments: Positions and pathways forward', in D. Cvetković (ed.), *Interactive multimedia: Multimedia production and digital storytelling*, IntechOpen, s.l. <https://doi.org/10.5772/intechopen.82289>.
- Haegele, J.A. & Hodge, S., 2016, 'Disability discourse: Overview and critiques of the medical and social models', *Quest* 68(2), 193–206. <https://doi.org/10.1080/00336297.2016.1143849>

- Hartman, E., 2015, 'Universal Design for Learning (UDL) and learners with severe support needs', *International Journal of Whole Schooling* 11(1), 54-67.
- Hayhoe, S., 2018, 'Epistemological trends in the literature on mobile devices, mobile learning, and learners with visual impairments', *Optometry and Vision Science* 95(9), 889-897. <https://doi.org/10.1097/OPX.0000000000001279>
- Hepe, E.C., Willemen, A.M., Kef, S. & Schuengel, C., 2019, 'Improving social participation of adolescents with a visual impairment with community-based mentoring: Results from a randomized controlled trial', *Disability and Rehabilitation* 2019, n.p. <https://doi.org/10.1080/09638288.2019.1589587>
- Hewett, R., Douglas, G., McLinden, M. & Keil, S., 2017, 'Developing an inclusive learning environment for students with visual impairment in higher education: Progressive mutual accommodation and learner experiences in the United Kingdom', *European Journal of Special Needs Education* 32(1), 89-109. <https://doi.org/10.1080/08856257.2016.1254971>
- Hommer, R.L., 2018, 'The barriers to academic success for students with visual impairment in inclusive middle and high school classrooms in Maryland: A phenomenological study', DEd thesis, Northcentral University.
- Hutchinson, N.L. & Martin, A.K., 2012, *Inclusive classrooms in Ontario schools*, Pearson Canada Inc., Toronto.
- Ishmael, D., 2015, 'The use of verbal guidance and manual guidance techniques in the teaching and learning of learners with visual impairment', *IOSR Journal of Humanities and Social Science (ISOR-JHSS)* 20(4), 124-132.
- Jones, S.M. & Kahn, J., 2017, *The evidence base for how we learn: Supporting students' social, emotional, and academic development*, Consensus statements of evidence from the Council of Distinguished Scientists, National Commission, Aspen Institute, Washington, D.C.
- Khan, A., Khusro, S. & Alam, I., 2018, 'BlindSense: An accessibility-inclusive universal user interface for blind people', *Engineering, Technology & Applied Science Research* 8(2), 2775-2784.
- Kocyigit, N. & Artar, P.S., 2015, 'A challenge: Teaching English to visually impaired learners', *Procedia - Social and Behavioral Sciences* 199, 689-694. <https://doi.org/10.1016/j.sbspro.2015.07.599>
- Kwok, K., Ghrear, S., Li, V., Haddock, T., Coleman, P. & Birch, S.A.J., 2016, 'Children can learn new facts equally well from interactive media versus face to face instruction', *Frontiers in Psychology* 7, 1603. <https://doi.org/10.3389/fpsyg.2016.01603>
- Lee, F.L.M., Yeung, A.S., Tracey, D. & Barker, K., 2015, 'Inclusion of children with special needs in early childhood education: What teacher characteristics matter', *Topics in Early Childhood Special Education* 35(2), 79-88. <https://doi.org/10.1177/0271121414566014>
- Lozano, M.D., Penichet, V.M.R., Leporini, B. & Fernando, A., 2018, 'Tangible user interfaces to ease the learning process of visually impaired children', in *HCI 2018 Proceedings of the 32nd International BCS Human Computer Interaction Conference*, Swindon, United Kingdom, July 04-06, 2018, n.p. <https://doi.org/10.14236/ewic/HCI2018.87>

## References

- Luque, L., Brandão, L.O., Kira, E. & Brandão, A.A.F., 2018, 'On the inclusion of learners with visual impairment in computing education programs in Brazil: Practices of educators and perceptions of visually impaired learners', *Journal of the Brazilian Computer Society* 24(4), a4. <https://doi.org/10.1186/s13173-018-0068-0>
- Mackelprang, R.W. & Salgiver, R.O., 2016, *Disability: A diversity model approach in human service practice*, 3rd edn., Oxford University Press, Oxford.
- Magnusson, C., Hedvall, P.O. & Caltenco, H., 2017, 'Co-designing together with persons with visual impairments', in E. Pissaloux & R. Velazquez (eds.), *Mobility of visually impaired people*, pp. 411-434, Springer, Cham.
- Maguvhe, M., 2015, 'Teaching science and mathematics to students with visual impairments: Reflections of a visually impaired technician', *African Journal of Disability* 4(1), 194. <https://doi.org/10.4102/ajod.v4i1.194>
- Malekane, W.M., 2009, 'Students' experiences of community engagement in an educational psychology practicum', MEd dissertation, University of Pretoria.
- Mason, H. & McCall, S., 1997, *Visual impairment: Access to education for children and young people*, David Fulton Publishers Ltd., Abingdon.
- McLinden, M, Douglas, G., Cobb, R., Hewett, R. & Ravenscroft, J., 2016, "'Access to learning" and "learning to access": Analysing the distinctive role of specialist teachers of children and young people with vision impairments in facilitating curriculum access through an ecological systems theory', *British Journal of Visual Impairment* 34(2), 177-195. <https://doi.org/10.1177/0264619616643180>
- Miller, K., McIntyre, R. & McKenna, G., 2018, 'Assets based community participation and place making', *Journal of Finnish Universities of Applied Sciences*, viewed n.d., from <https://uasjournal.fi/in-english/assets-based-community-participation/>.
- Mitchell, D., 2015, 'Inclusive education is a multi-faceted concept', *CEPS Journal* 5(1), 9-30.
- Mona, L.R. & Williams, J., n.d., *Disability as a diversity variable: A call to action within APA governance*, viewed n.d., from <https://www.apa.org/topics/disability/diversity-training.pdf>; <https://www.youtube.com/watch?v=rGiKL76hFAY>.
- Morelle, M., 2016, 'Challenges experienced by learners with visual impairment in two mainstream primary schools in Klerksdorp, Dr Kenneth Kaunda District', MEd dissertation, University of South Africa.
- Narayanasamy, S., Vincent, S.J., Sampson, G.P. & Wood, J.M., 2016, 'Visual demands in modern Australian primary school classrooms', *Clinical and Experimental Optometry* 99(3), 233-240. <https://doi.org/10.1111/cxo.12365>
- Navarro, S.B., Zervas, P., Gesa, R.F. & Sampson, D.G., 2016, 'Developing teachers' competences for designing inclusive learning experiences', *Journal of Educational Technology & Society* 19(1), 17-27.
- Ngubane-Mokiwa, S.A., 2016, 'Accessibility strategies for making MOOCs for people with visual impairments: A Universal Design for Learning (UDL) perspective', *Pan-Commonwealth Forum 8 (PCF8)*, viewed from <http://oasis.col.org/bitstream/handle/11599/2561/PDF?sequence=4&isAllowed=y>.

- Negiloni, K., Ramani, K.K. & Sudhir, R.R., 2019, 'Environmental factors in school classrooms: How they influence visual task demand on children', *PLoS One* 14(1), e0210299. <https://doi.org/10.1371/journal.pone.0210299>
- Okonkwo, H.C., Fajonyomi, M.G., Omotosho, J.A., Esere, M.O. & Olawuyi, B.O., 2016, 'Challenges, counselling needs and coping strategies of students with visual impairment in regular secondary schools in Nigeria', *Human and Social Sciences* 6(1), 111-137.
- Palmer, C., 2005, 'Educating learners with vision impairment in inclusive settings', *International Congress Series* 1282, 922-926. <https://doi.org/10.1016/j.ics.2005.05.132>
- Perrin, P.B., 2019, 'Diversity and social justice in disability: The heart and soul of rehabilitation psychology', *Rehabilitation Psychology* 64(2), 105-110.
- Quirke, M., McCarthy, P. & Mc Guckin, C., 2018, "'I can see what you mean": Encouraging higher education educators to seek support from "outside agencies" to aid their work with visually impaired learners', *The All Ireland Journal of Teaching and Learning in Higher Education, AISHE-J* 10(1), 3371-33712.
- Ravenscroft, J., 2015, 'A discussion on what is a qualified teacher of pupils with visual impairment, editorial', *British Journal of Visual Impairment* 33(3), 161-166. <https://doi.org/10.1177/0264619615603287>
- Sefotho, M.M., 2021, 'Dyslexia, entrepreneurship and transition to decent work', in B.E. Pavay, N. Alexander-Passe & M.M. Meehan (eds.), *Entrepreneurship, dyslexia and education*, pp. 80-94, Routledge, Abingdon.
- Seo, J. & Richard, G.T., 2018, *Accessibility, making and tactile robotics: Facilitating collaborative learning and computational thinking for learners with visual impairments, poster presentation*, viewed n.d., from [https://www.researchgate.net/profile/Gabriela\\_Richard/publication/323956302\\_Accessibility\\_Making\\_and\\_Tactile\\_Robotics\\_Facilitating\\_Collaborative\\_Learning\\_and\\_Computational\\_Thinking\\_for\\_Learners\\_with\\_Visual\\_Impairments/links/5adf92b6458515c60f63c514/Accessibility-Making-and-Tactile-Robotics-Facilitating-Collaborative-Learning-and-Computational-Thinking-for-Learners-with-Visual-Impairments.pdf](https://www.researchgate.net/profile/Gabriela_Richard/publication/323956302_Accessibility_Making_and_Tactile_Robotics_Facilitating_Collaborative_Learning_and_Computational_Thinking_for_Learners_with_Visual_Impairments/links/5adf92b6458515c60f63c514/Accessibility-Making-and-Tactile-Robotics-Facilitating-Collaborative-Learning-and-Computational-Thinking-for-Learners-with-Visual-Impairments.pdf).
- Shahed, S., Ilyas, Z. & Hashmi, A.M., 2016, 'Academic performance, self-efficacy and perceived social support of visually impaired students', *Annals of King Edward Medical University* 22(1), 72. <https://doi.org/10.21649/akemu.v22i1.1068>
- Sørensen, R. & Ryhl, C., 2018, 'Responding to diversity including disability', in C. Storni, K. Leahy, M. McMahon, P. Lloyd & E. Bohemia (eds.), *Design Research Society 2018, Design as a catalyst for change: Proceedings of DRS 2018 International Conference: Catalyst 5*, pp. 1894-1908, Loughborough University, Design Research Society, London. <https://doi.org/10.21606/drs.2018.524>
- Standards Revision Committee, 2017, *Revision of Canadian National Standards for the Education of Children and Youth who are blind or visually impaired, including those with additional disabilities*, National Coalition for Vision Health, Toronto.
- State Government of Wisconsin, n.d., *Roles and responsibilities of teachers of the visually impaired and orientation and mobility specialists*, viewed n.d., from <https://dpi.wi.gov/sites/default/files/imce/sped/pdf/vi-tvi-om-role-resp.pdf>.

- Sullivan, A. & Bers, M.U., 2015, 'Robotics in the early childhood classroom: Learning outcomes from an 8-week robotics curriculum in pre-kindergarten through second grade', *International Journal of Technology and Design Education* 26(1), 3–20. <https://doi.org/10.1007/s10798-015-9304-5>
- Tom, S.L., Mpekoa, N. & Swart, J., 2018, 'Factors that affect the provision of visually impaired learners in higher education', in *2018 Conference on Information Communications Technology and Society (ICTAS)*, Durban, South Africa, March 08–09, 2018, n.p. <https://doi.org/10.1109/ICTAS.2018.8368741>
- Valente, J.M. & Danforth, S., 2016, 'Disability studies in education: Storying our way to inclusion', *Occasional Paper Series* 2016(36), n.p.
- Valle, J.W. & Connor, D.J., 2019, *Rethinking disability: A disability studies approach to inclusive practices*, 2nd edn., Routledge, New York, NY.
- Vie, S., 2018, 'Effective social media use in online writing classes through Universal Design for Learning (UDL) Principles', *Computers and Composition* 49, 61–70. <https://doi.org/10.1016/j.compcom.2018.05.005>
- Watermeyer, B., 2019, *TEDI 1 Week 4 - Expanded Core Curriculum for Blind Education*, viewed n.d., from <http://hdl.handle.net/11427/30285>.
- White, S.L.J., Wood, J.M., Black, A.A. & Hopkins, S., 2017, 'Vision screening outcomes for Grade 3 children in Australia: Differences in academic achievement', *International Journal of Educational Research* 83, 154–159. <https://doi.org/10.1016/j.ijer.2017.03.004>
- Willings, C., 2016, *Teaching students with visual impairments: Accommodations vs modifications*, viewed n.d., from <https://www.teachingvisuallyimpaired.com/accommodations--modifications.html>.
- Wong, M.E. & Cohen, L.G., 2015, 'Access and challenges of assistive technology application: Experience of teachers with visual impairments in Singapore', *Disability, CBR and Inclusive Development (DCID)* 26(4), 138–154. <https://doi.org/10.5463/dcid.v26i4.450>
- Yuan, C.W., Hanrahan, B.V., Lee, S., Rosson, M.B. & Carroll, J.M., 2017, 'Constructing a holistic view of shopping with people with visual impairment: A participatory design approach', *Universal Access in the Information Society* 18(1), 127–140. <https://doi.org/10.1007/s10209-017-0577-1>

## Chapter 2

- Achigbu, E.O. & Ezeanosike, E., 2017, 'Visual impairment and blindness in 5 communities in IMO state, South East Nigeria', *Annals of Medical and Health Sciences Research* 7(2), 106–110.
- Ackland, P., Resnikoff, S. & Bourne, R., 2017, 'World blindness and visual impairment: Despite many successes, the problem is growing', *Community Eye Health* 30(100), 71–73.
- Ainscow, M., Dyson, A., Goldrick, S. & West, M., 2012, 'Making schools effective for all: rethinking the task', *School Leadership & Management* 32(3), 197–213. <https://doi.org/10.1080/13632434.2012.669648>

- Balliu, V., 2017, 'Modern teaching versus traditional teaching-Albanian teachers between challenges and choices', *European Journal of Multidisciplinary Studies* 2(4), 20-26. <https://doi.org/10.26417/ejms.v4i4.p20-26>
- Bezabih, L., Abebe, T.W. & Fite, R.O., 2017, 'Prevalence and factors associated with childhood visual impairment in Ethiopia', *Clinical Ophthalmology* 11, 1941-1948. <https://doi.org/10.2147/OPHTH.S135011>
- Billinghurst, M. & Duenser, A., 2012, 'Augmented reality in the classroom', *Computer* 45(7), 56-63. <https://doi.org/10.1109/MC.2012.111>
- Boas, D.C.U., Cintra, D., Ferreira, L.P. & Viola, I.C., 2012, 'Teacher specialized in visual impairment: The meaning of the voice', *Revista da Sociedade Brasileira de Fonoaudiologia* 17(1), 92-100. <https://doi.org/10.1590/S1516-80342012000100017>
- Brown, J.E. & Beamish, W., 2012, 'The changing role and practice of teachers of students with visual impairments: Practitioners' views from Australia', *Journal of Visual Impairment & Blindness* 106(2), 81-92. <https://doi.org/10.1177/0145482X1210600203>
- Bulbulia, A., 1997, 'Risk factors for primary open-angle glaucoma: an epidemiological study', Doctoral dissertation, University of Johannesburg.
- Cohen, V., 2006, 'Strategies for comprehending electronic text in digitally mediated times', *Current Developments in Technology-Assisted Education* 2006, 170-174.
- Colenbrander, A., 2001, 'Measuring vision and vision loss', *Duane's Clinical Ophthalmology* 5, 1-39.
- Darge, H.F., Shibru, G., Mulugeta, A. & Dagnachew, Y.M., 2017, 'The prevalence of visual acuity impairment among school children at Arada Subcity primary schools in Addis Ababa, Ethiopia', *Journal of Ophthalmology* 2017, 9326108. <https://doi.org/10.1155/2017/9326108>
- Department of Education (DoE), 2001, *Education White Paper 6 (Special Needs Education) building an inclusive education and training system*, Government Printers, Pretoria.
- Dipace, A., 2013, 'Inclusive education: Strategies and opportunities for preparing teachers through the use of ICT in the Italian compulsory school', *Journal of e-Learning and Knowledge Society* 9(2), 153-167.
- Donohue, D. & Bornman, J., 2014, 'The challenges of realising inclusive education in South Africa', *South African Journal of Education* 34(2), 1-14. <https://doi.org/10.15700/201412071114>
- Department of Social Development (DSD), Department of Women, Children and People with Disabilities (DWCPD) & United Nations Children's Fund (UNICEF), 2012, *Children with disabilities in South Africa: A situation analysis: 2001-2011. Executive summary*, Department of Social Development, Department of Women, Children and People with Disabilities & United Nations Children's Fund, Pretoria.
- Du Plessis, P., 2013, 'Legislation and policies: Progress towards the right to inclusive education', *De Jure Law Journal* 46(1), 76-92.

## References

- Eady, M. & Lockyer, L., 2013, *Tools for learning: Technology and teaching. Learning to teach in the primary school*, viewed n.d., from <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1413&context=asdpapers>.
- Fraser, W.J. & Maguvhe, M.O., 2008, 'Teaching life sciences to blind and visually impaired learners', *Journal of Biological Education* 42(2), 84-89. <https://doi.org/10.1080/00219266.2008.9656116>
- Gibson, I.W., 2001, 'At the intersection of technology and pedagogy: Considering styles of learning and teaching', *Journal of Information Technology for Teacher Education* 10(1-2), 37-61. <https://doi.org/10.1080/14759390100200102>
- Gordon, A. & Wang, Q., 2000, 'Education in rural areas of China and South Africa: Comparative perspectives on policy and educational management', United Nations, Paris.
- Grigera, D.E., Mello, P.A.A., Barbosa, W.L., Casiraghi, J.F., Grossmann, R.P. & Peyret, A., 2013, 'Level of agreement among Latin American glaucoma subspecialists on the diagnosis and treatment of glaucoma: results of an online survey', *Arquivos Brasileiros de Oftalmologia* 76(3), 163-169. <https://doi.org/10.1590/S0004-27492013000300007>
- Haakma, I., Janssen, M.J. & Minnaert, A.E., 2018, 'Need support in students with visual impairments: comparing teacher and student perspectives', *Frontiers* 2, 71.
- Hasan, I., Martono, T. & Susilaningsih, S., 2018, 'Lesson study in competence development of accounting teachers', *Jurnal Pendidikan Vokasi* 8(3), 217-227. <https://doi.org/10.21831/jpv.v8i3.20752>
- Hewett, R., Douglas, G. & Keil, S., 2014, 'Post-16 transition experience of visually impaired young people in England and Wales: Early findings from a longitudinal study', *British Journal of Visual Impairment* 32(3), 211-222.
- Hlalele, D., 2012, 'Social justice and rural education in South Africa', *Perspectives in Education* 30(1), 111-118.
- Hoffmann, J., 2003, 'Discussion', in J. Hoffmann (ed.), *Utilizing problem structure in planning*, Lecture Notes in Computer Science, vol. 2854, pp. 199-202, Springer, Berlin.
- Holland, J.M. & Hornby, G., 1992, 'Competences for teachers of children with special educational needs', *Journal of In-Service Education* 18(1), 59-62. <https://doi.org/10.1080/0305763920180109>
- Holte, B.H., Swart, I. & Hiilamo, H., 2019, 'The NEET concept in comparative youth research: The Nordic countries and South Africa', *Journal of Youth Studies* 22(2), 256-272.
- Jain, C. & Prasad, N., 2018, *Quality of secondary education in India. Concepts, indicators and measurement*, Springer Nature, Singapore.
- Johnson-Jones, K.J., 2017, 'Educating students with visual impairments in the general education setting', Doctoral dissertation, The University of Southern Mississippi.
- Kalyanpur, M., 2011, 'Paradigm and paradox: Education for all and the inclusion of children with disabilities in Cambodia', *International Journal of Inclusive Education* 15(10), 1053-1071. <https://doi.org/10.1080/13603116.2011.555069>

- Kiarie, M.W., 2002, 'Education of students with visual impairments in Kenya', *International Journal of Special Education* 19(2), 1-22.
- Kimathi, F. & Rusznyak, L., 2018, 'Advancing professional teaching in South Africa: Lessons learnt from policy frameworks that have regulated teachers' work', *Education as Change* 22(3), 1-25. <https://doi.org/10.25159/1947-9417/4042>
- Koehler, M. & Mishra, P., 2009, 'What is technological pedagogical content knowledge (TPACK)?', *Contemporary Issues in Technology and Teacher Education* 9(1), 60-70.
- Lewin, K.M., 2009, 'Access to education in sub-Saharan Africa: Patterns, problems and possibilities', *Comparative Education* 45(2), 151-174. <https://doi.org/10.1080/03050060902920518>
- Maake, M.M. & Oduntan, O.A., 2015, 'Prevalence and causes of visual impairment in patients seen at Nkhensani Hospital Eye Clinic, South Africa', *African Journal of Primary Healthcare & Family Medicine* 7(1), 1-6.
- Magare, I., Kitching, A.E. & Roos, V., 2010, 'Educators' experiences of inclusive learning contexts: An exploration of competencies', *Perspectives in Education* 28(1), 52-63.
- Magnusson, C.G., Roe, A. & Blikstad-Balas, M., 2019, 'To what extent and how are reading comprehension strategies part of language arts instruction? A study of lower secondary classrooms', *Reading Research Quarterly* 54(2), 187-212.
- Maguvhe, M., 2015, 'Teaching science and mathematics to students with visual impairments: Reflections of a visually impaired technician', *African Journal of Disability* 4(1), a194. <https://doi.org/10.4102/ajod.v4i1.194>
- Maguvhe, M.O., Dzapasi, A. & Sabeya, P., 2012, 'Orientation and mobility services for persons with visual impairments: South African orientation and mobility practitioners' eye view', *Journal of Visual Impairment & Blindness* 106(11), 750-755.
- Majoko, T., 2019, 'Teacher key competencies for inclusive education: Tapping pragmatic realities of Zimbabwean special needs education teachers', *SAGE Open* 9(1), 2158244018823455. <https://doi.org/10.1177/2158244018823455>
- Malan, M.J., 2018, 'Towards developing teacher competencies for holistic enablement of visually impaired learners', Doctoral dissertation, University of Pretoria.
- Marishane, M.A., Marishane, R.N. & Mahlo, F.D., 2015, 'Teacher capacity for curriculum differentiation in teaching foundation phase mathematics', *International Journal of Educational Sciences* 11(3), 253-262.
- Massiceti, D., Hicks, S.L. & Van Rheede, J.J., 2018, 'Stereo vision: Exploring visual-to-auditory sensory substitution mappings in an immersive virtual reality navigation paradigm', *PLoS One* 13(7), e0199389. <https://doi.org/10.1371/journal.pone.0199389>
- McLoughlin, C. & Lee, M., 2008, 'The three P's of pedagogy for the networked society: Personalization, Participation, and Productivity', *International Journal of Teaching and Learning in Higher Education* 20(1), 10-27.
- Mishra, P., Koehler, M.J. & Henriksen, D., 2011, 'The seven trans-disciplinary habits of mind: Extending the TPACK framework towards 21st century learning', *Educational Technology* 51(2), 22-28.

## References

- Naipal, S. & Rampersad, N., 2018, 'A review of visual impairment', *African Vision and Eye Health* 77(1), 1-4.
- Naidoo, K.S., Jaggernath, J., Ramson, P., Chinanayi, F., Zhuwau, T. & Øverland, L., 2015, 'The prevalence of self-reported vision difficulty in economically disadvantaged regions of South Africa', *African Journal of Disability* 4(1), 1-11. <https://doi.org/10.4102/ajod.v4i1.136>
- Nel, N.M., Tlale, L.D.N., Engelbrecht, P. & Nel, M., 2016, 'Teachers' perceptions of education support structures in the implementation of inclusive education in South Africa', *Koers* 81(3), 1-14.
- Nind, M. & Lewthwaite, S., 2018, 'Methods that teach: Developing pedagogic research methods, developing pedagogy', *International Journal of Research & Method in Education* 41(4), 398-410.
- Oliveira, A., Behnagh, R.F., Ni, L., Mohsinah, A.A., Burgess, K.J. & Guo, L., 2019, 'Emerging technologies as pedagogical tools for teaching and learning science: A literature review', *Human Behaviour & Emerging Technologies* 1(2), 149-160. <https://doi.org/10.1002/hbe2.141>
- Pattillo, S.T., Heller, K.W. & Smith, M., 2004, 'The impact of a modified repeated-reading strategy paired with optical character recognition on the reading rates of students with visual impairments', *Journal of Visual Impairment and Blindness* 98(1), 28-46.
- Popel, K., 2017, 'Young adults' perceptions of the implications of their hereditary visual impairment: A Cape Town based study', MSc thesis, Genetic Counselling, University of Cape Town.
- Sacharowitz, H.S., 2005, 'Visual impairment in South Africa: Achievements and challenges', *African Vision and Eye Health* 64(4), 139-149. <https://doi.org/10.4102/aveh.v64i4.239>
- Salomão, S.R., Mitsuhiro, M.R. & Belfort, Jr. R., 2009, 'Visual impairment and blindness: An overview of prevalence and causes in Brazil', *Anais da Academia Brasileira de Ciências* 81(3), 539-549.
- Schroeder, F.K., 1996, 'Perceptions of Braille usage by legally blind adults', *Journal of Visual Impairment & Blindness* 90(3), 210-218. <https://doi.org/10.1177/0145482X9609000310>
- Silva, M.R.D., Nobre, M.I.R.D.S., Carvalho, K.M.D. & Montilha, R.D.C.I., 2014, 'Visual impairment, rehabilitation and international classification of functioning, disability and health', *Revista Brasileira de Oftalmologia* 73(5), 291-301.
- Smith, L., 2014, 'Historiography of South African social work: Challenging dominant discourses', *Social Work* 50(3), 305-331. <https://doi.org/10.15270/50-3-402>
- South African National Council for the Blind (SANCB), 2011, *Assistive devices for the blind*, viewed 29 October 2018, from [http://www.sasix.co.za/projects/reportback/VP-FS-AUG09-0001/#2011-01-26-assistive\\_devices\\_for\\_the\\_blind](http://www.sasix.co.za/projects/reportback/VP-FS-AUG09-0001/#2011-01-26-assistive_devices_for_the_blind).
- Special Education Technology British Columbia, 2008, *Reading strategies for students with visual impairments: A classroom teacher's guide*, viewed 22 June 2019, from <http://www.setbc.org>.

- Stevens, G.A., White, R.A., Flaxman, S.R., Price, H., Jonas, J.B., Keeffe, J. et al., 2013, 'Global prevalence of vision impairment and blindness: magnitude and temporal trends, 1990–2010', *Ophthalmology* 120(12), 2377–2384. <https://doi.org/10.1016/j.ophtha.2013.05.025>
- Taketa, N., Hayashi, K., Kato, H. & Noshida, S., 2007, 'Virtual pop-up book based on augmented reality', in M.J. Smith & G. Salvendy (eds.), *Symposium on human interface and the management of information*, pp. 475–484, Springer, Berlin. [https://doi.org/10.1007/978-3-540-73354-6\\_52](https://doi.org/10.1007/978-3-540-73354-6_52)
- Tang, Q., 2015, 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all', *UN Chronicle* 51(4), 11–12. <https://doi.org/10.18356/b2b87b7d-en>
- Taylor, M.A., 2016, 'Improving accessibility for students with visual disabilities in the technology-rich classroom', *Political Science & Politics* 49(1), 122–127. <https://doi.org/10.1017/S1049096515001134>
- Wehmeyer, M.L., 2019, *Strengths-based approaches to educating all learners with disabilities: Beyond special education*, Teachers College Press, New York, NY.
- Wells-Jensen, S., Wells-Jensen, J. & Belknap, G., 2005, 'Changing the public's attitude toward Braille: A grassroots approach', *Journal of Visual Impairment & Blindness* 99(3), 133–140. <https://doi.org/10.1177/0145482X0509900302>
- World Health Organization (WHO), 2016, *International statistical classification of diseases and related health problems 10th revision (ICD-10)*, viewed June 18 2018, from <http://apps.who.int/classifications/icd10/browse/2015/en#/H54>.

## Chapter 3

- Al-Aoufi, H., Al-Zyoud, N. & Shahminan, N., 2012, 'Islam and the cultural conceptualisation of disability', *International Journal of Adolescence and Youth* 17(4), 205–219. <https://doi.org/10.1080/02673843.2011.649565>
- Anastasiou, D. & Kauffman, J.M., 2013, 'The social model of disability: Dichotomy between impairment and disability', *The Journal of Medicine and Philosophy* 38(4), 441–459. <https://doi.org/10.1093/jmp/jht026>
- Austin, J.F., 2000, 'The role of parents as advocates for the transition rights of their disabled youth', *Disability Studies Quarterly* 20(4), 1–10. <https://doi.org/10.18061/dsq.v20i4.265>
- Ayoubi, L., 2011, 'Human rights perspectives on access of the blind, visually impaired and other reading disabled persons to copyrighted materials', Master's thesis in International Human Rights Law and Intellectual Property Law, Faculty of Law, Lund University.
- Beukelman, D.R., Bornman, J. & Light, J., 2016, 'Reflections from fellows of ISAAC', *Augmentative and Alternative Communication* 32(4), 233–240. <https://doi.org/10.1080/07434618.2016.1252947>
- Biermann, J., 2016, 'Different meanings? The translation of inclusive education in Nigeria', *Zeitschrift für Internationale Bildungsforschung und Entwicklungspädagogik (ZEP)* 39(3), 10–15.

## References

- Black, K., 1996, *A healing homiletic: Preaching and disability*, Abingdon Press, Nashville, TN.
- Bornman, J., 2017, 'Developing inclusive literacy practices in South African schools', in M. Milton (ed.), *Inclusive principles and practices in literacy education, International Perspectives on Inclusive Education*, vol. 11, pp. 105-124, Emerald, Bingley.
- Bornman, J. & Rose, J., 2017, *Believe that all can achieve: Increasing classroom participation in learners with special support needs*, 2nd edn., Van Schaik, Pretoria.
- Bourne, R.R., Flaxman, S.R., Braithwaite, T., Cicinelli, M.V., Das, A., Jonas, J.B. et al., 2017, 'Magnitude, temporal trends, and projections of the global prevalence of blindness and distance and near vision impairment: A systematic review and meta-analysis', *The Lancet Global Health* 5(9), e888-e897. [https://doi.org/10.1016/S2214-109X\(17\)30293-0](https://doi.org/10.1016/S2214-109X(17)30293-0)
- Burke, P., 2005, 'Listening to young people with special needs: The influence of group activities', *Journal of Intellectual Disabilities* 9(4), 359-376. <https://doi.org/10.1177/1744629505060990>
- Buse, K., Mays, N. & Walt, G., 2005, *Making health policy*, Open University Press, Maidenhead.
- Cattlin, B., 2018, *What is the Big Mac index?*, viewed n.d., from <https://www.ig.com/za/trading-strategies/what-is-the-big-mac-index-180905>.
- Centre for Child Law, 2017, *Advocacy brief: Advancing the rights of children with disabilities*, Centre for Child Law, University of Pretoria, Pretoria.
- Cherney, I.D. & Shing, Y.L., 2008, 'Children's nurturance and self-determination rights: A cross-cultural perspective', *Journal of Social Issues* 64(4), 835-856. <https://doi.org/10.1111/j.1540-4560.2008.00591.x>
- Connolly, M. & Ward, T., 2008, *Morals, rights and practice in the human services: Effective and fair decision-making in health, social care and criminal justice*, Jessica Kingsley Publishers, London.
- Degener, T., 2017, 'A new human rights model of disability', in V. Della Fina, R. Cera & G. Palmisano (eds.), *The United Nations Convention on the Rights of Persons with Disabilities: A commentary*, pp. 41-60, Springer, Cham.
- Department of Basic Education (DBE), 2001, *Education White Paper 6: Special needs education*, viewed n.d., from <http://www.education.gov.za/Portals/0/Documents/Legislation/White%20paper/Education%20%20White%20Paper%206.pdf?ver=2008-03-05-104651-000>.
- Department of Basic Education (DBE), 2014, *Annual report 2013/14*, viewed n.d., from: [http://www.gov.za/sites/www.gov.za/files/DBE\\_Annual\\_Report\\_2013-14\\_a.pdf](http://www.gov.za/sites/www.gov.za/files/DBE_Annual_Report_2013-14_a.pdf).
- Donohue, D.K. & Bornman, J., 2014, 'The challenges of realizing inclusive education in South Africa', *South African Journal of Education* 34(2), 1-14. <https://doi.org/10.15700/201412071114>
- Donohue, D.K. & Bornman, J., 2015, 'South African teachers' attitudes toward the inclusion of learners with different abilities in mainstream classrooms', *International Journal of Disability, Development and Education* 62(1), 42-59.

- Erasmus, A., Bornman, J. & Dada, S., 2016, 'Afrikaans-speaking parents' perceptions of the rights of their children with mild to moderate intellectual disabilities: A descriptive investigation', *Journal of Child Health Care* 20(2), 234-242. <https://doi.org/10.1177/1367493515569326>
- Franklin, A., Lund, P., Bradbury-Jones, C. & Taylor, J., 2018, 'Children with albinism in African regions: Their rights to "being" and "doing"', *BMC International Health and Human Rights* 18(2), 1-8. <https://doi.org/10.1186/s12914-018-0144-8>
- Ghaly, M., 2016, 'Disability in the Islamic tradition', *Religion Compass* 10(6), 149-162. <https://doi.org/10/1111/rec3:12202>
- Goldbart, J. & Sen, R., 2013, 'The world report on disability and communication disability: Some considerations from an Indian context', *International Journal of Speech-Language Pathology* 15(1), 21-26. <https://doi.org/10.3109/17549507.2012.727472>
- Grobbelaar-du Plessis, I. & Grobler, C., 2013, 'South Africa', in C. Ngwena, I. Grobbelaar-du Plessis, H. Combrinck & S.D. Kamga (eds.), *African disability rights yearbook*, pp. 307-340, Pretoria University Law Press, Pretoria.
- Grobbelaar-du Plessis, I. & Van Reenen, T., 2011, 'Introduction to aspects of disability law in Africa', in I. Grobbelaar-du Plessis & T. Van Reenen (eds.), *Aspects of disability law in Africa*, pp. xv-xxvii, Pretoria University Law Press, Pretoria.
- Groce, N., Kembhavi, G., Wirz, S., Lang, R., Trani, J.F. & Kett, M., 2011, *Poverty and disability - A critical review of the literature in low and middle-income countries*, Leonard Cheshire Research Centre, Working Paper Series: No. 16, viewed n.d., from [https://www.ucl.ac.uk/lc-ccr/centrepublishations/workingpapers/WP16\\_Poverty\\_and\\_Disability\\_review.pdf](https://www.ucl.ac.uk/lc-ccr/centrepublishations/workingpapers/WP16_Poverty_and_Disability_review.pdf).
- Human Rights Watch, 2015, '*Complicit in Exclusion*'. *South Africa's Failure to guarantee an inclusive education for children with disabilities*, Human Rights Watch, New York, NY.
- KELIN Report, 2010, *Robbed of choice: Forced and coerced sterilization experiences of women living with HIV in Kenya*, viewed n.d., from <https://kelinkenya.org/wp-content/uploads/2010/10/Report-on-Robbed-Of-Choice-Forced-and-Coerced-Sterilization-Experiences-of-Women-Living-with-HIV-in-Kenya.pdf>.
- Mitra, S., 2006, 'The capability approach and disability', *Journal of Disability Policy Studies* 16(4), 236-247. <https://doi.org/10.1177/10442073060160040501>
- Möller, E., 2012, 'Experiences of people with disabilities in faith communities: A journey', *Journal of Religion, Disability & Health* 16(2), 154-171. <https://doi.org/10.1080/15228967.2012.673082>
- Morris, C., 2017, 'Making sense of education: Sensory ethnography and visual impairment', *Ethnography and Education* 12(1), 1-16. <https://doi.org/10.1080/17457823.2015.1130639>
- Murray, S., 2007, 'Families' care of their children with severe disabilities in Australia', *Community, Work and Family* 10(2), 215-230. <https://doi.org/10.1080/13668800701270141>
- Nel, M., 2013, 'Understanding inclusion', in A. Engelbrecht, H. Swanepoel, M. Nel & A. Hugo (eds.), *Embracing diversity through multi-level teaching*, pp 1-32, Juta, Cape Town.

## References

- Phillpott, S. & McKenzie, J., 2017, 'Welcoming all children: The inclusion imperative', in L. Jamieson, L. Berry & L. Lake (eds.), *South African child gauge*, pp. 84–90, Children's Institute at the University of Cape Town, Cape Town.
- Pikoli, Z., 2018, *Blind and partially sighted children across South Africa finally have a chance at accessing braille textbooks*, viewed n.d., from <http://section27.org.za/2018/09/blind-and-partially-sighted-children-across-south-africa-finally-have-a-chance-at-accessing-braille-textbooks/>.
- Ramaahlo, M., Tönsing, K.M. & Bornman, J., 2018, 'Inclusive education policy provision in South African research universities', *Disability & Society* 33(3), 349–373. <https://doi.org/10.1080/09687599.2018.1423954>
- Retief, M. & Letšosa, R., 2018, 'Models of disability: A brief overview', *HTS Theological Studies/Teologiese Studies* 74(1), a4738. <https://doi.org/10.4102/hts.v74i1.4738>
- Ruck, M.D., Peterson-Badali, M. & Day, D.M., 2002, 'Adolescents' and mothers' understanding of children's rights in the home', *Journal of Research on Adolescence* 12(3), 373–398. <https://doi.org/10.1111/1532-7795.00038>
- Schaeffer, S., 2009, 'Realizing inclusive education through applying a rights-based approach to education', in C. Acedo, M. Amadio & R. Operti (eds.), *Defining an inclusive education agenda: Reflections around the 48th session of the international conference on education*, Geneva, Switzerland, November 25–28, 2008, pp. 87–91.
- Scope, 2013, *Disabled people still face the digital divide, says a new report*, viewed n.d., from <http://enablemagazine.co.uk/disabled-people-still-face-digital-divide-says-new-report/>.
- Shane, H., Blackstone, S., Vanderheiden, G., Williams, M. & DeRuyter, F., 2012, 'Using AAC technology to access the world', *Assistive Technology* 23(1), 3–13. <https://doi.org/10.1080/10400435.2011.648716>
- South Africa, 1996, *Constitution of the Republic of South Africa, No. 108 of 1996*, Government Printer, Pretoria.
- South Africa, 1998a, *The Sterilization Act, 1998*, Government Printer, Pretoria.
- South Africa, 1998b, *South African Library for the Blind, Act 91, 1998*, Government Printer, Pretoria.
- South Africa, 2000, *The promotion of equality and prevention of unfair discrimination, 2000*, Government Printer, Pretoria.
- South Africa, 2001, *Education White Paper 6: Special needs education. Building an inclusive education and training system, 2001*, Government Printer, Pretoria.
- South Africa, 2004, *Social Assistance Act 13, 2004*, Government Printer, Pretoria.
- South Africa, 2005a, *The Children's Act, 38 of 2005*, Government Printer, Pretoria.
- South Africa, 2005b, *Electronic Communications Act, 36 of 2005*, Government Printer, Pretoria.
- South Africa, 2007, *Criminal Law (Sexual offences and Related Matters) Amendment Act 32 of 2007*, Government Printer, Pretoria.

- South Africa, 2012, *The National Development Plan (2030) (NDP)*, Government Printer.
- South Africa, 2015a, *The White Paper on the rights of persons with disabilities, 2015*, Government Printer, Pretoria.
- South Africa, 2015b, *The White Paper on the rights of persons with disabilities implementation matrix: 2015–2030*, Government Printer, Pretoria.
- South Africa, 2015c, *The national integrated early childhood development policy, 2015*, Government Printer, Pretoria.
- South Africa, 2015d, *Framework and strategy for disability and rehabilitation services in South Africa 2015–2020*, Government Printer, Pretoria.
- Stander, H., 2013, 'Disabled men and women in early Christianity: A study of Chrysostom's writings', *Ekklesiastikos Pharos* 95(1), 332–345.
- Statistics South Africa, 2014, *Census 2011: Profile of persons with disabilities in South Africa*, Stats SA, Pretoria.
- United Nations, 1989, *United Nations Convention on the Rights of the Child (CRC)*, United Nations, Geneva.
- United Nations, 2006, *United Nations Convention on the Rights of Persons with Disabilities (CRPD)*, United Nations, Geneva.
- Van Roekel, K., 2017, *A smartphone accessibility primer; or, how I learned to stop worrying and master mobile accessibility*, viewed 01 July 2020, from <https://simplyaccessible.com/article/smartphone-a11y-primer-1/>.
- Walt, G. & Gilson, L., 1994, 'Reforming the health sector in developing countries: The central role of policy analysis', *Health Policy and Planning* 9(4), 353–370. <https://doi.org/10.1093/heapol/9.4.353>
- Wonder, S., n.d.a, *Just because a man lacks the use of his eyes doesn't mean he lacks vision* viewed n.d., from <https://medium.com/@steveagyeibeyondlifestyle/just-because-a-man-lacks-the-use-of-his-eyes-doesn-t-mean-he-lacks-vision-620b9c171fda>.
- Wonder, S., n.d.b., *Blind don't mean you can't, you know, listen*, viewed n.d., from <https://quotefancy.com/quote/1474848/Stevie-Wonder-Blind-don-t-mean-you-can-t-you-know-listen>.

## Chapter 4

- Bronfenbrenner, U., 1992, 'Ecological systems theory', in R. Vasta (ed.), *Annals of child development*, vol. 6, pp. 187–249, Jessica Kingsley Publishers, London.
- CAST, 2019, *About universal design for learning*, viewed 08 January 2019, from [http://www.cast.org/our-work/about-udl.html?utm\\_source=udlguidelines&utm\\_medium=web&utm\\_campaign=none&utm\\_content=homepage#.XEDVC1UzaM8](http://www.cast.org/our-work/about-udl.html?utm_source=udlguidelines&utm_medium=web&utm_campaign=none&utm_content=homepage#.XEDVC1UzaM8).

## References

- Department of Education (DoE), 2001, *Education White Paper 6: Special needs education: Building an inclusive education and training system*, Government Printers, Pretoria.
- Donald, D.R., Lazarus, S. & Moola, N., 2014, *Educational psychology in social context*, 5th edn., Oxford University Press, Cape Town.
- Engel, G.L., 1977, 'The need for a new medical model: A challenge for biomedicine', *Science* 196(4286), 129–136. <https://doi.org/10.1126/science.847460>
- Engelbrecht, P., 1999, 'A theoretical framework for inclusive education', in P. Engelbrecht, L. Green, S. Naicker & L. Engelbrecht (eds.), *Inclusive education in action in South Africa*, pp. 3–12, Van Schaik, Pretoria.
- Gargiulo, R.M. & Metcalf, D., 2013, *Teaching in today's inclusive classrooms: A universal design for learning approach*, 2nd edn., Wadsworth Cengage Learning, Belmont, CA.
- Green, L., 2001, 'Theoretical and contextual background', in P. Engelbrecht & L. Green (eds.), *Promoting Learner Development: preventing and working with barriers to learning*, n.p., Van Schaik, Pretoria.
- Kochhar, C., West, L.L. & Taymans, J.M., 2000, *Successful inclusion: Practical strategies for a shared responsibility*, Prentice-Hall, Pearson, Upper Saddle River, NJ.
- Kretzmann, J. & McKnight, J.P., 1996, 'Assets-based community development', *National Civic Review* 85(4), 23–29. <https://doi.org/10.1002/ncr.4100850405>
- Links, M., 2014, *The inclusive educator*, Expert Educator Series, Macmillan SA, Northlands.
- Moore, S., 2017, 'One without the other', *Hand in Hand* 21(3), 3–4, viewed 09 January 2019, from <http://www.dsrf.org/media/HH21-3.pdf>.
- Naicker, S., 1999, 'Inclusive education in South Africa', in P. Engelbrecht, L. Green, S. Naicker & L. Engelbrecht (eds.), *Inclusive education in action in South Africa*, pp. 12–23, Van Schaik, Pretoria.
- National Wellness Institute, n.d., *The six dimensions of wellness*, viewed 08 January 2019, from [https://www.nationalwellness.org/page/Six\\_Dimensions](https://www.nationalwellness.org/page/Six_Dimensions)
- Raymond, E., 2013, 'Sensory, physical and health challenges', in C.F. Pienaar & E.B. Raymond (eds.), *Making inclusive education work in classrooms*, p. 85, Pearson, Cape Town.
- Salend, S.J., 2005, *Creating inclusive classrooms: Effective and reflective practices for all students*, 2, 5th edn., Pearson, Columbus, OH.
- Sands, D.J., Kozleski, E.B. & French, N.K., 2000, *Inclusive education for the 21st century: A new introduction to special education*, Wadsworth, Thomson Learning, Belmont.
- UNESCO Office Bangkok and Regional Bureau for Education in Asia and the Pacific, 2004, *Embracing diversity: Toolkit for creating inclusive, learning-friendly environments*, viewed 10 January 2019, from <https://unesdoc.unesco.org/ark:/48223/pf0000137522>.

- United Nations, 1989, *Convention on the Rights of a Child*, viewed 10 January 2019, from <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx>.
- United Nations, 2006, *United Nations Convention on the Rights of Persons with Disabilities*, Adopted by the General Assembly by Resolution A/RES/61/106, 13 December 2006, viewed 15 July 2019, from <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>.
- United Nations, 1948, *Declaration of Human Rights*, viewed 09 January 2019, from <http://www.un.org/en/universal-declaration-human-rights/>.
- United Nations Educational, Scientific and Cultural Organization (UNESCO), 1994, *The Salamanca statement and framework for action on special needs education*, United Nations Educational, Scientific and Cultural Organization, Paris.
- United Nations Educational, Scientific and Cultural Organization (UNESCO), 2000, *The Dakar framework for action: Education for all: Meeting our collective commitments*, United Nations Educational, Scientific and Cultural Organization, Paris.
- United Nations Educational, Scientific and Cultural Organization (UNESCO), 2005, *Guidelines for inclusion*, United Nations Educational, Scientific and Cultural Organization, Paris.
- University of Pretoria, 2018a, *Field notes from research conducted amongst various special needs schools in South Africa*, University of Pretoria, Pretoria.
- University of Pretoria, 2018b, *Policy on students with disabilities*, Document number: Rt 282/13, amended 08 January 2018, University of Pretoria, Pretoria.
- Walton, E.L., 2006, 'The extent and practice of inclusion of independent schools (ISASA members) in Southern Africa', DEd thesis, University of South Africa.
- Yacoob, Z., 2018, 'Foreword', in T. Fish-Hodgson & S. Khumalo (eds.), *Left in the dark: Failure to provide access to quality education to blind and partially sighted learners in South Africa*, pp. 5-7, Section 27, Johannesburg.

## Chapter 5

- American Speech-Language-Hearing Association (ASHA), 2017, *Augmentative and alternative communication*, viewed 22 June 2017, from <http://www.asha.org/public/speech/disorders/AAC/>.
- American Speech-Language-Hearing Association (ASHA) Action Center, 1997-2020, *Augmentative and alternative communication*, viewed 01 July 2020, from [https://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942773&section=Key\\_Issues](https://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942773&section=Key_Issues).
- Bekele, D., Coursen-Neff, Z., Bagopane-Zulu, H., Pretorius, L., Mhlanga, E. & Simelane, M., 2015, 'Complicit in Exclusion': *South Africa's failure to guarantee an inclusive education for children with disabilities*, viewed 01 July 2020, from

## References

- <https://www.hrw.org/report/2015/08/18/complicit-exclusion/south-africas-failure-guarantee-inclusive-education-children>.
- Beukelman, D.R. & Mirenda, P., 2013, *Augmentative and alternative communication. Supporting children and adults with complex communication needs*, 4th edn., Paul H. Brookes, Baltimore, MD.
- Bornman, J. & Rose, J., 2017, *Believe that all can achieve: Increasing classroom participation in learners with special support needs*, 2nd edn., Van Schaik, Pretoria.
- Bornman, J. & Tönsing, K.M., 2019, 'Augmentative and alternative communication', in E. Landsberg, D. Kruger & E. Swart (eds.), *Addressing barriers to learning: A South African perspective*, 4th edn., Van Schaik, Pretoria.
- Corn, A.L. & Koenig, A.J., 1996, *Foundations of low vision: Clinical and functional perspectives*, AFB Press, New York, NY.
- Department of Basic Education (DBE) & United Nations Children's Fund (UNICEF), 2015, *Study on children with disabilities from birth to four years old*, UNICEF South Africa, Pretoria.
- Department of Education (DoE), 2001, *White Paper 6: Building an inclusive education and training system*, Government Printer, Pretoria.
- Donohue, D.K. & Bornman, J., 2014, 'The challenges of realising inclusive education in South Africa', *South African Journal of Education* 34(2), 1-14. <https://doi.org/10.15700/201412071114>.
- Department of Social Development (DSD), Department of Women, Children and People with Disabilities (DWCPD) & United Nations Children's Fund (UNICEF), 2012, *Children with disabilities in South Africa: A situation analysis 2001-2011*, Government Printers, Pretoria.
- Du Plessis, P., 2013, 'Legislation and policies: Progress towards the right to inclusive education', *De Jure Law Journal* 46(1), 76-92. [http://www.scielo.org.za/scielo.php?script=sci\\_arttext&pid=S2225-71602013000100006&lng=en&tlng=en](http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S2225-71602013000100006&lng=en&tlng=en).
- Edberg, H., 2020, *80 inspirational education quotes for students and teachers*, viewed 15 February 2020, from <https://www positivityblog.com/quotes-on-education/>.
- Escowitz, S., 2019, *Multiple disabilities in your classroom: 10 tips for teachers*, viewed 15 July 2019, from [https://fl-pda.org/independent/courses/TSWD/content/unit02/docs/Multiple\\_Disabilities\\_in\\_Your\\_Classroom\\_10\\_Tips\\_for\\_Teachers.pdf](https://fl-pda.org/independent/courses/TSWD/content/unit02/docs/Multiple_Disabilities_in_Your_Classroom_10_Tips_for_Teachers.pdf).
- Ferrell, K.A., 1998, *Project PRISM: A longitudinal study of developmental patterns of children who are visually impaired (Final Report)*, University of Northern Colorado, Division of Special Education, Greeley, CO.
- Hatton, D.D., Bailey, Jr. D.B., Burchinal, M.R. & Ferrell, K., 1997, 'Development Growth Curves of pre-school children with visual impairments', *Child Development* 68, 788-806. <https://doi.org/10.1111/j.1467-8624.1997.tb01962.x>
- Human Rights Watch, 2019, *South Africa: Children with disabilities short-changed, adopt free, inclusive education for all*, viewed 06 June 2020, from <https://>

- www.hrw.org/news/2019/04/25/south-africas-children-disabilities-need-presidents-attention.
- Jose, R.T., 1983, *Understanding low vision*, American Foundation for the Blind, New York, NY.
- LeDoux, J.E., 2000, 'Emotion circuits in the brain', *Annual Review of Neuroscience* 23, 155-184. <https://doi.org/10.1146/annurev.neuro.23.155-184>.
- Metcalfe, A., 1996, *Guiding a visually impaired wheelchair user*, unpublished report for the South African National Council for the Blind and Affiliates, Low Vision Services, Pretoria Eye Institute, Pretoria.
- National Health Service (NHS), UK, 2017, *Photograph of a child with strabismus*, viewed 03 January 2020, from <https://www.nhs.uk/conditions/squint>.
- Republic of South Africa, 1996, *Constitution of the Republic of South Africa*, Government Gazette 378(17678), Government Printers, Pretoria.
- South African Human Rights Commission (SAHRC), 2017, *Research brief on disability and equality in South Africa*, South African Human Rights Commission, Pretoria.
- The Educator, 2004, *Reaching children with visual impairment who have additional disabilities*, vol. XVII, issue 1, The International Council for Education of People with Visual Impairment (ICEVI), Greeley, CO.
- United Nations, 1989, *United Nations Convention on the Rights of the Child*, viewed 15 July 2019, from <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>.
- United Nations, 2006, *United Nations Convention on the Rights of Persons with Disabilities*, Adopted by the General Assembly by Resolution A/RES/61/106, 13 December 2006, viewed 15 July 2019, from <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>.
- Westling, D.L. & Fox, L., 2015, *Teaching students with severe disabilities*, 5th edn., Pearson, Upper Saddle River, NJ.

## Chapter 6

- Agyarko de Graft, R., 1998, 'Participation, empowerment and participatory rural appraisal: An illustration with two case studies from Ghana', *Social Change* 28(2-3), 157-170.
- Alshenqeeti, H., 2014, 'Interviewing as a data collection method: A critical review', *English Linguistics Research* 3(1), 39-45.
- American Foundation for the Blind, 2011, *Visual impairment and blindness*, viewed 20 January 2018, from <http://afb.org>.
- American Foundation for the Blind, 2012, *Children and youth with vision loss*, American Foundation for the Blind, New York, NY.
- Anastasiou, D. & Kauffman, J.M., 2013, 'The social model of disability: Dichotomy between impairment and disability', *The Journal of Medicine and Philosophy*:

## References

- A Forum for Bioethics and Philosophy of Medicine* 38(4), 441-459. <https://doi.org/10.1093/jmp/jht026>.
- Angrosino, M.V. & Mays de Pérez, K.A., 2000, 'Rethinking observation: From method of context', in N.K. Denzin & Y.S. Lincoln (eds.), *Handbook of qualitative research*, vol. 2, pp. 673-702, Sage, Newbury Park, CA.
- Augestad, L.B., 2017, 'Self-concept and self-esteem among children and young adults with visual impairment: A systematic review', *Cogent Psychology* 4(1), 1-12. <https://doi.org/10.1080/23311908.2017.1319652>
- Balantrapu, T., 2017, *Latest global blindness & VI prevalence figures published in Lancet*, IAPB Vision Atlas, London.
- Bayram, G.I., Corlu, M.S., Aydin, E., Ortaçtepe, D. & Alapala, B., 2015, 'An exploratory study of visually impaired students' perceptions of inclusive mathematics education', *British Journal of Visual Impairment* 33(3), 212-219. <https://doi.org/10.1177/0264619615591865>
- Baxter, P. & Jack, S., 2008, 'Qualitative case study methodology: Study design and implementation for novice researchers', *The Qualitative Report* 13(4), 544-559.
- Beveridge, S., 2013, *Children, families and schools: Developing partnerships for inclusive education*, Routledge, London.
- Birch, J., 2001, *Diagnosis of defective colour vision*, pp. 24-29, Butterworth-Heinemann, Boston, MA.
- Blumsack, J.T., 2009, 'Dual sensory loss: A guide for outreach to primary care physicians', *Seminars in Hearing* 30(3), 207-221. <https://doi.org/10.1055/s-0029-1225405>
- Bourne, R.R.A., Flaxman, S.R., Braithwaite, T., Cicinelli, M.V., Das, A., Jonas J.B. et al., 2017, 'Vision loss expert group: Magnitude, temporal trends, and projections of the global prevalence of blindness and distance and near vision impairment: A systematic review and meta-analysis', *The Lancet Global Health* 5(9), 888-897. [https://doi.org/10.1016/S2214-109X\(17\)30293-0](https://doi.org/10.1016/S2214-109X(17)30293-0)
- Bowman, R., Bowman, R. & Dutton, G., 2001, *Disorders of vision in children. A guide for teachers and carers*, Royal National Institute for the Blind, London.
- Braun, V. & Clarke, V., 2006, 'Using thematic analysis in psychology', *Qualitative Research in Psychology* 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Broom, A. & Willis, E., 2007, 'Competing paradigms and health research', *Researching Health: Qualitative, Quantitative and Mixed Methods* 7, 81-92.
- Brown, C.M., Packer, T.L. & Passmore, A., 2013, 'Adequacy of the regular early education classroom environment for students with visual impairment', *The Journal of Special Education* 46(4), 223-232. <https://doi.org/10.1177/0022466910397374>
- Brown, J.E. & Beamish, W., 2012, 'The changing role and practice of teachers of students with visual impairments: Practitioners' views from Australia', *Journal of Visual Impairment & Blindness* 106(2), 81-92. <https://doi.org/10.1177/0145482X1210600203>

- Brydges, C. & Mkandawire, P., 2017, 'Perceptions and concerns about inclusive education among students with visual impairments in Lagos, Nigeria', *International Journal of Disability, Development and Education* 64(2), 211-225. <https://doi.org/10.1080/1034912X.2016.1183768>
- Cambridge Neurodiversity Hub, 2018, *Social model of disability*, viewed 16 July 2019, from <http://cambridgeneurodiversityhub.co.uk/social-model-of-disability/>.
- Carney, S., Engbretson, C., Scammell, K. & Sheppard, V., 2003, *Teaching students with visual impairments: A guide for the support team*, viewed 15 August 2019, from <http://www.sasked.gov.sk.ca/k/pecs/se/publications.html>.
- Chambers, R., 1994, 'Participatory Rural Appraisal (PRA): Analysis of experience', *World Development* 22(9), 1253-1268. [https://doi.org/10.1016/0305-750X\(94\)90003-5](https://doi.org/10.1016/0305-750X(94)90003-5)
- Chambers, R., 2008, *Revolutions in developmental inquiry*, Routledge, London.
- Chaudhari, P., 2016, 'Models of disability for learners with special educational needs', *International Education and Research Journal* 2(7), 43-44.
- Cleveland Clinic, 2019, *Inherited eye diseases*, viewed 15 August 2019, from <https://my.clevelandclinic.org/health/diseases/17130-inherited-eye-disease>.
- Coolwinks Technologies Private Limited, 2019, *Different colour perceptions as per the types of colour blindness*, viewed 17 August 2019, from <https://www.coolwinks.com/color-blindness/>.
- Crow, L., 1992, 'Renewing the social model of disability', *Coalition News: GMCDP*, viewed n.d., from <http://www.roaring-girl.com/work/renewing-the-social-model-of-disability/>.
- Department of Basic Education (DBE), 2001, *White paper 6: Special needs education building an inclusive education and training system*, Department of Education, Pretoria.
- Department of Basic Education (DBE), 2010, *Guidelines for full-service/inclusive schools*, Sol Plaatjie house, Pretoria.
- Department of Basic Education (DBE), 2014, *Policy on Screening, Identification, Assessment and Support*, Sol Plaatjie house, Pretoria.
- Department of Basic Education (DBE), 2015, *Media release responding to Human Rights Watch's report*, Department of Education, Sol Plaatjie house, Pretoria.
- Department of Basic Education (DBE) & MIET Africa, 2010, *National support pack*, MIET Africa, Durban.
- Department of Education (DoE), 2005, *Guidelines for inclusive learning programmes. Education White Paper 6: Special Needs Education*, Department of Education, Sol Plaatjie house, Pretoria.
- De Verdier, K., 2016, 'Inclusion in and out of the classroom: A longitudinal study of students with visual impairments in inclusive education', *British Journal of Visual Impairment* 34(2), 130-140. <https://doi.org/10.1177/0264619615625428>
- Disabled World, 2018, *Vision disability: Types, news and information*, viewed 14 September 2019, from <https://www.disabled-world.com/disability/types/vision/>.

## References

- Donohue, D. & Bornman, J., 2014, 'The challenges of realising inclusive education in South Africa', *South African Journal of Education* 34(2), 1-14. <https://doi.org/10.1080/00094056.2007.10522949>
- Eloff, I. & Kgwele, L.K., 2007, 'South African teachers' voices on support in inclusive education', *Childhood Education* 83(6), 351-355. <https://doi.org/10.1080/00094056.2007.10522949>
- Fazzi, E., Galli, J. & Micheletti, S., 2012, 'Visual impairment: A common sequelae of preterm birth', *Neoreviews* 13(9), 542-550. <https://doi.org/10.1542/neo.13-9-e542>
- Ferguson, G., 2014, 'Including children with disabilities in mainstream education: An exploration of the challenges and considerations for parents and primary school teachers', Unpublished Masters dissertation, Dublin Institute of Technology.
- Flick, U., 2011, *Designing qualitative research*, Sage, London.
- Flück, D., 2012, *Color blindness essentials*, viewed 17 August 2019, from [www.color-blindness.com/COLORBLINDESENTIALS](http://www.color-blindness.com/COLORBLINDESENTIALS).
- Freire, A.P., Linhalis, F., Bianchini, S.L., Fortes, R.P. & Maria da Graça, C.P., 2010, 'Revealing the whiteboard to blind students: An inclusive approach to provide mediation in synchronous e-learning activities', *Computers & Education* 54(4), 866-876. <https://doi.org/10.1016/j.compedu.2009.09.016>
- Friend, M. & Bursuck, W.D., 2011, *Including students with special needs: A practical guide for classroom teachers*, 6th edn., Allyn & Bacon, Boston, MA.
- Garfield, R., Blake, C., Chatainger, P. & Walton-Ellery, S., 2011, *Common needs assessments and humanitarian action*, HPN Network Paper, 69, London ODI, viewed 05 June 2018, from <http://www.odihpn.org/documents/networkpaper069.pdf>.
- Glass, P., 2002, 'Development of the visual system and implications for early intervention', *Infants and Young Children* 15(1), 1-10. <https://doi.org/10.1097/00001163-200207000-00003>
- Gogate, P., Gilbert, C. & Zin, A., 2011, 'Severe visual impairment and blindness in infants: Causes and opportunities for control', *Middle East African Journal of Ophthalmology* 18(2), 109-114. <https://doi.org/10.4103/0974-9233.80698>
- Goodley, D., 2001, "'Learning difficulties", the social model of disability and impairment: Challenging epistemologies', *Disability & Society* 16(2), 207-231. <https://doi.org/10.1080/09687590120035816>
- Harris, J., 2000, 'Is there a coherent social conception of disability?' *Journal of Medical Ethics* 26(2), 95-100. <https://doi.org/10.1136/jme.26.2.95>
- Kapur, R., 2018, *Challenges experienced by visually impaired students in education*, viewed 14 September 2019, from [https://www.researchgate.net/publication/323833804\\_Challenges\\_Experienced\\_by\\_Visually\\_Impaired\\_Students\\_in\\_Education](https://www.researchgate.net/publication/323833804_Challenges_Experienced_by_Visually_Impaired_Students_in_Education).

- Keeffe, J., 1996, 'Issues in the education of children with low vision', *Blind Welfare* 3, 8-12.
- Khaleghi, K., 2012, *Are you empowering or enabling? The anatomy of addiction*, viewed 30 December 2019, from <http://www.psychologytoday.com>.
- Lamichhane, K., 2017, 'Teaching students with visual impairments in an inclusive educational setting: A case from Nepal', *International Journal of Inclusive Education* 21(1), 1-13. <https://doi.org/10.1080/13603116.2016.1184323>
- Landsberg, E., Kruger, D. & Nel, N. (eds.), 2005, *Addressing barriers to learning: A South African perspective*, Van Schaik Publishers, Pretoria.
- Lane, J.D., Wellman, H.M., Olson, S.L., LaBounty, J. & Kerr, D.C., 2010, 'Theory of mind and emotion understanding predict moral development in early childhood', *British Journal of Developmental Psychology* 28(4), 871-889. <https://doi.org/10.1348/026151009X483056>
- Lewallen, S. & Courtright, P., 2001, 'Blindness in Africa: Present situation and future needs', *British Journal of Ophthalmology* 85(8), 897-903. <https://doi.org/10.1136/bjo.85.8.897>
- Lewis, S., Allman, C.B. & Francis Mary, D.A., 2000, *Seeing eye to eye: An administrators' guide to students with low vision*, AFB Press, New York, NY.
- Lor, P., 2011, 'Preparing for research: Metatheoretical considerations', *International & Comparative Librarianship*, viewed 02 December 2017, from <http://www.pjlor.files.wordpress.com/2010/06>.
- Mandal, A., 2019, *Color blindness clinical forms. News-medical*, viewed 15 August 2019, from <https://www.news-medical.net/health/Color-Blindness-Clinical-Forms.asp>.
- Maree, J.G., 2007, *First steps in research*, Van Schaik Publishers, Pretoria.
- Minkler, M. & Wallerstein, N., 2003, *Community-based participatory research for health*, Jossey-Bass, San Francisco, CA.
- Mosca, R., 2015, 'Language and communication development in preschool children with visual impairment: A systematic review', Unpublished dissertation, University of Pretoria.
- Mulhall, A., 2003, 'In the field: Notes on observation in qualitative research', *Journal of Advanced Nursing* 41(3), 306-313. <https://doi.org/10.1046/j.1365-2648.2003.02514.x>
- Naidoo, K.S., Raghunandan, A., Mashige, K.P., Govender, P., Holden, B.A., Pokharel, G.P. et al., 2003, 'Refractive error and visual impairment in African children in South Africa', *Investigative Ophthalmology & Visual Science* 44(9), 3764-3770. <https://doi.org/10.1167/iovs.03-0283>
- Navpreet, S., 2018, *Visual impairment and blindness*, Department of Community Medicine: GMCH, Chandigarh.
- NICHCY Disability Fact Sheet #13, 2004, *Visual impairments, including blindness*, viewed 20 January 2018, from <http://www.nichcy.org>.

## References

- Oliver, M., 2013, 'The social model of disability: Thirty years on', *Disability & Society* 28(7), 1024-1026. <https://doi.org/10.1080/09687599.2013.818773>
- Patton, M.Q., 2002, *Qualitative research and evaluation methods*, Sage, Thousand Oaks, CA.
- Roe, J., 2008, 'Social inclusion: Meeting the social-emotional needs of children with vision needs', *The British Journal of Visual Impairment* 26(2), 147-158. <https://doi.org/10.1177/02646196080260020101>
- Sacks, S. & Wolfe, K.E., 2006, *Teaching social skills to students with visual impairment: From theory to practice*, AFB Press, New York, NY.
- Schinazi, V.R., 2007, *Psychosocial implications of blindness and low-vision*, Centre for Advanced Spatial Analysis, London.
- Shakespeare, T., 2006, 'Social model of disability', in L.J. Davis (ed.), 2013, *The disability studies reader*, pp. 197-204, Routledge, New York, NY.
- Shakespeare, T. & Watson, N., 1997, 'Defending the social model', *Disability and Society* 12(2), 293-300. <https://doi.org/10.1080/09687599727380>
- Silberman, R.K., Bruce, S. & Nelson, C., 2004, 'Children with sensory impairments', in F.P. Orellove, D. Sobsey & R.K. Silberman (eds.), *Educating children with multiple disabilities*, Brooks Publishing, Baltimore, MD.
- Silverman, D., 2000, *Doing qualitative research: A practical handbook*, Sage, London.
- Statistics South Africa, 2011, *Census in brief*, Statistics South Africa, Pretoria.
- Stevens, G.A., White, R.A., Flaxman, S.R., Price, H., Jonas, J.B., Keeffe, J., Leasher, J., et al., 2013, 'Global prevalence of vision impairment and blindness: Magnitude and temporal trends, 1990-2010', *Ophthalmology* 120(12), 2377-2384. <https://doi.org/10.1016/j.ophtha.2013.05.025>
- Tadić, V., Pring, L. & Dale, N., 2010, 'Are language and social communication intact in children with congenital visual impairment at school age?', *Journal of Child Psychology Psychiatry* 51(6), 696-705. <https://doi.org/10.1111/j.1469-7610.2009.02200.x>
- Terre Blanche, M. & Durrheim, K., 1999, 'Histories of the present: Social science research in context', in M. Terre Blanche & K. Durrheim (eds.), *Research in practice: Applied methods for the social sciences* 2(1), pp. 1-7, University of Cape Town Press, Cape Town.
- Ueda, Y., 2018, 'Psychosocial adaptation to visual impairment', in S. Rumelt (ed.), *Causes and coping with visual impairment and blindness*, pp. 93-108, IntechOpen, Rijeka.
- University of Wisconsin, 2007, *Consent process for legally blind research participants*, viewed 25 July 2019, from <http://kb.wisc.edu/hsirb>.
- Vitale, S., Cotch, M.F., Sperduto, R. & Ellwein, L., 2006, 'Costs of refractive correction of distance vision impairment in the United States, 1999-2002', *Ophthalmology* 113(12), 2163-2170. <https://doi.org/10.1016/j.ophtha.2006.06.033>
- Walter, M.M., 2009, *Participatory action research: Social research methods*, Oxford University Press, South Melbourne.

- Waterfield, J. & West, B., 2008, *Meeting the specific requirements of blind and partially sighted students studying in higher education in the UK*, University of Plymouth, Plymouth.
- West, S.K., Rubin, G.S. & Broma, A.T., 2002, 'How does visual impairment affect performance on tasks of everyday life?', *Archives Ophthalmology* 120(6), 774–780. <https://doi.org/10.1001/archophth.120.6.774>
- Weber, E., 2008, *Educational change in South Africa: Reflections on local realities, practices and reforms*, Sense Publishers, Rotterdam.
- World Health Organization, 2011, *Vitamin A deficiency*, WHO Press, Geneva.
- Zainal, Z., 2007, 'Case study as a research method', *Jurnal Kemanusiaan* 9(1), 1–6.

## Chapter 7

- Blasch, B.B., Wiener, W.R. & Welsh, R.L. (eds.), 1997, 'Chapter 8: Dog guides', in R.H. Whitstock, L. Frank & R. Haneline (eds.), *Foundations of orientation and mobility*, vol. 1, pp. 241–276, American Printing House for the Blind, New York, NY.
- BlindSA, 2017, *Pamphlet re Louis Braille*, BlindSA, Johannesburg.
- Bornman, J. & Rose, J., 2017, *Believe that all can achieve. Increasing classroom participation in learners with special support needs*, 2nd edn., Van Schaik, Pretoria.
- Bourne, R.A., Flaxman, S.R., Braithwaite, T., Cicinelli, M.V., Das, A., Jonas, J.B. et al., 2017, 'Magnitude, temporal trends, and projections of the global prevalence of blindness and distance and near vision impairment: A systematic review and meta-analysis', *The Lancet, Global Health* 5(9), e888–e897.
- Carroll, T.J., 1961, *Blindness, what it is, what it does and how to live with it*, Little, Brown & Co., Boston, MA.
- Cleveland Clinic, n.d., *Genetic eye disorders & blindness causes*, viewed 01 July 2020, from <https://my.clevelandclinic.org/health/diseases/17130-inherited-eye-disease>.
- Coon, N., 1959, *A brief history of dog guides for the blind*, The Seeing Eye Inc, Morristown.
- Dalke, H., Littlefair, P.J.J., Loe, D.L. & Camgöz, N., 2004, *Lighting and colour for hospital design*, viewed 04 July 2020, from [www.wales.nhs.uk › sites3 › Documents › B\(01\)02 Lighting](http://www.wales.nhs.uk/sites3/Documents/B(01)02_Lighting) (cdn.ymaws.com › LVDC › LVDP\_Guidelines\_052815).
- Dignan, C.K., n.d., *Benefits of orientation and mobility*, viewed 01 July 2020, from <https://www.tsbvi.edu/orientation-a-mobility>.
- Dignan, K.C., 2013, *Texas School for the Blind and Visually Impaired & the Professional Preparation Advisory Group*, viewed 01 July 2020, from <https://www.tsbvi.edu/orientation-a-mobility/1967-benefits-of-orientation-and-mobility>.

## References

- D'Inella, A., 2016, 'The way I see it, living with partial blindness', *Guardian Newspaper*, viewed 18 December 2018, from <https://www.theguardian.com/lifeandstyle/2016/nov/14/the-way-i-see-it-living-with-partial-blindness-rp>.
- McGinnity, B.L., Seymour-Ford, J. & Andries, K.J., 2004, *Anne Sullivan. Perkins History Museum*, Perkins School for the Blind, Watertown, MA.
- Metcalfe, A., 1994, *Low Vision Services Manual, Low Vision Clinic, South African National Council for the Blind (SANCB)*, Unpublished report, SANCB, Pretoria.
- Mind Tools, n.d., *Building rapport establishing strong two-way connections*, viewed 01 July 2020, from [www.mindtools.com](http://www.mindtools.com/pages/article/building-rapport) › pages › article › building-rapport.
- Naidoo, K., Govender, P. & Holden, B., 2014, 'The uncorrected refractive error challenge', *Community Eye Health* 27(88), 74–75.
- Northway, N., 2008, *The role of vision in learning*, Scottish Sensory Centre, University of Edinburgh, Edinburgh.
- Pavey, S., Douglas, G., McCall, S., McLinden, M. & Arter, C., 2002, *Steps to independence: The mobility and independence needs of children with a visual impairment*, viewed 01 July 2020, from <https://www.bcu.ac.uk/courses/rehabilitation-work-visual-impairment-fdsc-2020-21>.
- Royal National Institute for the Blind (RNIB), 2016, *The State of the Nation - Eye health*, Report from Royal National Institute for the Blind, London.
- SA Mobility for the Blind Trust (SAMBT), 2018, *How to guide (booklet)*, South African Mobility for the Blind Trust, Johannesburg.
- South African Guide Dogs, 2019, *College of orientation and mobility: What does it mean to be legally blind in South Africa?*, viewed 06 June 2019, from <https://guidedog.org.za/college-of-orientation-mobility-update-mean-legally-blind-south-africa/>.
- Statistics South Africa, 2014, *Census 2011 - Profile of persons with disabilities in South Africa. Statistics South Africa*, Report No. 03-01-59, Statistics South Africa, Pretoria.
- Texas School for the Blind and Visually Impaired, 2019, *Benefits of Orientation and Mobility (O&M)*, viewed 10 October 2019, from <https://www.tsbvi.edu/orientation-a-mobility/1967-benefits-of-orientation-and-mobility>.
- Walker, H.K., Hall, W.D. & Hurst, J.W. (eds.), 1990, *Clinical methods: The history, physical, and laboratory examinations*, 3rd edn., Butterworths, Boston, MA.
- World Health Organization (WHO), 2003, *Consultation on development of standards for characterization of vision loss and visual functioning*, WHO/PBL/03.91, World Health Organization, Geneva.
- World Health Organization (WHO), 2007, *Vision 2020, Global Initiative for the elimination of avoidable blindness*, World Health Organization, Geneva.
- World Health Organization (WHO), 2010, *International statistical classification of diseases, injuries and causes of death, tenth revision*, World Health Organization, Geneva.
- World Health Organization (WHO), 2014, *Visual impairment and blindness*, World Health Organization, Geneva.

- World Health Organization (WHO), 2019, *Blindness and vision impairment*, World Health Organization, Geneva.
- World Health Organization (WHO), 2007, *Vision 2020, The right to sight, global initiative for the elimination of avoidable blindness - Action plan 2006-2011*, World Health Organization, Geneva.
- Wikipedia, n.d., *Snellen chart*, viewed n.d., from [https://en.wikipedia.org/wiki/Snellen\\_chart](https://en.wikipedia.org/wiki/Snellen_chart).
- Wiener, W.R., Welsh, R.L. & Blasch, B.B., 2010, *Foundations of orientation and mobility - Volume II, Instructional Strategies and practical Applications*, AFB Press, New York, NY.

## Chapter 8

- Adolphs, R., 2002, 'Recognizing emotion from facial expressions: Psychological and neurological mechanisms', *Behavioral and Cognitive Neuroscience Reviews* 1(1), 21-62. <https://doi.org/10.1177/1534582302001001003>
- Astington, J.W. & Dack, L.A., 2008, 'Theory of mind', in M.M. Haith & J.B. Benson (eds.), *Encyclopaedia of infant and early childhood development*, vol. 3, pp. 343-356, Academic Press, San Diego, CA.
- Averill, J.R., 2012, 'The future of social constructionism: Introduction to a special section of emotion review', *Emotion Review* 4(3), 215-220. <https://doi.org/10.1177/1754073912439811>
- Balbi, J., 2008, 'Epistemological and theoretical foundations of constructivist cognitive therapies: Post-rationalist developments', *Dialogues in Philosophy, Mental and Neuro Sciences* 1(1), 15-27.
- Bänziger, T., Grandjean, D. & Scherer, K.R., 2009, 'Emotion recognition from expressions in face, voice, and body: The Multimodal Emotion Recognition Test (MERT)', *Emotion* 9(5), 691. <https://doi.org/10.1037/90017088>
- Baron-Cohen, S., 1995, *Mindblindness: An essay on autism and theory of mind*, MIT Press, Boston, MA.
- Baron-Cohen, S., 2002, 'The extreme male brain theory of autism', *Trends in Cognitive Sciences* 6(6), 248-254. [https://doi.org/10.1016/S1364-6613\(02\)01904-6](https://doi.org/10.1016/S1364-6613(02)01904-6)
- Baron-Cohen, S., 2003, *The essential difference: Men, women and the extreme male brain*, Penguin, London.
- Baron-Cohen, S., 2005, 'The empathizing system', in B.J. Ellis & D.F. Bjorklund (eds.), *Origins of the social mind: Evolutionary psychology and child development*, pp. 468-492, Guilford Press, New York, NY.
- Baron-Cohen, S., Golan, O., Wheelwright, S., Granader, Y. & Hill, J., 2010, 'Emotion word comprehension from 4-16 years old: A developmental survey', *Frontiers in Evolutionary Neuroscience* 2(109), 1-8. <https://doi.org/10.3389/fnevo.2010.00109>
- Barrett, L.F., 2011, 'Was Darwin wrong about emotional expressions?', *Current Directions in Psychological Science* 20(6), 400-406. <https://doi.org/10.1177/0963721411429125>

## References

- Bateman, A. & Fonagy, P., 2010, 'Mentalization based treatment for borderline personality disorder', *World Psychiatry* 9(1), 11-15.
- Beck, L., Kumschick, I.R., Eid, M. & Klann-Delius, G., 2011, 'Relationship between language competence and emotional competence in middle childhood', *Emotion* 12(3), 503. <https://doi.org/10.1037/90026320>
- Becker, C. & Wachsmuth, I., 2006, 'Modelling primary and secondary emotions for a believable communication agent', in *Proceedings on the First Workshop on Emotion and Computing, in conjunction with the 29th annual German Conference on Artificial Intelligenz*, Bremen, Germany, June 14-17, 2006, pp. 31-34.
- Bedny, M., Pascual-Leone, A. & Saxe, R.R., 2009, 'Growing up blind does not change the neural bases of Theory of Mind', *Proceedings of the National Academy of Sciences of the United States of America* 106(27), 11312-11317. <https://doi.org/10.1073/pnas.0900010106>
- Begeer, S., Dik, M., Voor de Wind, M.J., Asbrock, D., Brambring, M. & Kef, S., 2014, 'A new look at theory of mind in children with ocular and ocular-plus congenital blindness', *Journal of Visual Impairment and Blindness* 108(1), 17-27. <https://doi.org/10.1177/0145482X1410800103>
- Bensalah, L., 2011, 'The emergence of the teaching/learning process in pre-schoolers: Theory of Mind and age effect', *Early Child Development and Care* 181(4), 505-516. <https://doi.org/10.1080/03004430903507191>
- Bracher, G.L. & Matta, A., 2017, 'School psychological practice with vision-impaired students', in *A handbook of Australian School Psychology*, pp. 641-654, Springer International Publishing, New York, NY.
- Brambring, M. & Asbrock, D., 2010, 'Validity of false belief tasks in blind children', *Journal of Autism and Developmental Disorders* 40(12), 1471-1484. <https://doi.org/10.1007/510803-010-1002-2>
- Burum, B.A. & Goldfried, M.R., 2007, 'The centrality of emotion to psychological change', *Clinical Psychology: Science and Practice* 14(4), 407-413. <https://doi.org/10.1111/j.1468-2850.2007.0010.x>
- Calvo, M.G. & Marrero, H., 2009, 'Visual search of emotional faces: The role of affective content and featural distinctiveness', *Cognition and Emotion* 23(4), 782-806. <https://doi.org/10.1080/02699930802151654>
- Campbell, J. & Johnston, C., 2009, 'Emotional availability in parent-child dyads where children are blind', *Parenting: Science and Practice* 9(3-4), 216-227. <https://doi.org/10.1080/15295190902844456>
- Caron, A.J., Caron, R.F. & MacLean, D.J., 1988, 'Infant discrimination of naturalistic emotional expressions: The role of face and voice', *Child Development* 59(3), 604-614. <https://doi.org/10.2307/1130560>
- Chen, D., 1999, 'Early intervention: Purpose and principles', in D. Chen (ed.), *Essential elements in early intervention: Visual impairment and multiple disabilities*, vol. 3, no. 21, AFB Press, New York, NY.

- Cole, P.M., Jenkins, P.A. & Shott, C.T., 1989, 'Spontaneous expressive control in blind and sighted children', *Child Development* 60(3), 683-688. <https://doi.org/10.2307/1130733>
- Cowie, R., Douglas-Cowie, E. & Cox, C., 2005, 'Beyond emotion archetypes: Databases for emotion modelling using neural networks', *Neural Networks* 18(4), 371-388. <https://doi.org/10.1016/j.neunet.2005.03.002>
- Damasio, A.R., 1999, *The feeling of what happens: Body and emotion in the making of consciousness*, Harcourt Brace, New York, NY.
- De Gelder, B., Pourtois, G. & Weiskrantz, L., 2002, 'Fear recognition in the voice is modulated by unconsciously recognized facial expressions but not by unconscious recognized affective pictures', *National Academy of Sciences of the United States of America* 99(6), 4121-4126. <https://doi.org/10.1073/pnas.062018499>
- Demir, T., Bolat, N., Yavuz, M., Karaçetin, G., Doğangün, B. & Kayaalp, L., 2014, 'Attachment characteristics and behavioural problems in children and adolescents with congenital blindness', *Archives of Neuropsychiatry (Nöro Pshikiyatri Arsivi)* 51(2), 116-121. <https://doi.org/10.4274/npa.y6702>
- Denham, S.A., 1998, *Emotional development in young children*, Guilford Press, New York, NY.
- Denham, S.A., Wyatt, T.M., Bassett, H.H., Echeverria, D. & Knox, S.S., 2009, 'Assessing social-emotional development in children from a longitudinal perspective', *Journal of Epidemiology and Community Health* 63(Suppl 1), i37-i52. <https://doi.org/10.1136/jech.2007.070797>
- De Sonnevile, L.M.J., Vershoor, C.A., Njiokiktjien, C.C., Op Het Veld, V., Toorenaar, N.N. & Vranken, M.M., 2002, 'Facial identity and facial emotions: Speed, accuracy and processing strategies in children and adults', *Journal of Clinical and Experimental Neuropsychology* 24(2), 200-213. <https://doi.org/10.1076/jcen.24.2.200989>
- Dyck, M., Farrugia, C., Shochet, I. & Holmes-Brown, M., 2004, 'Emotion recognition/ understanding ability in hearing or vision-impaired children: Do sounds, sights, or words make the difference?', *Journal of Child Psychology and Psychiatry* 45(4), 789-800. <https://doi.org/10.1111/j.1469-7610.2004.00272.x>
- Dyck, M., Ferguson, K. & Shochet, I.M., 2001, 'Do autism spectrum disorders differ from each other and from non-spectrum disorders on emotion recognition tests?', *European Child & Adolescent Psychiatry* 10(2), 105-116. <https://doi.org/10.1007/s007870170033>
- Ekman, P., 2007, 'The directed facial action task', in J.A. Coan & J.J.B. Allen (eds.), *Handbook of emotion elicitation and assessment*, pp. 47-53, Oxford University Press, Oxford.
- Ekman, P., Levenson, R.W. & Friesen, W.V., 1983, 'Autonomic nervous system activity distinguishes among emotions', *Science* 221(4616), 1208-1210. <https://doi.org/10.1126/science.6612338>
- Frijda, N.H., 1986, *The emotions*, Cambridge University Press, New York, NY.

## References

- Frijda, N.H., 2007, *The laws of emotion*, Lawrence Erlbaum Associates, Mahwah, NJ.
- Frijda, N.H. & Scherer, K.R., 2009, 'Emotion definition (psychological perspectives)', in D. Sander & K.R. Scherer (eds.), *Oxford companion to emotion and the affective sciences*, pp. 142-143, Oxford University Press, Oxford.
- Galati, D., Miceli, R. & Sini, B., 2001, 'Judging and coding facial expression of emotions in congenitally blind children', *International Journal of Behavioral Development* 25(3), 268-278. <https://doi.org/10.1080/01650250042000393>
- Galati, D., Sini, B., Schmidt, S. & Tinti, C., 2003, 'Spontaneous facial expressions in congenitally blind and sighted children aged 8-11', *Journal of Visual Impairment & Blindness* 97(7), 418-428. <https://doi.org/10.1177/0145482X0309700704>
- Gao, X. & Maurer, D., 2009, 'Influence of intensity on children's sensitivity to happy, sad, and fearful facial expressions', *Journal of Experimental Child Psychology* 102(4), 503-521. <https://doi.org/10.1016/j.jecp.2008.11.002>
- Garfield, J.L., Peterson, C.C. & Perry, T., 2001, 'Social cognition, language acquisition and the theory of mind', *Mind & Language* 16(5), 494-541. <https://doi.org/10.1111/1468-0017.00180>
- Garner, P.W., 2010, 'Emotional competence and its influences on teaching and learning', *Educational Psychology Review* 22(3), 297-321. <https://doi.org/10.1007/s10648-010-9129-4>
- Gilberg, C.L., 1992, 'The Emanuel Miller Memorial Lecture 1991: Autism and autistic-like conditions: Subclasses among disorders of empathy', *Journal of Child Psychology and Psychiatry* 33(5), 813-842. <https://doi.org/10.1111/j.1469-7610.1992.tb01959.x>
- Gilbert, C. & Awan, H., 2003, 'Blindness in children – Half of it is avoidable, and suitable cost-effective interventions are available', *British Medical Journal* 327(7418), 760-761. <https://doi.org/10.1136/bmj.327.7418.760>
- Glumbić, N., Jablan, B. & Hanak, N., 2011, 'Theory of mind of the persons with visual impairments: Theoretical explanations and assessment procedures', *Specijalna edukacija i Rehabilitacija (Beograd)* 10(3), 495-508.
- Golan, O., Sinai-Gavrilov, Y. & Baron-Cohen, S., 2015, 'The Cambridge Mindreading Face-Voice Battery for Children (CAM-C): Complex emotion recognition in children with and without autism spectrum conditions', *Molecular Autism* 6(1), 22. <https://doi.org/10.1186/s13229-015-0018-2>
- Gray, J.R., Schaefer, A., Braver, T.S. & Most, S.B., 2005, 'Affect and the resolution of cognitive control dilemmas', in L.F. Barrett, P.M. Niedenthal & P. Winkielman (eds.), *Emotion and consciousness*, pp. 67-94, Guilford Press, New York, NY.
- Greenberg, L.S., 2006, 'Emotion-focused therapy: A synopsis', *Journal of Contemporary Psychotherapy* 36(2), 87-93. <https://doi.org/10.1007/s10879-006-9011-3>
- Greenberg, L.S., 2010, 'Emotion-focused therapy: A clinical synthesis', *Focus* 8(1), 32-42. <https://doi.org/10.1176/voc.8.1.voc32>
- Greenberg, L.S. & Pascual-Leone, J., 2001, 'A dialectical constructivist view of the creation of personal meaning', *Journal of Constructivist Psychology* 14(3), 165-186. <https://doi.org/10.1080/10720530151143539>

- Greenberg, L.S. & Safran, J.D., 1987, *Emotion in psychotherapy: Affect, cognition, and the process of change*, Guilford, New York, NY.
- Greyvenstein, I., 2018, 'Higher order emotion identification: Comparing children with blindness to typically developing peers', Unpublished doctoral thesis, University of Pretoria.
- Hagenauer, G., Hascher, T. & Volet, S., 2015, 'Teacher emotions in the classroom: Associations with students' engagement, classroom discipline and the interpersonal teacher-student relationship', *European Journal of Psychology and Education* 30(4), 385-403. <https://doi.org/10.1007/s10212-015-0250-0>
- Hess, U., Senécal, S., Kirouac, G., Herrera, P., Philippot, P. & Kleck, R.E., 2000, 'Emotional expressivity in men and women: Stereotypes and self-perceptions', *Cognition & Emotion* 14(5), 609-642. <https://doi.org/10.1080/02699930050117648>
- Hibberd, F.J., 2006, *Unfolding social constructionism*, Springer Science & Business Media, Berlin.
- Hirschberg, J., Liscombe, J. & Venditti, J., 2003, 'Experiments in emotional speech', in J. Hirschberg, J. Liscombe & J. Venditti (eds.), *ISCA & IEEE Workshop on Spontaneous Speech Processing and Recognition*, pp. 1-7, Tokyo Institute of Technology, Tokyo.
- Iversen, K.D., Ptito, M., Møller, P. & Kupers, R., 2015, 'Enhanced chemosensory detection of negative emotions in congenital blindness', *Neural Plasticity* 2015, 1-7. <https://doi.org/10.1155/2015/469750>
- Izard, C.E., 1977, *Human emotions*, Plenum Press, New York, NY.
- Izard, C.E. & Harris, P., 1995, 'Emotional development and developmental psychopathology', in D.J. Cohen & D.V. Cicchetti (eds.), *Developmental psychopathology, theory and methods*, vol. 1, pp. 467-503, John Wiley and Sons, Oxford.
- Kang, S.M. & Shaver, P.R., 2004, 'Individual differences in emotional complexity: Their psychological implications', *Journal of Personality* 72(4), 687-726. <https://doi.org/10.1011/j.0022-3505.2004.00277.x>
- Korkmaz, B., 2011, 'Theory of mind and neurodevelopmental disorders of childhood', *Paediatric Research* 69(8), 101-108. <https://doi.org/10.1203/PDR0b013e318212c177>
- Koster-Hale, J., Bedny, M. & Saxe, R., 2014, 'Talking about seeing: Perceptual sources of knowledge are encoded in the theory of mind brain regions of sighted and blind adults', *Cognition* 133(1), 65-78. <https://doi.org/10.1016/j.cognition.2014.04.006>
- Kujala, M.V., Tanskanen, T., Parkkonen, L. & Hari, R., 2009, 'Facial expressions of pain modulate observers long-latency responses in superior temporal sulcus', *Human Brain Mapping* 30(12), 3910-3923. <https://doi.org/10.1002/hbm.20816>
- Lacava, P.G., Golan, O., Baron-Cohen, S. & Smith-Myles, B., 2007, 'Using assistive technology to teach emotion recognition to students with Asperger Syndrome. A pilot study', *Remedial and Special Education* 28(3), 174-181. <https://doi.org/10.1177/07419325070280030601>

## References

- Lazarus, R.S., 1991, *Emotion and adaptation*, Oxford University Press, New York, NY.
- Leeds-Hurwitz, W., 2009, 'Social construction of reality', in S. Littlejohn & K. Foss (eds.), *Encyclopaedia of communication theory*, pp. 892-895, Sage, Thousand Oaks, CA.
- Lemerise, E.A. & Arsenio, W.F., 2000, 'An integrated model of emotion processes and cognition in social information processing', *Child Development* 71(1), 107-118. <https://doi.org/0009-3902/2000/7101-0013>
- Mash, E.J. & Wolfe, D.A., 2002, *Abnormal child psychology*, 2nd edn., Cengage Learning, Belmont, CA.
- McAlpine, L.M. & Moore, C.L., 1995, 'The development of social understanding in children with visual impairment', *Journal of Visual Impairment & Blindness, Part 1 of 2* 89(4), 349-359. <https://doi.org/10.1177/0145482X9508900408>
- McGuire, A.E. & Michalko, R., 2011, 'Minds between us: Autism, mindblindness and the uncertainty of communication', *Educational Philosophy and Theory* 43(2), 162-177. <https://doi.org/10.1111/j.1469-5812.2009.00537.x>
- Minter, M., Hobson, R. & Bishop, M., 1998, 'Congenital visual impairment and "theory of mind"', *British Journal of Developmental Psychology* 16(2), 183-196. <https://doi.org/10.11/j.2044-835x.1998.tb00918.x>
- Minter, M.E., Hobson, R.P. & Pring, L., 1991, 'Recognition of vocally expressed emotion by congenitally blind children', *Journal of Visual Impairment & Blindness* 85(10), 411-415. <https://doi.org/10.1177/0145482X9108501007>
- Moors, A., 2009, 'Theories of emotion causation: A review', *Cognition & Emotion* 23(4), 625-662. <https://doi.org/10.1177/1754073912463601>
- Morris, P.H., Doe, C. & Godsell, E., 2008, 'Secondary emotions in non-primate species? Behavioural reports and subjective claims by animal owners', *Cognition and Emotion* 22(1), 3-20. <https://doi.org/10.1080/02699930701273716>
- Na, J.Y., Wilkinson, K., Karny, M., Blackstone, S. & Stifter, C., 2016, 'A synthesis of relevant literature on the development of emotional competence: Implications for design of augmentative and alternative communication systems', *American Journal of Speech-Language Pathology* 25(3), 441-452. [https://doi.org/10.1044/2016\\_AJSLP-14-0124](https://doi.org/10.1044/2016_AJSLP-14-0124)
- Oatley, K. & Johnson-Laird, P.N., 1987, 'Towards a cognitive theory of emotions', *Cognition and Emotion* 1(1), 29-50. <https://doi.org/10.1080/02699938708408362>
- Ortony, A. & Turner, T.J., 1990, 'What's basic about emotion?', *Psychological Review* 97(3), 315-331. <https://doi.org/10.1037/0033-295X.97.3.315>
- Panksepp, J., 1982, 'Toward a general psychobiological theory of emotions', *Behavioral and Brain Sciences* 5(3), 407-422. <https://doi.org/10.1017/S0140525x00012759>
- Panksepp, J., 2000, 'Emotions as natural kinds within the mammalian brain', in M. Lewis, J.M. Haviland-Jones & L.F. Barrett (eds.), *Handbook of emotions*, 3rd edn., pp. 137-156, Guilford Press, New York, NY.
- Panksepp, J., 2004, *Affective neuroscience: The foundations of human and animal emotions*, Oxford University Press, New York, NY.

- Pao, T.L., Chen, Y.T., Yeh, J.H. & Li, P.J., 2006, 'Mandarin emotional speech recognition based on SVM and NN', in *18th International Conference on Pattern Recognition*, Hong Kong, August 20–24, 2006, pp. 1096–1100. <https://doi.org/10.1109/ICPR.2006.780>
- Parkinson, B., 2012, 'Piecing together emotion: Sites and time-scales for social constructionism', *Emotion Review* 4(3), 291–298. <https://doi.org/10.1177/1754073912439764>
- Parkinson, B., Fischer, A.H. & Manstead, A.S., 2005, *Emotion in social relations. Cultural, group, and interpersonal processes*, Psychology Press, New York, NY.
- Parrott, W.G., 2001, *Emotions in social psychology: Essential readings*, Psychology Press, Philadelphia, PA.
- Peterson, C.C., Peterson, J.L. & Webb, J., 2000, 'Factors influencing the development of a theory of mind in blind children', *British Journal of Developmental Psychology* 18(3), 431–447. <https://doi.org/10.1348/026151000165788>
- Rafaeli, A., 2004, 'Emotions in the workplace: Understanding the structure and role of emotions in organizational behavior', In R.G. Lord, R.J. Klimoski & R. Kanfer (eds.), *Human relations – New York*, vol. 57, no. 10, pp. 1343–1350, Sage, Thousand Oaks, CA.
- Rieffe, C., Terwogt, M.M. & Cowan, R., 2005, 'Children's understanding of mental states as causes of emotions', *Infant and Child Development* 14(3), 259–272. <https://doi.org/10.1002/icd.391>
- Roch-Leveq, A.C., 2006, 'Production of basic emotions by children with congenital blindness: Evidence for the embodiment of theory of mind', *British Journal of Developmental Psychology* 24(3), 507–528. <https://doi.org/10.1348/026151005x50663>
- Roseman, I.J., 1991, 'Appraisal determinants of discrete emotions', *Cognition & Emotion* 5(3), 161–200. <https://doi.org/10.1080/02699939108411034>
- Roseman, I.J. & Smith, C.A., 2001, 'Appraisal theory: Overview, assumptions, varieties, controversies', in K.R. Scherer, A. Schorr & T. Johnstone (eds.), *Appraisal processes in emotion: Theory, methods, research*, pp. 3–19, Oxford University Press, New York, NY.
- Russell, J.A., 2003, 'Core affect and the psychological construction of emotion', *Psychological Review* 110(1), 145–172. <https://doi.org/10.1037/0033-295X.110.1.145>
- Saarni, C., 1999, *The development of emotional competence*, Guilford Press, New York, NY.
- Saarni, C., 2000, 'The social context of emotional development', in M. Lewis & J. Haviland (eds.), *Handbook of emotions*, 2nd edn., pp. 306–322, Guilford Press, New York, NY.
- Saarni, C., 2011, 'Emotional development in childhood', in R.E. Tremblay, M. Boivin & R.V. Peters (eds.), *Encyclopaedia on early childhood development*, pp. 1–7, Center of Excellence for Early Childhood Development and Strategic Knowledge Cluster on Early Child Development, Quebec.

## References

- Sandler, A-M. & Hobson, R.P., 2001, 'On engaging with people in early childhood: The case of congenital blindness', *Clinical Child Psychology and Psychiatry* 6(2), 205-222. <https://doi.org/10.1177/1359104501006002004>
- Scherer, K.R., 1984, 'On the nature and function of emotions: A component process approach', in K.R. Scherer & P. Ekman (eds.), *Approaches to emotion*, pp. 293-317, Lawrence Erlbaum Associates, Inc., Hillsdale, NJ.
- Scherer, K.R., 1994, 'Toward a concept of "modal emotions"', in P. Ekman & R.J. Davidson (eds.), *The nature of emotion: Fundamental questions*, pp. 25-31, Oxford University Press, New York, NY.
- Scherer, K.R., 2009a, 'The dynamic architecture of emotion: Evidence for the component process model', *Cognition and Emotion* 23(7), 1307-1351. <https://doi.org/10.1080/02699930902928969>
- Scherer, K.R., 2009b, 'Emotions are emergent processes: They require a dynamic computational architecture', *Philosophical Transactions of the Royal Society B* 364, 3459-3474. <https://doi.org/10.1098/astb.2009.0141>
- Scherer, K.R. & Ellgring, H., 2007, 'Are facial expressions of emotion produced by categorical affect programs or dynamically driven by appraisal?', *Emotion* 7(1), 113-130. <https://doi.org/10.1037/1528-3542.7.1.113>
- Solomon, R.C., 2002, 'Back to basics: On the very idea of "Basic Emotions"', *Journal for the Theory of Social Behaviour* 32(2), 115-144. <https://doi.org/10.1111/1468-5914.00180>
- Stifter, C.A. & Fox, N.A., 1990, 'Infant reactivity: Physiological correlates of newborn and 5-month temperament', *Developmental Psychology* 26(4), 582. <https://doi.org/10.1037/0012-1649.26.4.582>
- Suveg, C., Southam-Gerow, M.A., Goodman, K.L. & Kendall, P.C., 2007, 'The role of emotion theory and research in child therapy development', *Clinical Psychology: Science and Practice* 14(4), 358-371. <https://doi.org/10.1111/j.1468-2850.2007.00096.x>
- Vicari, S., Reilly, J.S., Pasqualetti, P., Vizzotto, A. & Caltagirone, C., 2000, 'Recognition of facial expressions of emotions in school-age children: The intersection of perceptual and semantic categories', *Acta Paediatrica* 89(7), 836-845. [https://doi.org/10.1111/j.1651-2227\\_2000.tb00392.x](https://doi.org/10.1111/j.1651-2227_2000.tb00392.x)
- Von Salisch, M., 2001, 'Children's emotional development: Challenges in their relationships to parents, peers and friends', *International Journal of Behavioural Development* 25(4), 310-319. <https://doi.org/10.1080/01650250143000058>
- Wellman, H.M. & Liu, D., 2004, 'Scaling of theory-of-mind tasks', *Child Development* 75(2), 523-541. <https://doi.org/10.1111/j.1467-8624.2004.00691.x>

## Chapter 9

Berkowitz, B. & Wadud, E., n.d., 'Identifying community assets and resources', in *The community toolbox*, viewed 24 January 2020, from [http://www.ctb.ku.edu/tools/en/sub\\_section\\_main\\_1043.htm](http://www.ctb.ku.edu/tools/en/sub_section_main_1043.htm).

- Building caring communities, 2002, *Building caring communities: A community workbook*, viewed 29 January 2020, from <http://www.health.gov.sk.ca/building-caring-communities>.
- Collier, M., Keefe, E.B. & Hirrel, L.A., 2015, 'Preparing special education teachers to collaborate with families', *School Community Journal* 25(1), 117-136.
- Department of Education (DoE), 2001, *Education White Paper 6: Special needs education: Building an inclusive education and training system*, Republic of South Africa, Pretoria.
- Department of Education (DoE) & United Nations Children's Fund (UNICEF), 2008, *Implementation Guidelines for the Safe, Caring and Child-Friendly (SCCFs) in South Africa*, Republic of South Africa, Pretoria.
- Department of Social Development (DSD), 2011, *Green paper on families: Promoting family life and strengthening families in South Africa*, Republic of South Africa, Pretoria.
- Ebersöhn, L. & Eloff, I., 2006, *Life skills assets*, 2nd edn., Van Schaik Publishers, Pretoria.
- Epstein, J., 2002, *School, family, and community partnerships: Your handbook for action*, 2nd edn., Corwin Press, Thousand Oaks, CA.
- Fisher, D., Imm, P., Chinman, M. & Wandersman, A., 2006, *Getting to outcomes with developmental assets: Ten steps to measuring success in youth programs and communities*, Search Institute, Minneapolis, MI.
- Glossary of Education Reform, 2014, *Student-Centered Learning*, viewed n.d., from <http://edglossary.org/student-centered-learning/>.
- Hammar, E. & Malatchi, A., n.d., *Seven habits of highly effective IEP teams*, viewed 03 April 2019, from <http://www.dyslexiamylife.org/help.html>.
- Holt, C.M., Fawcett, S.B., Schultz, J.A., Berkowitz, B., Wolff, T.J. & Francisco, V.T., 2013, 'Building Community Practice Competencies Globally through the Community Tool Box', *Global Journal of Community Psychology Practice* 4(4), 1-8.
- Kretzmann, J.P. & McKnight, J.L., 1993, *Building communities from the inside out: A path toward finding and mobilizing a community's assets*, ACTA Publications, Chicago, IL.
- Nthonto, M., 2017, 'Children as stakeholders in education: Does their voice matter?', *South African Journal of Childhood Education* 7(1), a434.
- Raver, S.A. & Childress, D.C., 2015, *Family-Centred Early Intervention: Supporting Infants and Toddlers in Natural Environments*, Brooks Pub, s.l.
- Rudolph, N., Monson, J., Collett, K. & Sonn, B., 2008, *Champions for children handbook: How to build a caring school community*, Cape Town University & South African Democratic Teachers Unions, Cape Town.
- Scherer, J., 1972, *Contemporary community sociological illusion or reality*, Tavistock Publications Ltd, London.
- UCLA Center for Mental Health in Schools, 2008, *School-community partnership: A guide*, Author, Los Angeles, CA.

## References

- United Nations Children's Fund (UNICEF), 2014, *Parents, Family and Community Participation in Inclusive Education: Webinar 13 Companion Technical Booklet*, UNICEF, New York, NY.
- Watson, S., 2001, *Reflection toolkit*, Northwest Service Academy, Metro Centre, Portland, OR.
- Mathie, A. & Cunningham, G., 2002, *From clients to citizens: Asset-based community development as a strategy for community-driven development*, viewed 22 January 2020, from <http://www.coady.stfx.ca/resources/publications>.

## Chapter 10

- Abrams, P.A., 1991, 'The predictive ability of peer review of grant appeals: The case of ecology and the U.S. National Science Foundation', *Social Studies of Science* 21(1), 111-132. <https://doi.org/10.1177/030631291021001006>
- Adams, D., 2016, 'The effectiveness of the buddy support system in special education in Malaysia', paper presented at the International Conference on Teacher Learning and Development (ICTLD), Penang, Malaysia, November 28-30, 2016, pp. 1-24.
- Alqahtani, R. & Murry, F.R., 2015, 'High school Peer Buddy Program: Impact on social and academic achievement for students with disabilities', *European Journal of Educational Sciences* 2(1), 52-57. <https://doi.org/10.19044/ejes.v2no1a1>
- Bandla, S., Mandadi, G.D. & Bhogaraju, A., 2017, 'Specific learning disabilities and psychiatric comorbidities in school children in South India', *Indian Journal of Psychology Medicine* 39(1), 76-82. <https://doi.org/10.4103/0253-7176.198950>
- Belay, T.E., 2005, 'African perspective on visual impairments ICTS and policies: A personal experience, a variety of perspectives and technological solution', paper presented at the UNESCO at the World Summit on the Information Society Workshop on ICT and persons with disabilities, Tunis, Tunisia, 16th November.
- Booth, T. & Ainscow, M., 2011, *Index for Inclusion: Developing learning and participation in schools*, CSIE, Bristol.
- Britto, P.R., Yoshikawa, H. & Boller, K., 2011, 'Quality of early childhood development programs in global contexts: Rationale for investment, conceptual framework and implications for equity', *Social Policy Report, Society for Research in Child Development* 25(2), 1-31. <https://doi.org/10.1002/j.2379-3988.2011.tb00067.x>
- Bronfenbrenner, U., 1979, *The ecology of human development*, Harvard University Press, Cambridge, MA.
- Bronfenbrenner, U., 2005, 'The developing ecology of human development: Paradigm lost or paradigm regained', in U. Bronfenbrenner (ed.), *Making human beings human: Biocological perspectives on human development*, pp. 94-105, Sage, Thousand Oaks, CA.

- Bronfenbrenner, U. & Morris, P.A., 1998, 'The ecology of developmental processes', in W. Damon & R.M. Lerner (eds.), *Handbook of child psychology: Theoretical models of human development*, pp. 993-1028, John Wiley & Sons Inc, New York, NY.
- Chadha, R.K. & Subramanian, A., 2010, 'The effect of visual impairment on quality of life of children aged 3-16 years', *British Journal of Ophthalmologic* 95(5), 642-645. <https://doi.org/10.1136/bjo.2010.182386>
- Chrisholm, L. & Leyendecker, R., 2008, 'Curriculum reform in post-1990 sub-Saharan Africa', *International Journal of Educational Development* 28(2), 195-205. <https://doi.org/10.1016/j.ijedudev.2007.04.003>
- Correa-Torres, S.M. & Zebehazy, K.T., 2014, 'Lessons learned from Hispanic mothers in the United States: Recommendations for personnel preparation and research in visual impairment', *British Journal of Visual Impairment* 32(3), 191-199. <https://doi.org/10.1177/0264619614539954>
- Department of Education (DoE), 2001, *Education White Paper 6. Special needs education: Building an inclusive education and training system*, Government Printer, Pretoria.
- Diale, B.M., 2010, 'Educational-psychological practice framework for the personal and professional development of life-orientation teachers in the Gauteng Province: A mixed method study', Unpublished PhD thesis, University of Johannesburg.
- Diale, B.M., Pillay, J. & Fritz, E., 2014, 'Dynamics in the personal and professional development of life-orientation teachers in South Africa, Gauteng Province', *Journal of Social Sciences* 38(1), 83-93. <https://doi.org/10.1080/09718923.2014.11893239>
- Donohue, D.K. & Bornman, J., 2015, 'South African teachers' attitudes toward the inclusion of learners with different abilities in mainstream classrooms', *International Journal of Disability, Development and Education* 62(1), 42-59. <https://doi.org/10.1080/1034912X.2014.985638>
- Ebersöhn, L. & Eloff, I., 2006, *Life skills and assets*, 2nd edn., Van Schaik, Pretoria.
- Ely, M.S., Gullifor, K. & Hollinshead, T., 2017, 'Family-centered early intervention visual impairment services through matrix session planning', *Journal of Visual Impairment & Blindness* 111(2), 169-174. <https://doi.org/10.1177/0145482X1711100209>
- Fabian, H. & Dunlop, A.W., 2007, *Outcomes of good practice in transition processes for children entering primary school*, p. 5, Bernard van Leer Foundation, The Hague.
- Fayez Alshehri, F., 2016, 'Impacts of visual impairment on quality of life and family functioning in adult population', *International Journal of Biomedical Research* 7(2), 44-46.
- Gindis, B., 1995, 'The social/cultural implication of disability: Vygotsky's paradigm for special education', *Educational Psychologist* 30(2), 77-81. [https://doi.org/10.1207/s15326985ep3002\\_4](https://doi.org/10.1207/s15326985ep3002_4)

## References

- Gladstone, M., McLinden, M., Douglas, G., Jolley, E., Schmidt, E., Chimoyo, J. et al., 2017, 'Maybe I will give some help ... maybe not to help the eyes but different help': An analysis of care and support of children with visual impairment in community settings in Malawi', *Child: Care, Health and Development* 43(4), 608-620. <https://doi.org/10.1111/cch.12462>
- Hiatt, J., 2006, *ADKAR: A model for change in business, government, and our community*, Prosci, Loveland, CO.
- Huberman, G., 2001, 'Familiarity breeds investment', *The Review of Financial Studies* 14(3), 659-680. <https://doi.org/10.1093/rfs/14.3.659>
- Kef, S. & Deković, M., 2004, 'The role of parental and peer support in adolescents' well-being: A comparison of adolescents with and without a visual impairment', *Journal of Adolescence* 27, 453-466. <https://doi.org/10.1016/j.adolescence.2003.12.005>
- Keller, H., n.d., *Blindness is an unfortunate handicap but true vision does not require the eyes*, viewed 28 March 2019, from <https://www.quotetab.com/quote/by-helen-keller/blindness-is-an-unfortunate-handicap-but-true-vision-does-not-require-the-eyes?source=eye>.
- Khanna, R., Raman, U. & Rao, G.N., 2007, 'Blindness and poverty in India: The way forward', *Clinical and Experimental Optometry* 90(6), 406-414. <https://doi.org/10.1111/j.1444-0938.2007.00199.x>
- Kriek, J. & Grayson, D., 2009, 'A holistic professional development model for South African physical science teachers', *South African Journal of Education* 29(2), 185-203. <https://doi.org/10.15700/saje.v29n2a123>
- Lee, F.M., Tsang, J.F. & Chui, M.M., 2014, 'The needs of parents of children with visual impairment studying in mainstream schools in Hong Kong', *Hong Kong Medical Journal* 20(5), 413-420. <https://doi.org/10.12809/hkmj134202>
- Levine, M. & Perkins, D.V., 1997, *Principles of community psychology: Perspectives and applications*, Oxford University, New York, NY.
- Lewthwaite, B., 2006, 'Constraints and contributors to becoming a science teacher-leader', *Science Education* 90(2), 331-347. <https://doi.org/10.1002/sce.20093>
- Louw, D.J., 2008, *Cura vitae: Illness and the healing of life*, Lux Verbi, Wellington.
- Majerova, H., 2017, 'The person in a situation of visual impairment and its perception and imagination from the qualitative viewpoint', *Procedia - Social and Behavioral Sciences* 237, 751-757. <https://doi.org/10.1016/j.sbspro.2017.02.117>
- Mampane, R. & Bouwer, C., 2011, 'The influence of township schools on the resilience of their learners', *South African Journal of Education* 31(1), 114-126. <https://doi.org/10.15700/saje.v31n1a408>
- Mampane, R. & Huddle, C., 2017, 'Assessing the outcomes of school-based partnership resilience intervention', *South African Journal of Education* 37(1). <https://doi.org/10.15700/saje.v37na1412>
- Marais, P. & Meier, C., 2010, 'Disruptive behaviour in the foundation phase of schooling', *South African Journal of Education* 30(1), 41-57. <https://doi.org/10.15700/saje.v30n1a315>

- Mbeki, T., 1997, *Office of the Deputy State President: Disability Desk 1997 Integrated National Disability Strategy Document*, viewed 10 January 2020, from <http://www.gov.za/documents/download.php?f=187660>.
- McDermott, P. & Rothenberg, J., 2000, 'The characteristics of effective teachers in high poverty schools—triangulating our data', paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA, 24–28th April.
- Mncube, V.S., 2009, 'The perception of parents of their role in the democratic governance of schools in South Africa: Are they on board?', *South African Journal of Education* 29(1), 83–103. <https://doi.org/10.15700/saje.v29n1a231>
- Morelle, M.M., 2016, 'Challenges experienced by learners with visual impairment in two mainstream primary schools in Klerksdorp, Dr Kenneth Kaunda District', Unpublished master's thesis, University of South Africa.
- Mosca, R., Kritzinger, A. & Van der Linde, J., 2015, 'Language and communication development in preschool children with visual impairment: A systematic review', *South African Journal of Communication Disorders* 62(1), Art #119.
- Naipal, S. & Rampersad, N., 2018, 'A review of visual impairment', *African Vision Eye Health* 77(1), a393. <https://doi.org/10.4102/aveh.v77i1.393>
- Noltmeyer, A.L. & Bush, K.R., 2013, 'Adversity and resilience: A synthesis of international research', *School Psychology International* 34(5), 474–487. <https://doi.org/10.1177/0143034312472758>
- Salkind, N.J. & Rasmussen, K., 2008, *Encyclopaedia of educational psychology*, Sage, London.
- Schlager, M.S. & Fusco, J., 2003, 'Teacher professional development, technology and communities of practice: Are we putting the cart before the horse?', *The Information Society* 19(3), 203–220. <https://doi.org/10.1080/01972240309464>
- Schwab, S., 2017, 'The impact of contact on students' attitudes towards peers with disabilities', *Research in Developmental Disabilities* 62, 160–165. <https://doi.org/10.1016/j.ridd.2017.01.015>
- Singh, J.D., 2016, 'Inclusive education in India - Concept, need and challenges', *Scholarly Research Journal for Humanity Science and English Language* 3(18), 3222–3232.
- United Nations Children's Fund (UNICEF), 2007, *A human rights-based approach to education for all*, United Nations Children's Fund, New York, NY.
- Van den Akker, J., 2004, 'Curriculum perspectives: An introduction', in J. Van den Akker, W. Kuiper & U. Hameyer (eds.), *Curriculum landscapes and trends*, Kluwer Academic Publishers, Dordrecht.
- Villegas-Reimers, E., 2003, *Teacher professional development an international review of the literature*, UNESCO International Institute for Educational Planning, Paris.
- Wadegaonkar, A., Sonawane, S. & Uplane, M., 2015, 'The theoretical framework of socialization for the inclusion of visually impaired', *International Journal of Educational Research Studies* 1(1), 28–45.
- World Health Organization (WHO), 1992, *ICD-10 classification of mental and behavioural disorders*, World Health Organization, Geneva.

- Xu, H., 2007, 'The effects of self-construal and perceived control on privacy concerns', *Proceedings of the 28th Annual International Conference on Information Systems (ICIS 2007)*, Montréal, Canada, December 09-12, 2007, n.p.
- Yeboah, D.A., 2002, 'Enhancing transition from early childhood phase to primary education: Evidence from the research literature', *Early Years: An International Journal of Research and Development* 22(1), 51-68. <https://doi.org/10.1080/09575140120111517>

## Chapter 11

- Balcazar, F.E., Kuchak, J., Dimpfl, S., Saripepella, V. & Alvarado, F., 2014, 'An empowerment model of entrepreneurship for people with disabilities in the United States', *Psychosocial Intervention* 23(2), 145-150. <https://doi.org/10.1016/j.psi.2014.07.002>
- Bell, E.C. & Mino, N.M., 2015, 'Employment outcomes for blind and visually impaired adults', *Journal of Blindness Innovation and Research* 5(2), n.p. <https://doi.org/10.5241/5-85>
- Bersford, B., 2004, 'On the road to nowhere? Young disabled people and transition', *Child: Care, Health and Development* 30(6), 581-587. <https://doi.org/10.1111/j.1365-2214.2004.00469.x>
- Campbell, L., 2017, 'You don't need eyes to see, you need vision: Performative pedagogy, technology and teaching art to students with vision impairment', *Journal of Pedagogic Development* 7(3), 1-12.
- Coetzee, A., 2016, 'The everyday life information behaviour of visually impaired students at Stellenbosch University', PhD dissertation, Department of Library and Information Science, University of the Western Cape.
- Cooney, T., 2008, 'Entrepreneurs with disabilities: A profile of a forgotten minority', *Irish Business Journal* 4(1), 119-129.
- Du Toit, R., 2005, *Review of labour markets in South Africa: Career guidance and employment services*, Human Science Research Council (HSRC), Pretoria.
- Ebersöhn, L., 2008, 'Children's resilience as assets for safe schools', *Journal of Psychology in Africa* 18(1), 11-17. <https://doi.org/10.1080/14330237.2008.10820167>
- Ebersöhn, L., 2013, 'Building generative theory from case work: The relationship-resourced resilience model', in M.P. Wissing (ed.), *Well-being research in South Africa (Cross-Cultural Advancements in Positive Psychology Volume 4)*, pp. 97-121, Springer, Dordrecht. [https://doi.org/10.1007/978-94-007-6368-5\\_6](https://doi.org/10.1007/978-94-007-6368-5_6)
- Ebersöhn, L. & Ferreira, R., 2012, 'Rurality and resilience in education: Place-based partnerships and agency to moderate time and space constraints', *Perspectives in Education* 30(1), 30-42.
- Elsman, E.B.M., Van Nispen, R.M.A. & Van Rens, G.H.M.B., 2017, 'Feasibility of the Participation and Activity Inventory for Children and Youth (PAI-CY) and Young Adults (PAI-YA) with a visual impairment: A pilot study', *Health and Quality of Life Outcomes* 15(1), 98. <https://doi.org/10.1186/s12955-017-0677-x>

- Engelbrecht, M., Shaw, L. & Van Niekerk, L., 2017, 'A literature review on work transitioning of youth with disabilities into competitive employment', *African Journal of Disability (Online)* 6, 1-7. <https://doi.org/10.4102/ajod.v6i0.298>
- Eyler, J., 2009, 'The power of experiential education', *Liberal Education* 95(4), 24-31.
- Gearheart, B.R., 1976, *Teaching the learning disabled: A combined task-process approach*, CV. Mosby, St. Louis, MO.
- Györi, Z., Svastics, C. & Csillag, S., 2019, 'Push and pull motivations of entrepreneurs with disabilities in Hungary', in D. Tipurić & D. Hruška (eds.), *7th International OFEL conference on governance, management and entrepreneurship: Embracing diversity in organisations*, Dubrovnik, Croatia, April 05-06, 2019, pp. 351-366.
- Hammett, D. & Staeheli, L., 2013, 'Transition and the education of the new South African citizen', *Comparative Education Review* 57(2), 309-331. <https://doi.org/10.1086/669123>
- Hewett, R., Douglas, G. & Keil, S., 2016, *Transition to adulthood. Final summary report for project 'Longitudinal study of transitions experiences of blind and partially sighted young people (Phase 2)'*, VICTAR, University of Birmingham report for the Nuffield Foundation, Birmingham.
- Ho, J., 2018, 'Exploring the job carving process for individuals with disabilities: A thematic analysis of the facilitators and hindrances', PhD dissertation, Université d'Ottawa/University of Ottawa.
- Hodgson, T.F. & Khumalo, S., 2015, *Left in the dark: Failure to provide access to quality education to blind and partially sighted learners in South Africa*, viewed n.d., from <http://section27.org.za/wp-content/uploads/2015/11/S27-left-in-the-dark-2015-accessible.pdf>.
- Holzberg, D.G., Clark, K.A. & Morningstar, M.E., 2018, 'Transition-focused professional development: An annotated bibliography of essential elements and features of professional development', *Career Development and Transition for Exceptional Individuals* 41(1), 50-55. <https://doi.org/10.1177/2165143417742362>
- Inge, K.J., 2007, 'Demystifying customized employment for individuals with significant disabilities', *Journal of Vocational Rehabilitation* 26(1), 63-66.
- Kancherla, V., Braun, K.V.N. & Yeargin-Allsopp, M., 2013, 'Childhood vision impairment, hearing loss and co-occurring autism spectrum disorder', *Disability and Health Journal* 6(4), 333-342. <https://doi.org/10.1016/j.dhjo.2013.05.003>
- Lim, M.M.L., Jørgensen, P.S. & Wyborn, C.A., 2018, 'Reframing the sustainable development goals to achieve sustainable development in the anthropocene - A systems approach', *Ecology and Society* 23(3), 22. <https://doi.org/10.5751/ES-10182-230322>
- Lindstrom, L., Hirano, K.A., McCarthy, C. & Alverson, C.Y., 2014, "'Just Having a Job" career advancement for low-wage workers with intellectual and developmental disabilities', *Career Development and Transition for Exceptional Individuals* 37(1), 40-49. <https://doi.org/10.1177/2165143414522092>
- Lindstrom, L., Kahn, L.G. & Lindsey, H., 2013, 'Navigating the early career years: Barriers and strategies for young adults with disabilities', *Journal of Vocational Rehabilitation* 39(1), 1-12. <https://doi.org/10.3233/JVR-130637>

## References

- Malan, M.J., 2018, 'Towards developing teacher competencies for holistic enablement of visually impaired learners', Masters dissertation, University of Pretoria.
- McDonnall, M.C. & O'Mally, J., 2012, 'Characteristics of early work experiences and their association with future employment', *Journal of Visual Impairment & Blindness* 106(3), 133-144. <https://doi.org/10.1177/0145482X1210600302>
- Morberg Jämterud, S., 2016, 'Human dignity: A study in medical ethics', PhD dissertation, Acta Universitatis Upsaliensis.
- Morningstar, M. & Mazzotti, V., 2014, *Teacher preparation to deliver evidence-based transition planning and services to youth with disabilities*, viewed 25 March 2018, from <https://cedar.education.ufl.edu/tools/innovation-configurations/>.
- Mpofu, J. & Shumba, A., 2013, 'Disabilities and entrepreneurship in Makonde rural community in Zimbabwe', *Studies of Tribes and Tribals* 11(2), 135-144. <https://doi.org/10.1080/0972639X.2013.11886675>
- Muñoz, R.M., Salinero, Y., Peña, I., De Pablo, S. & David, J., 2019, 'Entrepreneurship education and disability: An experience at a Spanish University', *Administrative Sciences* 9(2), 34. <https://doi.org/10.3390/admsci9020034>
- Oertle, K.M. & O'Leary, S., 2017, 'The importance of career development in constructing vocational rehabilitation transition policies and practices', *Journal of Vocational Rehabilitation* 46(3), 407-423. <https://doi.org/10.3233/JVR-170877>
- Patrick, H. & Williams, G.C., 2012, 'Self-determination theory: Its application to health behavior and complementarity with motivational interviewing', *International Journal of Behavioral Nutrition and Physical Activity* 9(1), 18. <https://doi.org/10.1186/1479-5868-9-18>
- Riesen, T. & Morgan, R.L., 2018, 'Employer views of customized employment: A focus group analysis', *Journal of Vocational Rehabilitation* 49(1), 33-44. <https://doi.org/10.3233/JVR-180952>
- Riesen, T., Morgan, R.L. & Griffin, C., 2015, *Customized employment: A review of the literature*. *Journal of Vocational Rehabilitation* 43, 183-193. <https://doi.org/10.3233/JVR-150768>
- Ryan, R.M. & Deci, E.L., 2000, 'Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being', *American Psychologist* 55(1), 68-78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Sefotho, M.M., 2017, 'Career guidance in South Africa as a social justice travesty', *Orientacion y Sociedad: Revista Internacional e Interdisciplinaria de Orientacion Vocacional Ocupacional* 17(17), 153-163.
- Sharp, N.L., 2018, "'Making my own path": Journeys of emerging adults with cerebral palsy', PhD thesis, School of Health and Society, University of Wollongong.
- Sultana, R.G. (ed.), 2017, *Career guidance and livelihood planning across the Mediterranean: Challenging transitions in South Europe and the MENA Region*, Springer, s.l.
- Suttawet, C. & Bamber, G.J., 2018, 'International labour standards and decent work: A critical analysis of Thailand's experiences, with suggestions for theory, policy, practice and research', *Asia Pacific Journal of Human Resources* 56(4), 539-565. <https://doi.org/10.1111/1744-7941.12190>

- Taylor, N. & Beukes, C., 2019, 'A life design-related career development intervention for working adults in the manufacturing, engineering and related sectors', *African Journal of Career Development* 1(1), a2. <https://doi.org/10.4102/ajcd.v1i1.2>
- Tichauya, C.H., Alexander, C.R., Paul, M. & Emanuel, D., 2012, 'The forgotten tribe in ODL systems: Challenges faced by visually impaired students in institutions of higher learning', *Huria: Journal of the Open University of Tanzania* 13(2), 410–421.
- Thoma, C.A., Williams, J.M. & Davis, N.J., 2005, 'Teaching self-determination to students with disabilities: Will the literature help?', *Career Development for Exceptional Individuals* 28(2), 104–115. <https://doi.org/10.1177/08857288050280020101>
- Vaks, Y., Bensen, R., Steidtmann, D., Wang, T.D., Platchek, T.S., Zulman, D.M. et al., 2016, 'Better health, less spending: Redesigning the transition from pediatric to adult healthcare for youth with chronic illness', *Healthcare (Amsterdam, Netherlands)* 4(1), 57–68. <https://doi.org/10.1016/j.hjdsi.2015.09.001>
- Virginia Department of Education (VDOE), n.d., *Visual impairment including blindness*, viewed n.d., from [http://www.doe.virginia.gov/special\\_ed/disabilities/sensory\\_disabilities/visually\\_impaired\\_blind/index.shtml](http://www.doe.virginia.gov/special_ed/disabilities/sensory_disabilities/visually_impaired_blind/index.shtml).
- Wehmeyer, M.L. & Webb, K.W., 2012, *Handbook of adolescent transition education for youth with disabilities*, Routledge, New York, NY.
- Williams, C.C. & Round, J., 2009, 'Evaluating informal entrepreneurs' motives: Evidence from Moscow', *International Journal of Entrepreneurial Behavior & Research* 15(1), 94–107. <https://doi.org/10.1108/13552550910934477>
- Williams, C.C. & Shahid, M.S., 2016, 'Informal entrepreneurship and institutional theory: Explaining the varying degrees of (in)formalization of entrepreneurs in Pakistan', *Entrepreneurship & Regional Development* 28(1–2), 1–25. <https://doi.org/10.1080/08985626.2014.963889>
- Williams, J. & Patterson, N., 2018, 'New directions for entrepreneurship through a gender and disability lens', *International Journal of Entrepreneurial Behaviour and Research* 25, 1706–1726. <https://doi.org/10.1108/IJEBr-12-2017-0499>
- Wolffe, K.E. & Erin, J.N., 2012, 'Transition for students who are blind or have low vision', in M.L. Wehmeyer & K.W. Webb (eds.), *Handbook of transition for youth with disabilities*, pp. 439–457, Routledge, Taylor and Francis, New York, NY.
- Zylberman, A., 2016, 'Human dignity', *Philosophy Compass* 11(4), 201–210. <https://doi.org/10.1111/phc3.12317>

## Chapter 12

- Araya, O.D., 2017, 'Transition to adult life in Chile – A new approach', *The Educator* XXXI(1), 31.
- Council on Higher Education (CHE), 2013, *A proposal for undergraduate curriculum reform in South Africa: The case for a flexible curriculum structure*, Report of the Task Team on Undergraduate Curriculum Structure, Council for Higher Education, Pretoria.

## References

- Department of Higher Education and Training (DHET), 2018, *Strategic policy framework on disability for the post-school education and training system*, Department of Higher Education and Training, Pretoria.
- Department of Basic Education (DBE), 2001, *Meeting the challenge of early childhood development in South Africa*, Department of Education, Pretoria.
- Department of Basic Education (DBE), 2001, *Building an inclusive education and training system*, Department of Education, Pretoria.
- Maja, P.A., Mann, W.M., Sing, D., Steyn, A.J. & Naidoo, P., 2011, 'Employing people with disabilities in South Africa', *South African Journal of Occupational Therapy* 41(1), 24–32.
- Otyola, W.R., Kibanja, G.M. & Mugagga, A.M., 2017, 'Challenges faced by visually impaired students at Makerere and Kyambogo Universities', *Makerere Journal of Higher Education* 9(1), 75–86. <https://doi.org/10.4314/majohe.v9i1.6>
- Rantsi, T., 2016, *Transitioning from secondary school to tertiary education: What social investors should know?*, NGO Pulse Sangonet.
- Soundy, P.N., 2016, 'Transition from high school to university: Challenges faced by first year B.Ed. students at a university of technology', DEd thesis, University of Tshwane.
- South African Human Rights Commission (SAHRC), 2017, *Promoting the right to work of persons with disabilities*, South African Human Rights Commission, Pretoria.
- Statistics South Africa, 2014, *Census 2011 - Profile of persons with disabilities in South Africa*, Statistics South Africa, Pretoria.
- Statistics South Africa, 2017, *Education series volume V: Higher education and skills in South Africa*, Statistics South Africa, Pretoria.
- The International Council for Education of People with Visual Impairment (ICEVI), 2019, *The challenges*, viewed 28 January 2020, from [www.icevi.org](http://www.icevi.org).

# Index

## A

accept, 107, 136, 176, 318, 329  
acceptance, 10, 17, 58, 71, 84, 89, 101, 150, 308, 330  
accessibility, 10, 22, 47, 58, 65, 352  
adaptations, 71, 76, 105, 107, 110, 116, 124-127, 131, 140, 142, 213, 225, 348, 359  
Africa, 21-23, 25-31, 33, 35-37, 40, 45, 47, 49, 51, 53, 57, 59-61, 63, 67, 74-75, 79, 82, 84, 86, 93-94, 97, 101, 105, 107, 109, 117, 121-122, 133, 145, 147-150, 155, 159-160, 167-168, 179-181, 183, 185, 187, 189, 191-192, 197, 199, 204, 227, 259, 264, 289-290, 304, 315-317, 327, 332, 335, 337-338, 340-342, 345, 356  
African, 21, 25-26, 31, 35-36, 38, 45, 49, 56, 59, 61, 63, 68-74, 92, 109, 123, 133, 148, 154, 158, 181, 189, 191-192, 197, 204, 215, 262-263, 290-291, 296, 299-301, 305, 315, 332-334, 339, 345  
age, 8, 10, 25, 27, 32, 50-52, 72-73, 113, 122, 127, 129, 133, 142, 158, 192, 204, 207-208, 224, 243-244, 246, 248-251, 286, 301, 312, 317, 322, 331, 344, 347, 349, 351-353, 357-358  
articulation gap, 337-338, 341  
Asia, 23, 86  
assessment, 3, 17, 35, 64, 86-87, 89, 93-94, 101, 105, 107, 113-116, 124, 126-127, 172, 177, 185, 197, 199, 202-203, 214, 216, 277-278, 282, 294, 303, 331  
attitude, 61, 93, 96-98, 156, 161, 269-270, 277, 287, 298, 329, 346, 352, 357

augmentative and alternative communication, 47, 105, 107-108, 118, 227, 255  
autonomy, 47, 58, 72-73, 327-329, 344  
awareness, 7, 14, 36, 65-66, 69, 74, 115, 181, 241, 249, 253-254, 277, 283, 334, 359

## B

barriers to learning, 9-10, 26-27, 29, 31-32, 35, 37, 82-83, 92, 94, 98, 105, 110-111, 121, 127, 145, 148-149, 158-160, 173, 177, 229, 244, 249, 289-290, 292, 294, 299-300, 304, 315, 329, 335, 337  
barriers, 6, 9-10, 26-27, 29, 31-32, 35, 37, 52, 55, 60, 63, 74-75, 79, 82-83, 88, 92-94, 98, 105, 110-111, 118, 121, 123, 127, 139, 145, 148-150, 158-163, 170, 173, 177, 180-181, 194, 229, 244, 249, 261, 289-290, 292, 294, 299-301, 304, 307, 315, 329, 335, 337, 340, 342, 353  
behaviour, 32, 35, 50, 69, 106, 113, 115, 125, 133, 141, 160, 165, 235-236, 242, 253, 286, 307-308, 311  
business, 263, 281, 318-319, 323, 325

## C

care, 12, 16, 40, 52-54, 56, 61, 70-71, 73-74, 118-119, 122-123, 127, 133, 136, 139, 181, 190, 205-206, 262, 281, 289-292, 295, 297-304, 306, 309-313, 340, 344  
career development, 316, 321-322, 324-327, 331  
challenges, 6-9, 15, 23, 31-34, 36, 38, 40-42, 51-52, 65, 74, 83-84,

- 92, 94–96, 99, 102, 106–107, 111–112, 127, 133, 145, 148–149, 158, 163–165, 167, 171, 176, 178, 183, 187, 204–206, 210, 212–214, 265–266, 269, 274, 278–279, 282, 291, 294–295, 299, 304–305, 308, 316, 337, 339–346, 349–351, 353–356, 358
- change, 16, 30–31, 38, 41, 48, 51, 69–74, 96, 99–100, 117, 125, 127, 141, 145, 177, 181, 203, 221, 235, 242, 260, 262, 276, 278, 284, 286, 288, 318–319, 323, 338, 347–348, 352, 355
- character, 140, 220, 350
- characteristics, 35, 124, 208–209, 214, 246, 274, 293
- child, 49, 52, 56, 58, 60, 62, 65, 74, 85–86, 97, 99, 109–110, 112, 122–123, 125–126, 129–131, 139, 145, 181, 193, 197, 216, 245, 254, 262, 281, 293, 299–300, 302, 304, 309, 311, 338
- children, 8, 16, 27, 30, 32, 36, 49, 52, 56, 59–71, 73–75, 82, 85–87, 93, 96–97, 109–110, 118–119, 122–123, 129, 133, 139, 145, 154, 158–159, 178, 181, 192–193, 197, 205, 227–228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252–255, 262, 264–265, 289–293, 295, 301–302, 304, 307, 309, 312, 316, 320, 324, 344
- collaboration, 14, 17, 35, 89, 96, 145, 165, 168, 180–183, 215, 259–261, 265–268, 276, 287, 298, 301
- communities, 6, 15, 50, 54, 69, 72, 84, 93, 98, 176, 181–182, 205, 259–264, 266–278, 280, 282, 288, 305–306, 312, 327–328, 344
- community, 6, 12, 16, 28, 32, 38–39, 50, 52–53, 63–66, 71, 73, 85, 89, 91, 98–99, 121, 123, 127, 149, 176, 193–194, 215, 228, 254, 260–272, 274–288, 292–293, 295, 297, 301–302, 305–310, 312, 335, 338–339, 342, 345, 352, 357
- competence, 43, 227–231, 233, 240–243, 245, 247, 249–250, 255, 327
- concept, 14, 30, 69, 82, 88, 234, 236, 241, 263, 276, 317–318
- context, 6, 10, 15, 23, 25–26, 30, 34–37, 40, 56, 62, 64–65, 69–74, 76, 82–83, 89, 96, 111, 148, 150–151, 156–157, 166, 169, 174, 176, 187, 197, 215, 230–231, 234, 241–242, 248, 251, 254, 262–263, 280, 285, 290, 292, 296–299, 301–302, 305, 312, 315, 318–319, 323, 330–331, 335
- contextual, 32, 249
- court, 50, 97
- create, 7, 19, 37, 72, 74, 81, 86–87, 91, 117, 120, 179, 181, 191, 193, 233, 270, 278, 283, 287, 298, 334, 339
- creating, 4, 9, 12, 15–16, 18, 30, 48, 55, 65, 67, 97, 100, 150, 242, 263, 273–274, 325
- culture, 32, 50, 70, 82, 88–89, 98, 301, 309, 342–343
- D**
- decent work, 315–318, 320, 322, 324, 326, 328, 330, 332–334
- defined, 48, 50, 166, 170, 189, 205–206, 234
- democracy, 289, 341
- design, 3–4, 10, 12–13, 15, 23, 30, 38, 66, 71, 149, 166–167, 318, 324, 326, 333
- determination, 12, 89, 96, 316, 327, 329–331, 344
- develop, 12–13, 17, 33, 36, 43, 60, 69, 71, 92–93, 107, 110, 120, 140, 142, 180, 186–187, 192, 206, 222, 237, 252–253, 272, 297, 300, 309–312, 317, 323, 325, 328, 330, 338–339, 346, 353, 360
- developing, 21, 29, 32, 36, 55, 81, 84, 98–99, 110, 113, 140, 186, 217–218, 227, 242, 247–248, 251, 255, 272,

- 275, 287, 318, 323, 326, 333, 346, 361
- development, 12, 14-17, 22, 28-29, 49-50, 53, 56, 58, 60, 62, 64, 66, 69, 71, 73, 83, 85, 93-95, 107, 118-119, 122, 129-131, 134, 139, 142, 145, 148, 156, 158-160, 178-179, 181-182, 186, 192, 197, 216, 228-230, 233-234, 240-241, 244-245, 247-251, 254-255, 260-262, 276, 278, 284, 290-291, 296-300, 302, 304-305, 307-312, 316, 321-327, 330-335, 338, 340-342, 344, 348, 350, 357, 361
- dignity, 58, 77, 85, 145, 317, 330
- diversity, 3-4, 6-10, 12, 14, 16, 18-19, 22, 26, 42, 58, 72, 79, 84-85, 88-90, 92, 97-98, 125, 149, 188, 266, 284, 343
- E**
- economic, 22, 50, 55, 62, 74-75, 89, 261, 290, 298-300, 302, 306, 312, 315, 328, 330
- educate, 69-70, 73, 87, 348
- education, 3-4, 6-7, 10, 12, 16-18, 21-23, 25-37, 42-44, 47-50, 52, 56, 60-68, 71-76, 79-90, 92-98, 100-102, 105, 109, 113, 118, 121-123, 127, 130, 134, 139-140, 145, 147-152, 158-160, 163-164, 166, 168-174, 177-178, 180-183, 185, 187, 205, 216, 227, 259, 263-264, 274, 287, 289-290, 295, 297, 299-303, 310-312, 315-316, 320, 323, 326-329, 332-334, 337-342, 344, 346-348, 350-352, 354, 356, 358-361
- educational transition, 337
- entrepreneurship, 315-318, 320, 322, 324-330, 332-335
- environment, 4, 14, 19, 24, 32, 35, 55, 61, 83-84, 87, 89, 97-98, 101, 114, 116, 119-120, 129, 133, 141, 143-144, 151, 156-157, 160-162, 165, 174, 176, 179-180, 186-187, 194-195, 202, 204, 207, 211-212, 216, 223, 236, 242, 249, 252, 263, 270, 274, 276, 290, 296-298, 302, 307-308, 311, 322, 331, 334, 339-341, 344, 347-349, 356-357, 359
- equality, 43, 47, 49, 56, 58, 60, 118, 332-334
- ethical, 30, 56, 97, 170
- ethics, 48, 170
- Europe, 23, 86
- exclusion, 10, 27, 54, 91, 98, 139, 159
- expectations, 17, 68, 77, 87, 93, 105, 139, 149, 151, 163, 183, 254, 308, 344
- F**
- families, 22, 42, 54, 59, 64, 69-70, 84, 89, 101, 180, 194, 254, 259-272, 274-284, 286, 288, 290-292, 297-300, 302, 305, 310, 312, 320, 327, 350, 359
- family, 6, 16, 43, 51, 53-54, 59, 63, 70, 72, 99, 110-113, 127, 130-131, 134, 145, 192-193, 197, 215-216, 225, 245, 254-255, 260, 262-269, 271-272, 274-279, 281-283, 285-294, 296-312, 316, 335, 348-350, 357-359
- fear, 84, 94-95, 170, 193, 231, 235-236, 238, 240, 355
- formation, 245, 269, 278, 308
- formulation, 170, 301
- functional assessment, 105, 107, 202
- functional vision assessment, 185, 197, 216
- functional vision, 105, 111, 113-114, 142, 185-186, 188-189, 197-198, 202-206, 211-212, 214, 216, 222, 224, 347, 352, 357
- G**
- generation, 118, 167-169, 262
- government, 17, 36-37, 57, 60, 71, 95, 109, 122, 183, 191, 263-264, 281,

- 292, 300–301, 306, 310, 325,  
331, 333, 338–340, 357
- growth, 26, 118, 330
- H**
- higher-order, 227–230, 232, 234,  
236–238, 240, 242–244, 246,  
248–250, 252, 254–255
- holistic, 24, 35, 69, 85, 88, 110, 122,  
125–126, 160, 183, 225, 230, 261,  
299, 350
- human rights, 30, 47–52, 54, 56–60,  
62, 64–68, 70, 72, 74–76, 79,  
81, 83–87, 109, 121–123, 289, 317,  
330, 339
- human, 5, 10, 22, 30, 32, 41, 47–52,  
54, 56–60, 62, 64–68, 70, 72,  
74–77, 79, 81–87, 97, 109, 117–118,  
121–123, 143–145, 150, 159, 174,  
177, 195–196, 216, 289, 297, 301,  
310, 317, 327–328, 330, 339,  
344, 347, 350, 353, 356
- I**
- identification, 52, 87, 227–232, 234,  
236, 238, 240–255, 269, 288
- identity, 10, 162, 293
- implementation, 27, 31–32, 38, 49, 53,  
57, 60–63, 74, 95–96, 98, 101,  
109, 145, 147–148, 150, 159–160,  
164, 166, 171–172, 255, 265, 268,  
277, 289–290, 300, 313, 333, 335
- implications of, 23, 41, 75, 110–111, 320
- importance, 30, 48, 60, 66, 88, 98, 117,  
126, 145, 164, 175, 192, 216, 233,  
241, 266, 274, 280, 298, 304,  
310, 317, 320, 324, 326–327, 334,  
345, 350
- inclusion, 3, 7, 10, 14, 18, 24, 26–27,  
29–30, 33–35, 38, 48, 50, 53, 56,  
58, 61, 63–65, 75–77, 79, 81–85,  
87–92, 94–95, 97–99, 101, 149–150,  
158–159, 180, 183, 215, 238, 248,  
289, 297, 300, 302, 312, 315
- inclusive education, 10, 17–18, 21, 23,  
27–35, 49, 60, 62–63, 68, 75,  
79–90, 92–98, 100–102, 109,  
121–122, 145, 148–151, 158–160,  
163–164, 166, 168–169, 171–173,  
177–178, 180, 182–183, 187, 295,  
300, 311
- inclusive, 6, 10, 16–19, 21, 23, 27–35,  
37, 41–42, 48–49, 60, 62–63,  
68, 75, 79–102, 109, 121–122, 145,  
148–151, 158–161, 163–164, 166,  
168–169, 171–173, 177–178, 180,  
182–183, 187, 290, 295–296, 300,  
311, 326–327, 330
- independence, 6, 12, 14, 42–43, 51,  
63, 71, 76–77, 87, 139, 145, 158,  
182, 189, 192, 194, 207, 210–211,  
215–216, 225, 325
- inequality, 54, 60
- influence, 56, 62, 83, 114, 124, 296–  
297, 338
- inside, 16, 72, 76, 130, 174, 178, 236,  
276–277, 342
- instruction, 11, 17, 23, 35, 38, 40, 76,  
89, 93–94, 98, 142, 193
- instructional strategies, 21, 23, 41, 43,  
360
- instructional, 21, 23, 34, 38–39, 41, 43,  
140, 192, 360
- integrate, 92, 181, 266, 342
- integrity, 70, 211
- interests, 326, 330–331, 360
- interpret, 34, 113, 164, 212, 231,  
242–243
- interpretation, 158, 170, 244, 246, 252
- J**
- justice, 47–48, 56, 61–62, 69, 72, 97,  
171, 290, 324
- K**
- knowledge, 12, 14, 17, 30, 33–34, 37,  
40–41, 62, 64, 67–69, 72–74,  
93–95, 98, 107, 112, 121, 124, 140,  
147–148, 158, 164–167, 169, 172,  
175, 177–178, 180, 183, 192, 197,  
216, 225, 246, 278, 293, 298,  
316, 324, 326, 331, 335, 343

**L**

language, 17, 32, 50, 58, 70, 76, 96,  
106-108, 110, 118, 126, 162,  
167, 241, 245, 254, 274, 293,  
300-301, 351

laws, 60-61, 122, 145, 310, 352

leadership, 17, 267, 338

learning, 3-5, 9-19, 23-24, 26-27,  
29-45, 64-65, 68, 77, 82-83,  
86-90, 92, 94, 98-100, 102,  
105-107, 110-114, 118-119, 121,  
123, 127, 133-134, 136, 140-141,  
145, 148-152, 156-160, 172-175,  
177-183, 186-187, 212, 220, 224,  
229, 242, 244-245, 248-249,  
251-253, 263-264, 274, 279,  
289-292, 294, 296-300, 304-  
305, 307-308, 315-316, 321-324,  
327, 329, 334-335, 337, 339,  
342, 346, 355, 360-361

legislation, 17, 48-49, 56-57, 59, 61,  
63, 73-74, 98, 101, 123, 333

**M**

marginalisation, 148, 163

media, 14, 44, 50, 66, 69, 174, 279,  
281, 353

mission, 23, 99, 266, 269, 272

mobility skills, 185, 193-194, 206, 217

moral, 5, 49, 53-55, 97, 248, 330

motivation, 13-14, 90, 117, 130, 139, 212,  
233, 327

multiple impairments, 105-106,  
109-110, 112, 129, 133

**N**

narrative, 295, 308

National Development Plan, 49, 60

need, 9-15, 19, 23, 26-27, 32, 34, 36,  
40, 45, 54, 56, 61-62, 76, 82,  
86, 90, 92-93, 96, 99, 110-113,  
117-119, 121-122, 124, 140, 148, 157,  
159, 163, 165, 172-175, 177-180,  
182-183, 186, 191, 194, 197, 200,  
210, 216, 220-222, 235, 245, 265,  
267-268, 276, 282-283, 285, 288,

290, 297-298, 301-302, 305,  
309-311, 313, 320-321, 323-324,  
328, 330, 332, 338-339, 349,  
352, 356-357, 359-360

needs, 4-5, 7, 10, 13-14, 16, 18-19, 22,  
28, 30, 32-35, 37-44, 49, 51-52,  
60, 62-64, 69, 71, 81-90, 92-96,  
98-99, 101, 107, 109, 111-112, 118,  
121-125, 129-130, 133-134, 140,  
148-151, 156-159, 161, 163-164,  
168, 172, 174-183, 187, 191, 194,  
197, 202, 209-210, 213, 215-216,  
218, 220-222, 224-225, 228,  
234-235, 242, 251-252, 260-  
261, 264, 268-269, 271-274,  
277-280, 282, 284-285, 287,  
294, 296-298, 303, 310-311,  
325-327, 331, 335, 338,  
340-341, 344, 346, 352-353,  
355-356, 358, 360

network, 16, 28, 56, 110, 186, 215, 225,  
277, 282-283

networks, 6, 306, 310, 323, 330

nurture, 10, 19, 30, 361

**O**

objectives, 94, 106, 187, 287

orientation skills, 185, 194

outcomes, 11, 16, 99, 131, 227-229, 231,  
242, 267, 272, 284, 346

**P**

paradigm, 164, 264, 339

parent, 17, 58, 73, 123, 245, 254, 262,  
292, 307, 309

parents, 50, 63, 65, 69-70, 74, 86,  
94-98, 112, 118, 123, 139-140,  
176-177, 193, 215, 245, 255,  
260, 263-264, 266, 274-275,  
280-281, 287, 291, 295, 301,  
304-305, 307, 309-310, 316,  
342, 358

participation, 6, 12, 15, 22, 30, 32, 40,  
48, 50, 55, 58, 61-62, 64, 74, 84,  
98, 113, 140, 165, 167, 251, 266,  
269-272, 284, 330, 333, 335, 352

- partnerships, 17, 100, 259–266,  
     269–271, 274–276, 278,  
     282–283, 285–288, 323
- pedagogical tools, 21, 40–41
- peers, 14, 16, 25, 68, 75, 101, 113,  
     143, 156–158, 187, 215, 220, 228,  
     245–246, 248, 250–251, 255, 275,  
     289, 299, 301–302, 306–308, 315,  
     341, 347, 351–352, 355–356
- people, 5–6, 9, 11–12, 22–23, 25–27,  
     29, 33, 36, 42–43, 47, 51, 53,  
     65–67, 77, 79, 84, 86, 88,  
     94–96, 99, 108, 112, 117, 127, 131,  
     141–142, 155–156, 158, 160–165,  
     176–177, 179, 181, 186, 191–192,  
     194, 197–198, 203–204, 215, 224,  
     231–233, 236, 244, 247, 249, 259,  
     261–262, 266–269, 275, 278–284,  
     286–287, 289, 292–293, 298,  
     304–306, 310, 316, 320–322,  
     324–334, 338–339, 341, 344–  
     345, 348, 351, 354–355, 358, 361
- philosophy, 48, 84
- poor, 28, 68, 71, 121, 150, 155, 209, 213,  
     248, 294, 331, 343, 355
- poverty, 60, 70, 121, 312, 317, 328
- power, 30, 62, 67, 353, 355
- process, 6, 14–15, 31–32, 35–36, 50, 55,  
     64, 67, 74, 90, 92–95, 98–99,  
     121, 129, 131, 139, 141, 145, 150,  
     160, 163, 165–166, 168–170, 172,  
     176, 180, 182, 214, 221, 231–233,  
     236–237, 239–241, 243–244,  
     247–248, 261, 266, 268, 271–272,  
     275–278, 282–287, 294, 299,  
     302, 308, 322, 327, 329–331, 333,  
     338, 340–342, 350, 354, 356
- protection, 52, 54, 56, 60, 69, 74, 235,  
     281
- purpose, 75, 84, 114, 129, 140, 159,  
     163–164, 167, 171, 183, 192, 222,  
     228, 236, 240, 261–262, 267,  
     272, 276, 282, 299, 319
- R**
- recognition, 4, 69, 140, 156, 213–214,  
     220, 243, 250–251, 330, 350
- relation, 31–32, 160, 177, 330
- relationship, 10, 18, 64, 189, 194, 205,  
     247, 266, 276, 284, 292, 307
- research, 6, 13, 15, 31, 88, 95–96, 112,  
     121, 160, 163–170, 290, 324–325,  
     327–328, 335, 342, 345, 349, 353
- resources, 4, 14, 17, 19, 27, 44, 64, 67,  
     81, 83, 87–89, 93–95, 99, 109,  
     122, 148, 157–159, 173–175, 177,  
     180, 183, 263–264, 267, 269,  
     271–273, 276, 278, 280–283,  
     286, 288, 301, 303, 338
- responsibilities, 17, 89, 93, 165–166,  
     262, 268–269
- responsibility, 12, 40, 50, 65, 75, 93,  
     99, 116, 124, 212, 242, 267–268,  
     270, 274, 287–288, 301, 320,  
     334, 359
- rights, 30, 47–52, 54, 56–77, 79, 81–87,  
     95, 107, 109, 121–123, 216, 289,  
     317, 320, 330, 338–339
- risk, 69–70, 72–73, 87, 93, 156, 213,  
     228, 245, 273
- S**
- school, 6, 11, 16–17, 24–25, 27–28, 30,  
     33, 35, 50–52, 55, 64–65, 67–69,  
     72–73, 76, 80–81, 83, 91, 93,  
     96, 98–100, 107, 120–125, 127,  
     129–131, 133, 136, 139, 147–150,  
     152, 154, 156–160, 162, 164,  
     166–168, 170, 172–174, 176–178,  
     180–182, 191, 193, 204, 214–216,  
     224–225, 251, 254–255, 257,  
     262–272, 274–283, 285–288,  
     291, 293–295, 297, 300–303,  
     305–311, 316–320, 322–323, 327,  
     329, 332–335, 337–360
- schools, 7, 25–28, 30, 36–37, 54, 63,  
     67–71, 74, 86–88, 91, 93–97,  
     121–123, 125, 133–134, 136,  
     148–150, 158–160, 164, 167–168,  
     170, 172–179, 181–183, 187, 190–  
     192, 214, 229, 233, 259–264, 267,  
     274, 290, 293, 300–301, 308,  
     311–312, 318, 335, 339–340, 342,  
     344, 346–347, 356, 359–360

- services, 17, 23, 27–29, 45, 49, 54,  
 59–61, 64–66, 71–73, 89, 94, 121,  
 123, 148, 158, 162, 205, 261–262,  
 264, 266, 278, 282, 290, 295,  
 320, 324, 326–327, 338, 340,  
 343, 346, 357
- skills, 7, 11–12, 14, 34, 42–43, 51, 63–64,  
 68, 70, 72, 74–75, 87, 89–90, 93,  
 96–99, 106–107, 111–114, 118–119,  
 122, 124, 134, 139–141, 147–148,  
 150, 156, 158, 175–178, 182–183,  
 185–187, 189, 191–197, 206, 211,  
 213, 216–217, 222, 228, 231–232,  
 241–243, 245, 247, 249–251,  
 254, 271–272, 280, 284–285,  
 293, 298, 300, 304, 308,  
 312, 320–324, 326, 328–331,  
 333–335, 339–340, 343–345,  
 347, 350–354, 359–361
- societies, 44, 161, 326, 330
- society, 5–9, 12, 16, 22, 29–30, 37, 45,  
 48, 54–55, 58–59, 61, 84, 86–87,  
 89, 92, 96–97, 100–102, 118,  
 145, 160–162, 181, 215, 218, 220,  
 225, 264, 276, 278, 289–290,  
 293, 297, 300, 303, 312, 322,  
 327, 329, 339, 341, 344, 354,  
 356–357, 361
- South Africa, 21–23, 25–29, 31, 33,  
 35–37, 40, 45, 47, 49, 51, 53, 57,  
 59–61, 63, 67, 75, 79, 82, 84, 86,  
 93–94, 97, 101, 105, 107, 109, 117,  
 121–122, 133, 145, 147–150, 155,  
 159–160, 167–168, 179–180, 183,  
 185, 187, 189, 191–192, 197, 199,  
 204, 227, 259, 264, 289–290,  
 304, 315–317, 327, 332, 335,  
 337–338, 340–342, 345, 356
- space, 38–40, 116, 157–158, 162, 175,  
 180, 297, 323, 325
- spaces, 40, 153, 280
- stakeholders, 23, 62–65, 89, 92–93,  
 98–100, 147, 160, 163, 167–169,  
 177–178, 181–182, 261, 263, 265,  
 268, 271, 275, 281, 291–292,  
 298, 300, 310–312, 319, 329,  
 333–334
- status, 32, 50, 57–58, 69, 74, 82,  
 88–89, 122, 160, 211, 274,  
 289–290, 299, 311, 338
- support, 5–7, 9, 11–12, 14–18, 25, 28–29,  
 31–33, 36–37, 39, 43–44, 55,  
 64–65, 70, 73, 85–87, 90–96,  
 98–99, 101, 103, 105–107, 111–114,  
 118–119, 121–122, 124–125, 127,  
 129–130, 133, 139–140, 145, 148–150,  
 152, 156–162, 166, 172, 174–179,  
 181–183, 187, 197, 212, 214–215, 220,  
 222–223, 225, 245, 251, 255, 257,  
 259–288, 290–292, 294–295,  
 297–313, 316, 320, 322–323, 325,  
 328, 330–333, 335, 337, 339, 341,  
 344, 346, 348–350, 354, 356–359
- T**
- teach, 33, 37, 63, 69, 107, 129, 134, 156,  
 159–160, 166, 174–178, 183, 186,  
 189, 252–253, 260, 287, 359
- teacher competencies, 21, 23–24,  
 33–35, 100
- teachers, 4, 7, 13–15, 17–19, 23, 25, 27,  
 29, 32, 34–37, 39–45, 50, 52,  
 58, 63–64, 67–69, 72, 75–76,  
 87, 99, 105–107, 110–113, 116,  
 118, 120, 122, 124, 126–127, 130,  
 139–140, 142–143, 145, 147–152,  
 154, 156, 158–160, 162–164,  
 166–183, 185–188, 197, 200, 204,  
 213–216, 224–225, 245, 251, 254,  
 260–261, 263–266, 272, 274,  
 286–288, 292–293, 300–301,  
 306–307, 310–312, 318, 321,  
 324, 329, 331, 334–335, 344,  
 347–348, 353, 356, 358–361
- teaching, 3–4, 7, 9, 12, 14–15, 17–18,  
 23–25, 30, 32–45, 64–65, 70, 76,  
 89–90, 92–93, 99–101, 113, 134,  
 142, 148, 150–151, 157, 159, 166,  
 168, 172–181, 183, 187, 193–194,  
 197, 212, 214–216, 218, 223, 245,  
 253, 318, 322–323, 334, 348,  
 356, 358–359
- teamwork, 52, 101, 105, 107, 242, 357
- theology, 48, 54

training, 11, 14, 16, 26, 28–29, 35,  
45, 49, 51, 60, 64, 69, 72–75,  
82, 86–87, 89, 92, 94–95, 98,  
101, 111, 125, 127, 130, 147–148,  
158–160, 171–174, 178, 180, 182,  
186, 190–192, 194, 197, 206,  
215–216, 255, 272, 295, 320,  
323, 325, 330, 335, 339–340,  
350, 359–360

transformation, 26, 29, 41

transition, 17, 24–25, 30–31, 33, 35, 76,  
120, 142, 192, 300, 304, 308,  
315–324, 326–335, 337–338,  
340–342, 344–346, 348–352,  
354–358, 360–361

trust, 54, 97, 195–196, 272, 274, 278

## V

value, 61, 130, 185–188, 190, 192, 194,  
196, 198, 200, 202, 204, 206,  
208, 210, 212, 214–216, 218, 220,  
222, 224, 260–261, 271, 274, 292,  
310, 344, 350, 359

values, 72, 98, 235, 261, 293, 310, 357

visual impairment pedagogy, 21, 23,  
25, 37–38, 40, 100

visual impairment, 1, 3–19, 21–45,  
47–48, 50–52, 54, 56, 58,  
60, 62, 64–77, 79–80, 82–84,  
86, 88, 90, 92, 94, 96, 98,  
100–103, 105–106, 108–114,  
116–122, 124–128, 130, 132–134,  
136, 138–140, 142–144, 148–158,  
161, 163–164, 166–168, 170–183,  
189–190, 193–194, 198, 212–215,  
227–230, 232–234, 236, 238,  
240, 242, 244–252, 254–255,  
259–261, 263–267, 269–272,  
275–283, 286, 288–313, 315–317,  
319–335, 337–342, 344–346,  
348–361

## W

well-being, 64, 175, 235–236, 260,  
263, 279, 281, 288, 299–300

White Paper, 31–32, 49, 56, 60, 62–63,  
75, 79, 82, 86, 90, 92–93, 95,  
101, 121, 148, 151, 159–160, 172,  
177–178, 300, 338, 356, 361

workplace, 74, 329, 333

written, 18, 34, 108, 120, 151, 157,  
211, 222

This scholarly book – as part of a scientific series on education for visually impaired learners and students – makes a definite scientific contribution to our understanding of education within a more inclusive society. It helps specialists in education to understand what visual impairment is all about and how teachers should support learners within the inclusive education environment. It specifically helps to change researchers' paradigm towards an accepting educational environment where assets of learners and students are focused on. The three sections of the book deal with the context of visual impairment in South Africa and the inclusive education system, how teachers could support learners with this impairment in a creative way, and how support should be extended beyond the walls of the inclusive classroom. The findings and recommendations of the book are based on real case studies and a large empirical study undertaken in five South African provinces. Finally, this book will go a long way to change educators' mindsets on how to support learners experiencing the barrier of visual impairment. With some tweaks, this will become a valuable tool in the hands and minds of educators.

**Prof. Johnnie Hay, School of Psycho-Social Education,  
Faculty of Education, North-West University,  
Vanderbijlpark, South Africa**

The literature and case studies used in this book are relevant and very educational. These confirmed that the problem is there and real. The authors displayed a clear understanding and passion for the title of the book, as they provided a chronological summary of related works and critically engaged previous studies published in the same field and added their voices. The background highlights the empirical foundations of research. The authors provided the readers with the relevant facts about the topic and the research site so that the readers understand how they link with the objectives of the study. The authors strengthen their arguments by providing both international and national debates about Inclusive Education Issues. In addition, the case studies referred to in the discussion would fully inform the readers of the content and intent of the actual problem. They presented the focus of the study and give the readers a sense of anticipation that the study is important. As an editor, I managed to identify the actual issues under investigation and the relationship between them. The study contributes to Inclusive Education issues, especially on visually impaired learners, which is a topical issue in South Africa. Therefore, more studies like this one will help us understand this phenomenon better and help with policy formulation and implementation.

**Dr Manthekeleng A. Linake, Department of Education, Faculty of Education,  
University of Fort Hare, East London, South Africa**



aosis.co.za



Open access at  
<https://doi.org/10.4102/aosis.2020.BK179>



ISBN: 978-1-928523-76-5