AOSIS

NWU Self-Directed Learning Series

Volume 10

Contextualised open educational practices

Towards student agency and self-directed learning

Edited by

Jako Olivier, Charlene du Toit-Brits, Byron J.Bunt & Amit Dhakulkar

NWU Self-Directed Learning Series
Volume 10

Contextualised open educational practices

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Zilungile Sosibo, Professor of Education, Faculty of Education, Cape Peninsula University of Technology, South Africa

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 underwent an evaluation to compare the level of originality with other published works and was subjected to rigorous two-step peer-review before publication, with the identities of the reviewers not revealed to the editor(s) or author(s). The reviewers were independent of the publisher, editor(s) and author(s). The publisher shared feedback on the similarity report and the reviewers' inputs with the manuscript's editor(s) or author(s) to improve the manuscript. Where the reviewers recommended revision and improvements the editor(s) or author(s) responded adequately to such recommendations. The reviewers commented positively on the scholarly merits of the manuscript and recommended that the book be published.

Research justification

This book covers original research on the implementation of open educational practices (OEPs) through the use of open educational resources (OERs) at university level. The emphasis on open education in this book is on contextualising resources, supporting student agency and fostering self-directed learning (SDL), specifically within the South African milieu.

The chapters covered conceptual and review research as well as empirical work focusing on OEPs and the use of renewable assessments. The work starts off with an overview of an institutional-wide open education project that prompted the research, followed by research on open education in terms of various modules in health science, music education, law, philosophy, dietetics, French language learning and journalism. The target audience of the book includes academics and researchers in the field of OERs, OEPs and SDL, specifically in higher education.

The editors screened all the chapters for inclusion through submitted abstracts and then they reviewed all the chapters for the sake of consistency and quality before this was submitted for an independent and rigorous peer review process that was administered by AOSIS. The editors are confident that the chapters in this book will contribute to academic scholarship in the wider fields of OERs, OEPs and SDL.

Furthermore, in accordance with the requirements of the Department of Higher Education and Training (DHET), this book contains original research substantiated by means of scholarly scientific referencing and the book's content has not been published before and no part of the book has been plagiarised.

Jako Olivier, Research Unit Self-Directed Learning, Faculty of Education, North-West University, Mahikeng, South Africa.

Charlene du Toit-Brits, Research Unit Self-Directed Learning, Faculty of Education, North-West University, Potchefstroom, South Africa.

Byron J. Bunt, Research Unit Self-Directed Learning, Faculty of Education, North-West University, Vanderbijlpark, South Africa.

Amit Dhakulkar, Research Unit Self-Directed Learning, Faculty of Education, North-West University, Potchefstroom, South Africa.

Contents

Abbreviations and acronyms, figures and tables appearing in the text and notes

List of abbreviations and acronyms

#RMF	#RhodesMustFall
4IR	Fourth Industrial Revolution
AACE	Association for the Advancement of Computing in Education
ACMC	asynchronous computer-mediated communication
ADDIE	analysis, design, development, implementation and evaluation
AP	absolute positive
BA	Bachelor of Arts; bachelor's degree
BBC	British Broadcasting Commission
BEd	Bachelor of Education degree
BMus	Bachelor of Music Education degree
CAB	Community Advisory Board
CALL	computer-assisted language learning
CAQDAS	computer-assisted qualitative data analysis software
CC	Creative Commons
CCWG	Curriculum Change Working Group
CDC	Centers for Disease Control and Prevention
CEMCA	Commonwealth Educational Media Centre for Asia
CF	Conversation Framework
CHPE	Centre for Health Professions Education
CIDRAP	Center for Infectious Disease Research and Policy
CL	cooperative learning
CMC	computer-mediated communication
COL	Commonwealth of Learning
COMPRES	Community Psychosocial Research
COUP	Cost, Outcomes, Usage and Perceptions
COUPE	cost, outcomes, use, perceptions and engagement
CT	commercial textbooks
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DND	Department of National Defence

EASA	Education Association of South Africa
ECD	early childhood development
EduREC	Faculty of Education Research Ethics Committee
EI	emotional intelligence
FAIR	findable, accessible, interoperable and reusable
FHM	Focus Area for Human Metabolomics
FPP	Future Professors Programme
HE	higher education
HEI	higher education institution
HEIs	higher education institutions
HM	Human Metabolomics
HMS	Human Movement Science
Hons	honours degree
HREC	Health Research Ethics Committee
HRH	Human Resources for Health
ICE	Institute for Contemporary Ethics
ICT	information and communication technology
ID	instructional design
IP	intellectual property
IPE	interprofessional education
LLB	Bachelor of Laws
LLM	Master of Laws
LMIC	low- and middle-income countries
LMS	learning management system
MASA	Metabolomics Association of South Africa
MDGs	millenium development goals
MEd	Master's in Education degree
MSc	Master's in Science degree
MA	Master of Arts; master's degree
MOOC	massive online open course
MOOCs	massive online open courses
NIHSS	National Institute for the Humanities and Social Sciences
NRF	National Research Foundation
NSFAS	National Student Financial Aid Scheme
NWU	North-West University
OE	open education
OEG	open education game
OEGs	open education games
OEMP	open education musical practice

OEMR	open education music resource
OEMPs	open educational musical practices
OEMRs	open educational music resources
OEP	open education practice
OEPs	open educational practices
OER	open educational resource
OERs	open education resources
PBL	problem-based learning
PBS	Public Broadcasting Service
PDF	portable document format
PhD	Doctor of Philosophy; doctoral degree
PLWHA	people living with HIV and AIDS
ROER	Repositories of Open Educational Resources
SAACDHE	South African Association for Counselling and Development in Higher Education
SAFRI	Saharan Africa-FAIMER Regional Institute
SALT	Students Advocating Leadership and Transformation
SDL	self-directed learning
SDGs	sustainable development goals
SEL	socio-emotional learning
SELME	socio-emotional learning in music education
SoTL	scholarship of teaching and learning
SU	Stellenbosch University
TB	tuberculosis
TBL	team-based learning
TED	technology, entertainment and design
TIPS	Teaching and learning process, the Information and material content, the Presentation, product and format, and System, technical and technology framework
UCDG	University Capacity Development Grant
UCDP	Uniform Collateral Data Portal
UCT	University of Cape Town
UJ	University of Johannesburg
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
Unisa	University of South Africa
WHO	World Health Organization
XML	extensible markup language

List of figures

List of tables

Notes on contributors

Aïda Terblanché-Greeff
Research Unit Social Transformation,
School of Philosophy,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa
Email: aida.botha@nwu.ac.za
ORCID: https://orcid.org/0000-0001-6022-0193

Aïda C. Terblanché-Greeff was previously appointed as an extraordinary researcher at the Research Unit Social Transformation, and was, during the writing of this book, a lecturer at the School of Philosophy in the Faculty of Humanities at the North-West University (NWU). She holds degrees in various academic fields obtained from this institution. More specifically, she has a BA in Humanities, BA (Hons) in Psychology and an MA in Development and Management (specialising in disaster studies). She also has a PhD in Philosophy obtained from the University of Johannesburg (UJ), South Africa. In general, her research is interdisciplinary and empirically engaged. Her research interests include African philosophy, social philosophy, cross-cultural studies (viz. psychology and philosophy) and environmental ethics. Terblanché-Greeff has published academic articles and book chapters with reputable national and international journals and publication houses. She is also an NWU Open Education Resources (OER) fellow.

Amit Dhakulkar
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Potchefstroom, South Africa
Email address: 37190814@nwu.ac.za/damitr@gmail.com
ORCID: https://orcid.org/0000-0002-8510-5236

Amit Dhakulkar is a postdoctoral fellow with the UNESCO Chair in Multimodal Learning and Open Educational Resources (OERs) in the Research Unit Self-Directed Learning, Faculty of Education, NWU. His research focuses on OERs, graphicacy, science and mathematics education, and technology in education. Dhakulkar has published at national and international levels, and he also acts as a supervisor for postgraduate students.

Alrike Claassen
Research Focus Area Technology-Enhanced Learning and Innovative Education and Training in South Africa (TELIT-SA),
Centre for Teaching and Learning, North-West University,
Potchefstroom, South Africa
Email: alrike.claassen@gmail.com
ORCID: https://orcid.org/0000-0002-8562-3287

Alrike Claassen is an instructional designer with a passion for open education and educational research. While working as an instructional designer at NWU's Centre for Teaching and Learning, she created OERs with aiming to improve student success. At that time, she was also a member of the TELIT-SA Research Unit. Claassen developed a passion for educational research while undertaking her MA under the supervision of Prof. Seugnet Blignaut and Prof. Johannes Cronjé. Her MA research focused on the considerations to inform learning designers' decisions when selecting strategies for learning events in higher education. As part of her MA research, she presented a paper at EdMedia. She is currently a PhD candidate at the University of South Africa (Unisa) in the Education Futures Programme and a part-time instructional designer at Unisa's Centre for Change and Complexity in Learning (C3L). Claassen's current research interest includes the intersection between learning analytics, educational design and teacher practice in the context of higher education.

Andre Gouws
School of Communication,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa
Email: andre.gouws@nwu.ac.za
ORCID: https://orcid.org/0000-0001-8180-2491

Andre Gouws is a lecturer in journalism at the School of Communication in the Faculty of Humanities at NWU, where he also is the convenor (2021–2022) of the BA (Hons) Programme in Journalism at the school. His main research focus is boundary work in journalism. He is a PhD candidate at Stellenbosch University (SU), South Africa, where his research focuses on ordinary citizens conducting journalistic work in the digital environment. His secondary research focus is journalism education, with a particular interest in open educational practices (OEPs). Gouws has received the Teaching with ICT Award from NWU in 2021 and was selected as an NWU OER fellow in 2021.

Aurelia A. Williams
Focus Area: Human Metabolomics,
Faculty of Natural and Agricultural Sciences, North-West University,
Potchefstroom, South Africa
Email: aurelia.williams@nwu.ac.za
ORCID: https://orcid.org/0000-0003-0982-5829

Aurelia A. Williams is an associate professor in the Department of Biochemistry in the Faculty of Natural and Agricultural Sciences, NWU. She also serves as the deputy chairperson of the Metabolomics Association of South Africa (MASA) and the convener of the training committee of the association. At the NWU, she serves on the Postdoctoral Sub-committee of the Faculty of Natural and Agricultural Sciences: Research and Innovation. Williams' main research focus is on the application of immune-metabolomics approaches to infectious

and acquired diseases. Williams was recently recruited as one of the 29 academics from a list of 114 applicants to participate in Phase 2 Cohort 1 of the prestigious Future Professors Programme (FPP), funded by the Department of Higher Education and Training (DHET). She is a recipient of the National Research Foundation's (NRF's) Thuthuka Award for the 2018–2020 and 2021–2023 cycles and in 2019, she was recognised as one of *Mail & Guardian*'s 'Top 200 Young South Africans'. Her research has yielded internationally reviewed publications, several awards and invitations to attend both national and international workshops as well as conferences.

Baaqira Ebrahim
Community Psychosocial Research (COMPRES) Focus Area,
School of Psychosocial Health,
Faculty of Health Sciences, North-West University,
Vanderbijlpark, South Africa
Email: baaqira.ebrahim@nwu.ac.za
ORCID: https://orcid.org/0000-0002-6901-6794

Baaqira Ebrahim is a lecturer in the Department of Psychology in the School of Psychosocial Health, Faculty of Health Sciences at the NWU, South Africa. Her research focuses on women who experienced childhood sexual abuse in South Africa. She completed an MA in 2017 with her thesis, entitled 'Stigmatised loss in female adult survivors of childhood sexual abuse'. Ebrahim has published internationally in the *Journal of Loss and Trauma* and the *Journal of Trauma, Violence and Abuse*. Additionally, she is involved in research for OERs on how students perceive online teaching and learning in an interprofessional, compulsory module within a large class setting during the COVID-19 pandemic. Ebrahim is also an NWU OER fellow.

Byron J. Bunt
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Vanderbijlpark, South Africa
Email address: byron.bunt@nwu.ac.za
ORCID: https://orcid.org/0000-0002-2102-4381

Byron J. Bunt is a senior lecturer in the Faculty of Education and is part of the Research Unit Self-Directed Learning, NWU, South Africa. He has been working in the field of teacher education for the past eleven years, and his research niche encompasses cognitive education, with a specific focus on developing students' creative and critical thinking through the use of various teaching strategies and technology. Bunt has published in the fields of history education and teacher education. He is the author of several chapters and articles in the fields of gamification and game-based learning. He has also completed a scholarship for teaching and learning project which involves the use of a self-developed trading card game called 'Dogs of War', which was used within his history classroom with the aim of

developing the self-directed learning abilities of his students. Before lecturing, Bunt worked as a teacher at General Smuts High School in Vereeniging, South Africa, teaching social science and technology.

Carina Grobler
School of Languages,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa
Email: carina.grobler@nwu.ac.za
ORCID: https://orcid.org/0000-0001-7451-7115

Carina Grobler is a senior lecturer in the French subject group in the Faculty of Humanities of NWU in South Africa. Her research focus is on aspects related to foreign language acquisition, assessment practices and instructional design. She is a co-author of a textbook for beginner students in French focusing on the local and African context. Carina has participated in conferences at national and international levels and published nationally. She has received different teaching awards at the NWU and the most recent of which was the distinguished Teaching Excellence Award as Best Lecturer at the NWU. Carina is also an NWU OER fellow.

Chandré Liebenberg
Focus Area: Human Metabolomics,
Faculty of Natural and Agricultural Sciences, North-West University,
Potchefstroom, South Africa
Email: 270551082@nwu.ac.za
ORCID: https://orcid.org/0000-0002-9668-8369

Chandré Liebenberg completed her BSc in Microbiology and Biochemistry in 2018 and has since also attained a BSc (Hons) and an MSc in Biochemistry at the NWU, all cum laude. She was pursuing a PhD with a focus on HIV immunology and metabolism. Her research background is in the application of metabolomics and flow cytometry to the investigation of HIV, TB and HIV and TB co-infection. This research aims to improve the understanding of the mechanisms of HIV latency, which is ultimately aimed at providing more information for use in the search for an HIV cure. Liebenberg received a NRF bursary for her MSc and again to complete her PhD. She also served as secretary to the Early Careers Sub-committee of the Metabolomics Association of South Africa (MASA) and is engaged in co-supervision and tutoring of Honours students in the Department of Biochemistry at the NWU. Liebenberg provides training for general laboratory safety, the use of gas chromatography-mass spectrometry, as well as for works in biosafety Level 3 laboratories.

Chantelle Gray
School of Philosophy,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa
Email address: gray.chantelle@nwu.ac.za
ORCID: https://orcid.org/0000-0003-1061-4463

Chantelle Gray is a professor in the School of Philosophy at the NWU. Her research interests include continental philosophy, critical algorithm studies, radical politics and decolonising pedagogical praxis. Gray is the co-convener of the South African Deleuze and Guattari Studies Conference and is an editorial board member of the *Somatechnics Journal*. Her publications include *Deleuze and Anarchism* (Edinburgh University Press) and *Anarchism After Deleuze and Guattari: Fabulating Future*s (Bloomsbury). Gray is also an NWU OER fellow.

Charlene du Toit-Brits
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Potchefstroom, South Africa
Email: charlene.dutoit@nwu.ac.za
ORCID: https://orcid.org/0000-0001-7899-930X

Charlene du Toit-Brits is a professor and an NRF-rated researcher (C2 rating) in Curriculum Studies at the NWU. She has been actively involved in the teacher training at the NWU's Faculty of Education in Distance Education as well as full-time education programmes. She has specifically been involved in designing different academic programmes for in-service training of school principals, teachers and education students in various subject specialities: Curriculum Studies, Comparative Education and Research Methodology. Du Toit-Brits' research focuses on various elements of self-directed learning (SDL) within teacher education, as well as fostering SDL amongst teachers and school learners. Her research aims to inform the 21st-century workplace and learning environment to enhance lifelong SDL and to inform scholarship on SDL within the unique South African landscape. Du Toit-Brits has published several articles in various journals, and she has supervised several MA and PhD students.

Christo Bisschoff
Focus Area Sport and Recreation Research,
School of Human Movement Sciences,
Faculty of Health Sciences, North-West University,
Mahikeng, South Africa
Email: bisschoff.christo@nwu.ac.za
ORCID: https://orcid.org/0000-0001-5477-3875

Christo Bisschoff is a senior lecturer in the School for Human Movement Science (HMS) and programme leader for the Department of Coaching Sciences on the Mahikeng campus of NWU. In 2017, he obtained his PhD in HMS from NWU. Bisschoff is a member of the National Strength and Conditioning Association in the United States of America and is a Certified Strength and Conditioning Specialist (NSCA-CSCS certified). Bisschoff's research focus area is heart rate variability and its relation to sports performance. He is a co-promoter on two PhD candidates in the School of HMS. Bisschoff has also aided in the data collection of a number of MA and PhD students. As of 2021, he has expanded in research into the field of

pedagogy which led to the contribution of a chapter in this volume. He is an NWU OER fellow.

Christmal Christmals
Centre for Health Professions Education,
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa
Email: christmal.christmals@nwu.ac.za
ORCID: https://orcid.org/0000-0003-1811-0008

Christmal Christmals is a scholar in Health Professions Education and Human Resources for Health (HRH) Policy niche areas. At the health systems level, his research centres on health workforce policy and its implications on health professions education. At the health workforce training level, Christmals focuses on health professions curricula development, interprofessional education and clinical education. As a Joanna Briggs Institute-trained Systematic Review and Evidence Synthesis expert, he is a respected review and evidence synthesis methodologist who has been a consultant for the World Health Organization (WHO) on health systems, especially health care workforce planning, training, financing and policy in Africa. Christmals is the chairperson of the Health Professions Education Scientific Committee and a member of the Health Research Ethics Committee (HREC) in the Faculty of Health Sciences, NWU and is also an NWU OER fellow.

Cornelie Nienaber-Rousseau[a,b]
[a]Centre of Excellence for Nutrition,
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa
[b]Medical Research Council Unit for Hypertension and Cardiovascular Disease,
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa
Email: cornelie.nienaber@nwu.ac.za
ORCID: https://orcid.org/0000-0001-9156-2989

Cornelie Nienaber-Rousseau is an associate professor in the School of Physiology, Nutrition and Consumer Sciences at the NWU and worked at the Wageningen University and Research, the Netherlands, during a staff exchange programme. She has 25 publications with 341 citations. She has three national and four international first-authored publications, as well as five national and seven international co-authored conference presentations. Nienaber-Rousseau was part of the organising committees of two international conferences. She has 28 verified ad hoc reviews. She is a review editor for *Thrombosis Journal* and a topic editor for a special issue of the 'Thrombosis' section of *Frontiers in Cardiovascular Medicine*. Nienaber-Rousseau holds an NRF C-rating. She has been involved in sixteen contact modules and has been the module owner of eight within the Nutrition and Dietetics degrees. She received two institutional teaching excellence awards, partook in the online teaching award programme and is an NWU OER fellow.

Jako Olivier
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Mahikeng, South Africa
Email: jako.olivier@nwu.ac.za / jolivier@col.org
ORCID: https://orcid.org/0000-0002-5860-6027

Jako Olivier is the holder of the UNESCO Chair in Multimodal Learning and Open Educational Resources and is a professor of Multimodal Learning in the Faculty of Education at the NWU. His research, within the NWU's Research Unit Self-Directed Learning, focuses on self-directed multimodal learning, OERs, multiliteracies, blended and e-learning in language classrooms as well as multilingualism in education. He holds a NRF Y2-rating and was awarded the Education Association of South Africa (EASA) Emerging Researcher Medal in 2018. In addition to recently editing a book on self-directed multimodal learning, Olivier has published numerous articles and book chapters at national and international levels, and he also acts as a supervisor for postgraduate students. Furthermore, Olivier was the initiator of the NWU OER Fellowship Programme.

Jessica Pool
Centre for Health Professions Education,
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa
Email: jessica.pool@nwu.ac.za
ORCID: https://orcid.org/0000-0002-6839-4419

Jessica Pool is a senior lecturer in the Centre for Health Professions Education (CHPE) in the Faculty of Health Sciences, NWU. In her role as a senior lecturer, she is responsible for the coordination and implementation of initiatives, including the development of a scholarly approach to teaching and learning (SoTL), enabling discipline/subject-based teaching-focused communities of practice, promoting research-led teaching development workshops and promoting knowledge production and knowledge sharing about university teaching and learning. She completed her PhD in Education, and her research interests include curriculum development, implementation and evaluation. More recently, Pool's research focus has shifted to the development of academics as university teachers. Publications include book chapters, refereed journal articles, non-refereed journal articles and book reviews. She is actively involved as a reviewer for conference abstracts and proceedings and as a keynote speaker. Pool is the chief editor of a book, entitled *A Scholarly Approach to Student Success in Higher Education*.

Juan Steyn
South African Centre for Digital Language Resources (SADiLAR),
Faculty of Humanities,
Potchefstroom, South Africa
Email address: juan.steyn@nwu.ac.za
ORCID: https://orcid.org/0000-0001-8444-4781

Juan Steyn is the operations director at the South African Centre of Digital Language Resources (SADiLAR), supported by the Department of Science and Innovation (DSI) as part of the new South African Research Infrastructure Roadmap (SARIR). He has been involved in multiple digital humanities and educational technology-related projects. He also has a special interest in training and capacity-building, and he has a special interest in human capacity development. Steyn's research areas of interest include digital humanities in general and the impact generated by research infrastructure. He is an NWU OER fellow.

Kabelo Mutubi
School of Undergraduate Studies,
Faculty of Law, North-West University,
Mahikeng, South Africa
Email: kabelo.mutubi@nwu.ac.za
ORCID: https://orcid.org/0000-0003-4080-1964

Kabelo Mutubi is a lecturer in the School of Undergraduate Studies of the Faculty of Law at NWU. He obtained a Bachelor of Laws (LLB) from the University of the Witwatersrand and Master of Laws (LLM) from Uppsala University in Sweden. Mutubi's main areas of research are contract law and intellectual property law. He was appointed as an NWU OER fellow in 2021.

Louise Olivier
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Mahikeng, South Africa
Email: louise.olivier@nwu.ac.za
ORCID: https://orcid.org/0000-0001-7057-2766

Louise Olivier began her tertiary studies in 2000. Her majors included English, Afrikaans and Translation Studies up to BA Hons level. During this time, she also worked as a research assistant at the university. She was awarded best academic performer in her faculty in 2003. Olivier also completed a postgraduate certificate in Education. She passed both the degrees and postgraduate certificate with distinction. She completed her MEd in 2009 on integrating motion media in the instruction of English literature. In 2011, Olivier was appointed as a lecturer in Academic Literacy at NWU in Potchefstroom. She completed her PhD in Academic Literacy for nursing students. Olivier was during the writing of this book a senior lecturer in the School for Language Education at NWU. Her research focuses on language teaching and learning. She also publishes in applied linguistics and literacy education. Olivier is also a member of the Research Unit Self-Directed Learning.

Mario Chauque
Student Counselling and Development Centre,
North-West University,
Potchefstroom, South Africa
Email: mario.chauque@nwu.ac.za
ORCID: https://orcid.org/0000-0003-3582-2517

Mario Chauque is the HIV and AIDS programme coordinator at Student Counselling and Development Centre at the NWU. He is a qualified social worker by profession. Mario is the chairperson of the South African Association for Counselling and Development in Higher Education (SAACDHE) for the Vaal/North-West regions in South Africa. He is also the deputy chairperson of the Aurum Institute Community Advisory Board (CAB) based in Klerksdorp, South Africa. Mario holds a BA (Hons) degree in Psychology and Industrial Psychology as well as a postgraduate diploma in Psychological Counselling, and was during the writing of this book, a second-year candidate for a MA in Social Work. He is the coordinator of a Peer Helper Programme that has 50 students as volunteers for the NWU's Students Advocating Leadership and Transformation (SALT).

Mignon van Vreden
MASARA (Musical Arts in South Africa: Resources and Applications) Research Entity,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa
Email: mignon.vanvreden@nwu.ac.za
ORCID: https://orcid.org/0000-0002-2550-8551

Mignon van Vreden is an associate professor in Music Education and an NWU OER fellow at the School of Music in the Faculty of Humanities, NWU. Her research interests include music education in childhood, nurturing socio-emotional learning through music, undergraduate music teacher education and project-based service learning in higher music education. Her involvement in local community music teaching projects with her students inspires many of her research publications. As part of her OER fellowship, Van Vreden created an online platform, 'singingfeelings.com'. Singing Feelings is an initiative to create open educational music resources for BA Music Education students and the general public to nurture children's social and emotional development. In 2018, she received a Y2 rating from the NRF, as well as an NWU Emerging Teaching Excellence Award. In 2021, she was a recipient of the NWU Faculty Teaching Awards. Mignon has published at national and international levels and acts as a supervisor for postgraduate students.

Nolwandle Lembethe
School of Philosophy,
Faculty of Humanities, North-West University,
Vanderbijlpark, South Africa
Email: Nolwandle.Lembethe@nwu.ac.za
ORCID: https://orcid.org/0000-0003-3421-0295

Nolwandle Lembethe is a lecturer in Philosophy at the School of Philosophy, which is situated in the Faculty of Humanities, NWU. She is currently a PhD candidate at the University of the Witwatersrand, Johannesburg, South Africa. In addition to this, Lembethe is also a National Institute for the Humanities and Social Sciences (NIHSS) scholar. Her main areas of research relate specifically to African philosophy, epistemology and experimental philosophy. She is also an NWU OER fellow.

Rhea Koch
Centre for Health Professions Education,
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa
Email: rhea.koch@nwu.ac.za
ORCID: https://orcid.org/0000-0003-2398-9475

Rhea Koch obtained her BA (Hons) in Psychology and her MA in Sociology in 2001. After working in the private sector for many years, she recently returned to the academic world and registered for her PhD in Health Science Education. Koch was appointed as an academic developer at the NWU Potchefstroom Campus in 2021 for a three-year project to decolonise the health sciences curricula. This project is managed by the CHPE and funded by the Uniform Collateral Data Portal (UCDP). She has a keen interest in instructional design and collaborative online learning. Koch is also an NWU OER fellow.

Rohan Claassen
Research Focus Area Technology-Enhanced Learning and Innovative Education and Training in South Africa (TELIT-SA),
Centre for Teaching and Learning,
North-West University,
Potchefstroom, South Africa
Email: rohan.claasen@nwu.ac.za
ORCID: https://orcid.org/0000-0001-6379-3237

Rohan Claassen is a multimedia designer with a passion for video technology. During his time as a multimedia designer at the Centre for Teaching and Learning, NWU, he developed various educational videos and interactive multimedia materials. In 2021, Claassen completed his MA thesis, titled 'A model for applying the Hero's Journey to interactive instructional video scripts'. He is a self-taught programmer, which helps him in the development of any artefact that requires extensive interactivity. Game development is also something he enjoys doing since it involves the use of a combination of

technical and creative skills. Claassen's deep understanding of story structures and development has also helped him during the design and development of the interactive game, 'Infection Fighters'.

Yolande Heymans
Centre for Health Professions Education,
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa
Email address: yolande.heymans@nwu.ac.za
ORCID: https://orcid.org/0000-0003-4459-2266

Yolande Heymans is a senior lecturer in the CHPE in the Faculty of Health Sciences at NWU. She is the module coordinator and lecturer for a second-year, second-semester module, which is presented on all three campuses of the NWU. Heymans also works closely with academics researching their teaching practices through the Scholarship of Teaching and Learning (SoTL). Her research focuses on health science education in the higher education context, with specific reference to SoTL, student engagement using interprofessional peer and team-based learning (TBL), and open education. She is a sub-Saharan Africa Africa-FAIMER Regional Institute (SAFRI) fellow and part of the 2021–2022 NWU OER Fellowship Programme. In 2021, Heymans was awarded the NWU Faculty Teaching Award and served as promotor and co-promotor for postgraduate students. Her research outputs include book chapters, journal articles, conference presentations and acting as a peer reviewer for journals, books and conference proceedings.

Yolandi M. Coetser
School of Philosophy,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa
Email address: yolandi.coetser@nwu.ac.za
ORCID: https://orcid.org/0000-0002-8571-7590

Yolandi M. Coetser is a senior lecturer in Philosophy at the School of Philosophy, NWU. She completed her DLitt et Phil at the University of Johannesburg, South Africa, in 2018. She has taught philosophy for about 15 years in various institutions – including private institutions, a public distance university, as well as face-to-face institutions. Her main research focus is environmental philosophy, but she has also done some research in the philosophy of education, specifically distance education. Coetser is currently a section editor for the *Phronimon Journal* and has published nationally and internationally. In addition to completing qualifications in philosophy, she has also recently completed a MA in Education with distinction at UJ, South Africa. She is also an NWU OER fellow, and, as part of this project, she has produced a multilingual philosophy glossary. Coetser is also a member of the steering committee of the Institute for Contemporary Ethics (ICE) at NWU.

Foreword

Maha Bali
Professor of Practice, Center for Learning and Teaching,
American University in Cairo, Egypt

At their heart, open educational practices (OEPs) strive towards an ideal of social justice. Open educational practices include the creation, adaptation and redistribution of open educational resources (OERs), as well as leveraging the open web to foster social connections. At the very least, OEPs involve making educational materials and opportunities accessible for free and removing barriers to who can use these materials and how.

In reality, it is more complex. So much of the existing open materials are offered in dominant/colonial languages, predominantly English, and therefore inaccessible to those who are not fluent in the language. Although openness allows anyone to translate these works, we know that epistemic justice is not merely a matter of translation: ideas are themselves a product of cultures and politics, and the dominant epistemologies of knowledge in open materials reflect the same dominant colonial knowledge of non-open materials traditionally used in formal schooling and academia. In this way, openness may address an economic injustice challenge but not redress cultural and political injustices (Bali, Cronin & Jhangiani 2020, Hodgkinson-Williams & Trotter 2018, building on the work of Fraser 2005).

In another sense, openness creates space for learner agency in ways unprecedented before the Internet made it possible: anyone who wishes to learn something and has access to a good enough Internet connection can find materials that others have made available for free – if they have the digital literacies to find what they need, and if they have the time and ability to focus on autonomous learning that may or may not result in an acknowledged credential.

Educators from around the globe can adapt and curate open material to better fit their local needs, and they can create their own. If they have the digital literacies to do so and if they have sufficient freedom within their institutions to choose or create their own learning material, the open web enables educators and learners to find people to learn from all over the world, people who are not formally responsible for educating them, but who may be willing to share pieces of their knowledge to help fill gaps.

Open education fosters learner and educator agency in what they learn and how they learn, by making so much available for free, by giving choices in

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time and space and by reducing the bureaucracy of asking permission to take, modify and converse. Yet many educators and learners have never had these freedoms and choices and may not know how to best make use of them (Walker & Unterhalter 2007) and they may even simply reproduce dominant knowledge in more open forms and use open knowledge with traditional pedagogies.

Making all of these ideals we strive towards actually work in reality is multilayered, multidimensional and challenging. This book gives the reader a closer look at how some of the efforts to use openness to decolonise and empower have worked in practice in the complex landscape of South Africa. The contextualisation and recognition of the work it takes to cultivate agency and self-directed learning can inform and inspire others striving towards the socially just use of open education.

Preface

Jako Olivier
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Mahikeng, South Africa

Charlene du Toit-Brits
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Potchefstroom, South Africa

Byron J. Bunt
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Vanderbijlpark, South Africa

Amit Dhakulkar
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Potchefstroom, South Africa

This book explores contextualised open educational practices (OEPs) in terms of the intersections between open educational resources (OERs), student agency and self-directed learning (SDL). Apart from some theoretical chapters setting the scene in terms of the aforementioned aspects, this book specifically reports on work done within the North-West University (NWU) OERs Fellowship. This Fellowship involved university staff of this South African university being supported and incentivised to create OERs and do research on the process or some aspect of OERs or OEPs. The Fellowship also involved a number of webinars and workshops on aspects related to OERs, OEPs, and the application and research thereof. Consequently, this book not only presents original research on the context and use of OERs within a specific context but also aims to contribute to the wider scholarship of open education.

Chapter 1 provides an overview of the Fellowship by establishing the theoretical foundation while also unpacking the steps followed through the process. Importantly, this chapter also involves findings from a qualitative analysis of the perceptions about the initiative by the fellows themselves. This research has shown how participants perceived elements of self-directedness in the process of learning about and ultimately researching and using OERs within the context of OEPs. A significant finding was the value of positive interdependence within groups. It was also clear that a Fellowship such as this with expert inputs and a financial incentive may act as a motivator towards OER creation. Furthermore, unique ways in which student agency could be

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promoted and localisation be implemented were also clear from the responses from the participants and this is also shown in some of the chapters included in this book.

In Chapter 2, the unique South African context is unpacked. This conceptual chapter involves an overview of multilingual digital education in higher education in terms of social justice through localised self-directed OEPs in South Africa. Firstly, the wider multilingual South African context is described after which the role of OERs and OEPs in terms of social justice is clarified. From this chapter, the affordances of localised self-directed OEPs as an approach to language harmonisation are clear. These practices imply fostering self-directedness amongst students with regard to their open translanguaging practices and localisation. This chapter not only provides a theoretical basis for some of the localisation efforts noted in subsequent chapters but also makes some concrete recommendations for self-directed OEPs in similar contexts.

Chapter 3 also extends the theoretical background of OERs by specifically interrogating what OERs are, the needs, benefits and challenges in using OERs, while establishing a clear link with SDL. This chapter provides a detailed rationale for the work that was done in the chapters that follow while bringing in a unique review of pertinent OER and SDL scholarship. Importantly, the benefits for students are discussed in comprehensively and this emphasises the importance of initiatives such as the NWU OER Fellowship and others that are similar. From this literature overview, a number of gaps and possible future research and development opportunities in terms of OERs and intersections with SDL are evident. The challenges for implementing the use of OERs within the context of SDL are not only stated, but some solutions based on the existing discourses on open education are also posed.

Building on the importance of language within the open education sphere in the South African context, Chapter 4 reports on multilingual philosophy glossaries as OERs which can be regarded as steps towards socially just pedagogical praxis. Within this chapter, the use of openly licensed multilingual philosophy glossaries in classrooms is recommended as a way to promote participatory parity in this field and, by implication, support student agency and SDL. From this discussion, the authors explain how they created a glossary within the field of philosophy and then translated the content into a number of South African languages and then shared it. This chapter proposes the creation of subject-specific glossaries to bridge the gap between the language of instruction and the mother tongues of students. However, it is also noted that translation exigencies be considered, and the authors argue for accentedness, which relates to an ethical orientation to the translation that counters homogenised representations and also questions the historicity of certain abstract codes and master narratives.

Chapter 5 relates to the design of an OER as part of a technology-enhanced practice environment developing the oral interactional competence of beginner French language learners. The impetus for this OER, which in this case involved the creation of open-source software, was the need to develop oral communication skills in a foreign language, given that the average foreign language learner would mostly function in a context with limited classroom time and few speaking opportunities. To address this issue, a technology-enhanced practice environment was developed, which would provide more exposure to the target language and opportunities for students to foster self-directedness in terms of their oral interactional competence. Furthermore, the chapter describes the different phases involved in creating a contextualised OER that is based on sound instructional design principles and OEPs.

Chapter 6 focuses on the decolonisation of the journalism curriculum through the co-creation of an OER textbook with students. In this chapter, it is proposed that adapting and decolonising the curriculum can be achieved by a process of SDL through which students participate in the creation of their own learning material. Consequently, the students are actively involved in deciding what they would like to learn. The chapter reports on an empirical investigation of a project which involved the co-creation of an open educational textbook by a lecturer and his students. From the chapter, it is clear that fostering SDL as part of an OEP project to create learning material can play a significant role towards student agency and decolonising the curriculum.

Chapter 7 relates to OERs as student-generated stories and specifically reports on the Singing Feelings project. In this project, which was also part of the NWU OER Fellowship, students were encouraged to create open educational music resources (OEMRs) that focus on socio-emotional learning (SEL) for an online platform, singingfeelings.com. This chapter also involves a qualitative narrative inquiry aimed at exploring the students' learning experiences within this project. Central themes derived from this inquiry include challenges, creativity, feelings and emotions, and value. It is proposed in this chapter that through the students' personal stories, meaningful learning experiences could be designed. This has the potential to increase awareness of the value of OERs and also promote innovative opportunities to create OEMRs and thereby support student agency in this context.

Chapter 8 also focuses on student-created OERs as this chapter examines second-year health and social care students' perceptions of engaging with and developing OERs as part of an interprofessional collaborative learning opportunity. The study aimed to gain a deeper understanding of the use of OEPs within a collaborative learning environment and explore students' perceptions of OEPs in a second-year module. This study confirms that OEPs provide opportunities to apply knowledge and foster active cooperation and collaboration in group settings as a way of learning. The participants also

valued the opportunity to actively engage in the co-creation of knowledge as OERs and apply this knowledge to empower themselves and others. Furthermore, the learning gains observed included the development of transferable skills, self-directedness and higher-order thinking skills. However, some challenges were also identified that could inform future similar OEP interventions.

Chapter 9 covers the development of an OER as a tool to create awareness of infectious diseases. This OER addresses the gap between information and understanding in terms of the human immunodeficiency virus and acquired immunodeficiency syndrome (HIV and AIDS) and tuberculosis (TB), and most recently, the ongoing waves coronavirus disease 2019 (COVID-19) pandemic. For this NWU OER Fellows project, an OER was created to allow participants to educate themselves on the identified subject matter. This chapter involves a discussion of infectious diseases and the tools previously used to create awareness around the subject matter. Furthermore, the concept of and the role that OERs, specifically open education games (OEGs), can play in creating awareness is also covered. In addition, this chapter provides an overview of the creation, application and success of the pilot version of the developed OER.

This book concludes with Chapter 10, which explores how decolonial practices can assist with researching OERs and developing open legal pedagogies from a South African perspective. Within this context, this chapter deals with epistemic injustice as being central to the idea of decolonising the curriculum. In this process, epistemic justice and access to open legal education are discussed. However, the main aim of the chapter is to advance a framework for an inclusive educational learning environment using a decolonial approach within the context of OERs and OEPs. Furthermore, the chapter also approaches OERs in terms of teaching and student agency within a South African university. The chapter concludes with a discussion of OERs as tools for social justice and how they can be used to develop open legal resources and pedagogy.

The book's contribution to the scholarship of open education and SDL is clear from the chapters. The unique needs regarding OERs and OEPs in terms of language, localisation, contextualisation and decolonisation are also apparent. This mix of conceptual and empirical research presents a coherent picture of the opportunities and challenges for open education not only at a selected South African university but also in the country and the wider Global South. Moreover, these chapters provide recommendations for further supporting student agency and SDL in using OERs for OEPs.

Chapter 1

Open educational practices for self-directed learning: A staff fellowship as a case study

Jako Olivier
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Mahikeng, South Africa

Byron J. Bunt
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Vanderbijlpark, South Africa

Amit Dhakulkar
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Potchefstroom, South Africa

Abstract

Despite increased interest in open education worldwide, not all institutions have seen widespread uptake of open educational resources (OERs). To address this issue, higher education institutions (HEIs) worldwide have established initiatives to support the development and use of OERs. This chapter provides the context for the rest of the book by discussing such an initiative at a South

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African university; it was decided to establish a fellowship programme based on self-directed learning principles to empower lecturers in order to adapt or create OERs for their classrooms. This research involved the collection of qualitative data based on reflections by the OER fellows who were part of the programme. The research provides insight into the overall process of envisioning, designing and executing the fellowship. The opportunities and challenges during the process are discussed from the viewpoint of different stakeholders, with a special focus on aspects of self-directedness.

Introduction

The use of OERs is expanding globally as a result of advocacy for its use by international organisations and a need for openness and flexibility in terms of learning resources. Furthermore, the importance of OERs within the African (Tlili et al. 2022) and South African (Olivier 2021) contexts is also clear. In this context, UNESCO (2019) is advocating for the wider use of OERs in its *Recommendation on Open Educational Resources*. In this recommendation, OERs defined by UNESCO (2019) are:

> [...] learning, teaching and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others. (p. 5)

This is also the working definition for OERs within this chapter and the rest of the book. Many different types of artefacts can be considered as OERs. For example, Picciano (2019:150) lists 'materials such as textbooks, reading material (e.g. case studies), simulations, games, tests, quizzes, assessment tools, presentations (e.g. PowerPoint), and multimedia'.

The coronavirus disease 2019 (COVID-19) pandemic has highlighted the need for OERs as a cost-effective alternative to address existing and wide digital divides. Importantly, OERs alone may not be sufficient for effective learning, and their use needs to be supported by appropriate pedagogical and assessment strategies. Consequently, UNESCO (2019) also emphasises this aspect in stating:

> [...] the judicious application of OER, in combination with appropriate pedagogical methodologies, well-designed learning objects and the diversity of learning activities, can provide a broader range of innovative pedagogical options to engage both educators and learners to become more active participants in educational processes and creators of content as members of diverse and inclusive knowledge societies. (p. 5)

There are many reasons to embrace OERs within higher education (HE), and within this context, it is important to take note of the following statement by UNESCO (2019):

> [...] the application of open licenses to educational materials introduces significant opportunities for more cost-effective creation, access, re-use, re-purpose,

> adaptation, redistribution, curation, and quality assurance of those materials, including, but not limited to translation, adaptation to different learning and cultural contexts, development of gender-sensitive materials, and the creation of alternative and accessible formats of materials for learners with special educational needs. (p. 5)

Towards addressing this need for appropriate pedagogical methodologies, this project proposed fostering self-directed learning (SDL) within the wider context of promoting OERs among university lecturers.

The concept of self-directed open educational practices (OEPs) is proposed by Olivier (2020a), and the relevance of SDL for OEP is clear from the scholarship in this field (Morgan 2016; Olivier 2020b). The importance of SDL is especially evident in online environments, in which OERs are often used. In this context, Lasfeto and Ulfa (2020:35) state that '[t]he level of SDL readiness in using online technology is very significant to reach academic success'. De los Arcos et al. (2016:24) also highlight that 'OER foster independent and personalised learning by engaging students in choosing what they learn and how they learn, and teachers in customising content to learner needs'.

The use of OER in the learning context relates to the wider concept of OEPs. Wolfenden and Adinolfi (2019:327) define OEPs as a 'wide range of individual and collective practices inherent in conceptualising, creating, adapting, curating and sharing OER'. In this regard, this project explores the use of OEPs at the university level in terms of engagement with OERs by lecturers through both training and capacity building through an initiative called the North-West University OER Fellowship. Central to this intervention was fostering SDL in terms of OEPs. Within this context, this research was driven by the following research question: *How can lecturers become self-directed in their use of OERs and embracing of OEPs within the context of an institutional fellowship initiative?*

Conceptual framework

Social constructivism underpins the activities within the NWU OER Fellowship. Collis and Moonen (2009:328) acknowledge that within constructivism, a need exists for 'active construction of meaning by the learner for learning to occur', while this also relates to 'active learning, goal setting and self direction [*sic*], authentic learning' and collaboration. Similarly, Mentz et al. (2018:171–172) aver that '[t]hrough social construction of knowledge, meaning should thus emerge for active participants'. In the context of SDL, students take an active role (Van der Walt 2016) in the learning and knowledge construction process. The concept of communal constructivism is based on constructivist and social constructivist learning theories. According to Holmes et al. (2001), *communal constructivism* involves:

> [...] an approach to learning in which students not only construct their own knowledge (constructivism) as a result of interacting with their environment (social

> constructivism), but are also actively engaged in the process of constructing knowledge for their learning community. (p. 1; [*emphasis in the original*])

From a renewable assessment view, this approach involves that 'each member of the community learns with and from each other as well as contributing resources to the learning community' (Rothkrantz 2016:2).

Open educational resources and open educational practices

Central to the fellowship was using OERs for OEPs. Building on the definitions stated in the Introduction to this chapter, it is also essential to consider the 5Rs+2Rs that determine the parameters of what can be done with OERs. The 5R permissions are specifically relevant for open pedagogy as, according to Wiley and Hilton (2018:135), open pedagogy relates to a 'the set of teaching and learning practices that are only possible or practical in the context of the 5R permissions which are characteristic of OER'. The 5Rs specifically include the following as noted by Wiley and Hilton (2018:134–145):

- **Retain:** The right to make, own, and control copies of the content (e.g. download, duplicate, store, and manage).
- **Re-use:** The right to use the content in a wide range of ways (e.g. in a class, in a study group, on a website, in a video).
- **Revise:** The right to adapt, adjust, modify, or alter the content itself (e.g. translate the content into another language).
- **Remix:** The right to combine the original or revised content with other material to create something new (e.g. incorporate the content into a mashup).
- **Redistribute:** The right to share copies of the original content, your revisions, or your remixes with others (e.g. give a copy of the content to a friend).

These permissions or characteristics have since been used in various publications and even embraced within the Creative Commons licensing framework. In this regard, Creative Commons licences provide 'everyone from individual creators to large institutions a standardised way to grant the public permission to use their creative work under copyright law' (Creative Commons 2022). Since the initial publication of the original 5Rs, there have been a number of attempts to add to this list. The sixth R, *Recontextualize*, proposed by Olivier (2020a), is:

> Recontextualize – the right to append, adapt or modify content to be relevant to a specific learning context while considering existing biases and hegemony of knowledge from the West and the Global North. (p. 23)

In addition to this characteristic, Liberty et al. (2021) also proposed adding *Recognition* as a seventh R. These permissions or characteristics are relevant not only for open pedagogy but also for OEPs.

The affordances of OEPs are clear from the literature, as Hilton (2019) found in an overview of studies in which the efficacy and perceptions around OERs and commercial textbooks (CT) were explored:

> (1) more than 95% of published research indicates OER does not lead to lower student learning outcomes, and (2) the vast majority of students and faculty who have used both OER and CT believe OER are of equal or higher quality. (p. 21)

One way of involving students in the OEP process is the use of renewable assessments, sometimes called renewable assignments in the literature. In this regard, Wiley and Hilton (2018:137) define renewable assignments as 'assignments which both support an individual student's learning and result in new or improved open educational resources that provide a lasting benefit to the broader community of learners'.

One way of exploring the impact of OERs is the Cost, Outcomes, Usage and Perceptions (COUP) Framework. According to the Open Education Group (2022), this framework is an 'approach to studying the impact of open educational resources (like open-access textbooks) and open pedagogy in secondary and post-secondary education'. Within this context, Clinton (2019) has used the COUP Framework to explore the nature of OERs available for psychology. It is significant that in this study, Clinton (2019:16) found that OERs 'offer comparable quality and learning opportunities at a much lower financial cost than commercial materials'.

The use of OERs has the potential to support student engagement through student-centred open pedagogy (cf. Olivier 2021). A possible practical approach in this regard is the Framework for Practices with OERs and student-centred open pedagogy towards demiurgic decolonisation (cf. Chapter 6 and Chapter 10) of teacher education, as proposed by Olivier (2021).

☐ Self-directed learning and learner agency

For the purposes of this chapter and the rest of the book, the concept of SDL is defined as (Knowles 1975):

> [...] a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes. (p. 18)

Learning requires a measure of confidence in one's actions and the outcomes of those actions (Du Toit-Brits 2020; Mercer 2012; eds. Metcalfe & Terrace 2013). Students may become active participants in their own education rather than passive recipients (Bandura 2006:164–180). While teachers largely agree that allowing students some degree of autonomy increases their motivation and learning results, they also acknowledge that there are limitations to this autonomy. As both the freedom to make choices and the scaffolding to restrict those choices are recognised, it is vital, yet nuanced,

to design to encourage successful learner agency (Xie et al. 2020). This is particularly true in SDL environments, such as online courses and educational games, where developers craft the whole instructional experience, and no real instructor is present to help. Learning environments and learners are both involved in this phenomenon, in which the behaviours desired by learners are among those that learners can actually perform (Wardrip-Fruin et al. 2009). Students should have the ability to make educated decisions that promote their engagement, motivation and learning if they are given the opportunity to do so. Learners' SDL may appear in a variety of ways. They may decide that an activity is too simple and go on to something more challenging, or they may realise that they are still unclear about certain concepts and go back to review previous lessons. When a learner sets out to do something, they take whatever activity is available and then reflect on the outcome (Xie et al. 2020).

However, not all aspects of SDL environments promote learner agency in a positive manner. In order to exercise agency, students must first believe they have the capacity to do so (Corbalan, Kester & Van Merriënboer 2009; Mercer 2012). The structure of the learning environment has a direct influence on the agency of learners. Designers can influence student behaviour in an indirect (Schell 2008) manner. Using these aspects of indirect control, students may unintentionally pursue the same routes without benefiting from them, so restricting their own agency. An SDL experience must be adequately scaffolded in order to encourage learners to take control of their own learning and to make informed decisions (Xie et al. 2020).

Agency in SDL settings was previously studied in terms of how much or how little it affects learning. A study of Crystal Island (Rowe et al. 2011) – a self-directed instructional game in which players are in charge of their own activities – revealed that participants learned more from the game when they had fewer alternatives to choose from than they did in a high-agency condition (Sawyer et al. 2017; Taub et al. 2020).

Prior research, on the other hand, has demonstrated that having too much agency may be negative (Atkinson 1972). According to Chen, Mitrovic and Mathews (2019), in a high-agency situation (in which learners may select their own preparatory activities), learners with higher previous knowledge demonstrated equally wasteful behaviour, including guessing. Using these data, we may conclude that designing for agency entails finding a 'sweet spot' that delivers the advantages of choice while avoiding learners being overwhelmed (Chen et al. 2019).

Previous studies on SDL have examined various degrees of agency and distinct features of agency in learning (Chen et al. 2019; Long & Aleven 2013, 2014; Roll et al. 2014); however, they have not investigated diverse degrees of

information to develop agency together. Giving learners the option of what to do next and providing them with knowledge about the dangers and possibilities associated with those decisions makes a substantial difference (Xie et al. 2020).

Prior theoretical work refers to this as proximal action-related information (eds. Metcalfe & Terrace 2013), and it aims to assist learners in determining their capacity to act (e.g. by means of checkboxes that show incomplete practice); their current ability (e.g. using skill bars to indicate estimated knowledge (Hosseini et al. 2015) and badges reflecting accomplishments); as well as the predicted outcome of taking a specific action (e.g. an adaptive recommendation pertaining to a specific practice question). Such an approach outlines how information may be provided by systems, but past work gives little design direction on the consequences of increasing degrees of action-related knowledge on agency.

Methodology

Educational research needs to be done 'in a lifelike way', and several in-depth procedures are required, as a variety of variables can influence the outcome of identified interventions (Middleton et al. 2008:29). A pragmatic paradigm is therefore applied to focus on the research problem and to use the most appropriate methods to answer the research questions (Creswell 2014:10–11). The research design and orientation, population and sampling, as well as the data collection and data analysis strategies used for this research are unpacked under Research design and orientation.

Research design and orientation

To collect data for the qualitative component of the research, the researchers employed a case study as an inquiry approach. A case study is an in-depth examination of a bounded system or a case across time that employs numerous sources of data obtained in the environment (Merriam 2009). The case might be a programme, an event, an activity or a group of people who are constrained in time and space, and it entails an intense and thorough description and analysis of data in connection to the case (Merriam 2009). In this chapter, all the participants formed part of a unique group of fellows who participated in the NWU OER Fellowship.

Population and sampling

This research involved non-probability sampling by means of convenience sampling. Non-probability sampling pertains to a sampling technique through which samples are obtained in a process that does not provide an open

opportunity to all possible individuals in a population but rather a specific selection (Cohen, Manion & Morrison 2018).

Purposive sampling refers to selecting participants for a specific purpose (Cohen et al. 2018). In the case of this study, the researchers purposively focused on the lecturers involved in the OER Fellowship. The sample could also be considered as being convenient, as the participants were located in the same institution where the researchers worked. The researchers, therefore, had easy access to the participants.

The lecturers included in this study involve individuals creating or adapting OERs for use in classrooms or applying renewable assessment practices using OEPs. This group included any university lecturer, including those participating in the NWU OER Fellows, who met the inclusion criteria relating to OER use and OEPs, willing to take part and provide informed consent to be included in this research.

Data collection and data analysis

Qualitative data were collected from lecturers creating or adapting OERs towards OEPs that foster SDL as part of the NWU OER Fellowship. In this regard, lecturers' perceptions around OEPs and SDL were explored through open-ended questionnaires (see Appendix 1 at the end of this chapter). The data analysis of this project involved inductive qualitative data analysis (Creswell & Creswell 2018:33) of the created open-ended questionnaires. This process involved identifying codes and then deriving sub-categories and themes.

To ensure the trustworthiness of the data analysis, the authors considered credibility, transferability, dependability and confirmability (Lincoln & Guba 1986). The credibility of the analysis was ensured through the prolonged engagement of the researchers within the fellowship initiative and the participants, as well as cross-checking the recorded researcher reflections and requested participant inputs through open-ended questionnaires. Transferability was addressed through thick, descriptive data used as the basis for this chapter. Dependability and confirmability were handled by means of establishing an audit trail (Lincoln & Guba 1986).

Ethical conduct and adherence to national and institution-specific ethical policies were ensured throughout the research. Ethical clearance and gatekeeper permission from the institution were obtained prior to the commencement of the research. Participation was voluntary, and only lecturers willing to participate and provide written informed consent were included in this study.

Overview of the North-West University open educational resource fellowship

The NWU OERs Fellowship was an opportunity for interested university staff to create and 'include new openly licensed online resources in their classes or adapt their resources to their students' specific contexts to receive support and funding for creating or adapting open learning content as well as researching the process' (NWU 2022).

This 18-month fellowship involved the following (NWU 2022):

A grant of ZAR40 000 for OER development (adaptation, text editing and research expenses) for individuals or groups working on a project:

- Funds for online conference attendance and presentation (ZAR7000).
- Opportunities to attend workshops on OERs, open licensing and open pedagogy.
- Support to create or adapt OERs such as open textbooks, online tutorials, wikibooks or combinations of open learning objects.
- Support and workshops on how to research OERs and write up the research.
- Writing a book chapter on the process or evaluation of the use of the OER.

The fellows committed themselves to (1) following the training as set out for this fellowship; (2) completing an OER for the selected module(s); (3) conducting research; and (4) making the OER available under a Creative Commons License. The workshops and seminars which formed part of the fellowship included presentations by international and South African experts on open pedagogy, open practices and social justice, open licensing, research OERs and OEPs, *ubuntu*, student advocacy and professional development, open textbooks, open-source authoring tools, OERs and quality frameworks, as well as researching OERs using the cost, outcomes, use, perceptions and engagement (COUPE) framework.

Results and discussion

From the inductive qualitative analysis of the open-ended questionnaire responses, certain codes and themes were derived. The identified verbatim quotations are discussed in this section in terms of the identified themes and codes. The identifiers used for the quotations below note the participant number, question number and date the responses were received.

It was quite significant that the OERs created within this fellowship involved different formats and interfaces. In this regard, the OERs involved open textbooks, interactive text and visual content, a glossary, music and software.

Some of the OERs had direct student involvement, while others were mainly lecturer-driven.

Theme 1: Self-directedness in terms of open educational resources and open educational practices

It was evident that the participants took charge and responsibility for becoming knowledgeable about and skilled in using OERs for OEPs.

Setting goals

The responses show how participants set their own unique goals in the process of becoming self-directed in terms of OERs for OEPs. The responses below show evidence of this process:

> 'My goal was fairly simple – I simply wanted to create a multilingual glossary in four languages. I have already achieved this goal. I therefore hope to elaborate on this goal in 2022 by adding more languages to the glossary.' (P1, Q2, 13 December 2021)

> 'My first goal was to create the first draft of my textbook by mid-2021, so that I could use the textbook in my teaching in the second semester of 2021. This was essential, because I set assessments where students had to edit the textbook, provide feedback and suggest new content.' (P3, Q2, 17 January 2022)

Many of the goals set within the fellowship were driven by specific problems, such as creating an open textbook for a specific group (P3) or addressing a wider gap in knowledge within the community (P7).

Independent resource finding, identification and use

Apart from some content and learning opportunities provided as part of the NWU OER Fellowship, participants were also encouraged to explore OERs specific to their disciplines and needs. From the participants' responses, this independent process is also clear:

> 'I also gained more knowledge through simply creating my OER – a few google searches here and there to solve my own problems helped with creating an understanding of OERs.' (P1, Q1, 13 December 2021)

> 'OER was a completely new term for me. The more I researched the field, the more interested I became.' (P2, Q11, 12 January 2022)

> 'I also read some research as part of my chapter work, which provided further insight.' (P3, Q1, 17 January 2022)

From these quotations, participant-driven engagement in terms of extending knowledge and skills regarding OERs and OEPs was evident.

Peer interaction

Even though greater collaboration across projects could have been supported, such interactions were perceived as being positive, as was noted by the participants in the following quotations:

> 'It was also very interesting to listen to some of the ideas of other fellows – these presentations gave me some new ideas that I will continue to explore in future.' (P3, Q9, 17 January 2022)

> 'I learned so much from the individuals that shared their knowledge.' (P6, Q9, 16 March 2022)

In addition, some of the fellows (e.g. participant 2) also noted how they completed additional online courses on OERs and also went through OER-related research.

Theme 2: Strategies employed towards self-direction with open educational resources and open educational practices

Value of workshops and seminars

From the analysis, the value of the structured series of online workshops and seminars was evident, as is noted in the following quotations:

> 'I have gained more knowledge through the workshops, and also through one-on-one conversations [...]. While the workshops provided more theoretical perspectives, the consultations with [...] solved practical problems.' (P1, Q1, 13 December 2021)

> 'I attended most of the OER workshops presented as part of the fellowship. These workshops covered a very wide range of topics and gave me much deeper insight into OERs, particularly the way open license work.' (P3, Q1, 17 January 2022)

The value of this approach with some structured activities where experts shared their knowledge on aspects of OERs and OEPs was clear.

Theme 3: The fellowship as the prompt for open educational resources for open educational practices

The fellowship acted as motivation to embrace open educational resources

From the data, it was understood that some of the participants would not have used or even known about OERs were it not for the fellowship.

> 'Without the fellowship, I doubt I would have even given creating an OER any attention this year.' (P1, Q8, 13 December 2021)

> 'The fellowship gave me the confidence to really explore OERs, to discuss OERs with my colleagues more, to develop and adapt OERs more. The fellowship really gave me the confidence to actually use OERs well.' (P3, Q8, 17 January 2022)

Through the mentoring and support process of the fellowship initiative, it is clear that the fellows were motivated and became more self-directed in terms of their own engagement with OERs.

Furthermore, the combination of information-sharing, project-specific support and financial incentive proved to be valuable in getting lecturers to embrace OERs.

Theme 4: Open educational practices creating opportunities for student agency

By using OERs through OEPs, students may also have the opportunity to make a contribution to learning content. Previous research has shown how students often consider that they have very limited opportunities to contribute to or influence the content used in HE (Olivier 2020c). Within the wider NWU OER Fellows initiative, student agency was evident in the projects where students contributed to the creation of OERs.

From student participation to student agency

> 'Students were offered the opportunity to be co-creators. I achieved the goal and used the textbook as a prescribed work. Students completed all assessments and provided much feedback and very interesting inputs.' (P3, Q2, 17 January 2022)

> '[The students] provided me with many new ideas. By just reading their comments and inputs I also gained some really deep insight into their thinking and their ideas of what journalism is and what it should be. I think students really appreciated the chance they were given to voice their opinions.' (P3, Q7, 17 January 2022)

> 'Having an opportunity to hear our students' voices really provided a lot of insight.' (P6, Q4, 16 March 2022)

Student-generated OERs are well documented in the literature and are often associated with renewable assessments (Wiley & Hilton 2018). However, even if the content is not re-used for learning purposes, the affordances of such student involvement are evident.

Student involvement challenging the status quo

> '[The fellowship] opened my eyes to a new world and my students were also challenged to think outside the box.' (P2, Q8, 12 January 2022)

> 'In my view, it has changed how my students view education and their role when it comes to the sharing of knowledge. I want to link it to developing a sense of social responsiveness. In our module, students are developing as health professionals and they especially mentioned that they can draw from and develop OERs to empower others.' (P6, Q7, 16 March 2022)

Interestingly, implementing OEPs in some cases meant a total rethinking of traditional roles and processes within the classroom.

Theme 5: Affordances of open education

Possibilities around open educational resource localisation of content

The importance of localisation of OERs within the South African context is evident from the literature (Olivier 2020a), and aspects of localisation were also found in the responses from the participants:

> '[S]tudents participated in creating the textbook, because they were offered the chance to change and adapt content, they felt empowered.' (P3, Q7, 17 January 2022)

> 'The fact that OERs can be adapted is also very valuable – it means the textbook is really relevant and up to date. In journalism there simply are no completely current textbooks, but an OER can be current and highly relevant to current circumstances.' (P3, Q7, 17 January 2022)

> 'The OER we are creating allows us to tailor make content for our beginner students. We are free to choose the content and we can integrate the technology-based learning activities within the broader context of our modules.' (P4, Q7, 24 February 2022)

These quotations show the importance of it being possible to adapt OERs, but also the value of keeping content up to date.

Possibilities around open educational resource localisation of language

The issue of language was addressed by some of the projects, and particularly the possibilities of sharing content multilingually seemed to be highly relevant. In this regard, projects involved the translation of content into languages other than English as well as the creation of a multilingual glossary as an OER. The need for further translation of OERs was expressed by one of the participants:

> 'By the end of 2022, I hope to have it translated into all official languages, and if that is not feasible, then at least a few more than the four it is available in now.' (P1, Q4, 13 December 2021)

The relevance of increased translation (cf. Chapter 4) is also in line with the needs expressed in the literature (Olivier 2020a).

Lower costs as a social justice consideration

The lower costs of OERs were expressed as an important advantage. Within this context, the following quotations illustrate the views of the participants:

> 'The appeal of OERs to me is that it is free, apart from the cost of data, often. In a country like South Africa, this then fulfils a social justice mandate. #FeesMustFall

> demonstrated the need for lower costs associated to tertiary education. Following from this, I simply think it is unconscionable to provide expensive resources to students, when these are often available freely on the internet anyway.' (P1, Q7, 13 December 2021)
>
> 'The greatest advantages of OERs are that they are free, and that they can be adapted. This means ALL my students have had access to their prescribed textbook for the first time ever in 2021. It is a fact of teaching that many students simply never buy the textbooks, and simply never read the textbooks, mostly for cost reasons. Now students received the textbook for free, and they all read it, because assignments involved editing certain chapters in the book.' (P3, Q1, 17 January 2022)
>
> 'It opened up the possibly for other ways of teaching and learning. Because it is cost free, it can easily be tried and tested.' (P5, Q7, 3 March 2022)
>
> 'In terms of developing our OER, the commercial route would have been limiting as the amount of content covered would have been guided by cost. Collaborating with individuals in the academic setting who understood our purpose, allowed for greater flexibility and a project that will likely birth several others.' (P7, Q7, 8 April 2022)

This view is aligned with international literature and also confirms cost-savings in using OERs (Clinton 2019; Walsh 2020). Furthermore, the importance of OERs for social justice has been expressed widely (Tlili et al. 2022) and not only in terms of cost-savings.

Lecturer agency

From one of the participants, the value of lecturers taking charge of the resources of their own classes was also expressed:

> 'OER's [sic] may also be more academically inclined than commercial resources, because they were most likely developed by and for educators for the purpose of education.' (P5, Q7, 3 March 2022)

According to this participant, as the lecturers themselves are involved in creating resources to be used in class, they can then adapt and focus the resource on the specific needs of their students.

Theme 6: Continuance of using open educational resources for open educational practices

The lecturers also indicated a future continuance of using OERs beyond the project. They also indicated the implications of the use of OERs for the benefit of students:

> 'I would like to use and create OER with my students for a very long time.' (P2, Q12, 12 January 2022)
>
> 'I think I understand OERs well and I am able to find OERs quite easily. I use OERs regularly in my teaching – my own and others. I have not yet published an OER, but from what I can gather most repositories provide clear instructions and the

> process seems simple enough. I would, however, like to improve understanding and recognition of OERs among my colleagues, I think there is still a lot of scepticism.' (P3, Q1, 17 January 2022)
>
> 'I believe my role as lecturer goes beyond the classroom and if I can get my students to search for, use, develop and share OERs as part of their learning, we are making a difference in our communities and that for me, is the purpose of higher education.' (P6, Q11, 16 March 2022)

From the participants' views, it is clear that the participants intend to continue using OERs and implementing OEPs. Furthermore, it is clear that they see the value in embracing OERs and also transferring the value of open practices to their students.

Discussion and findings

From the data analysis, a number of unique findings in terms of SDL, OERs and OEPs were evident, specifically within the context of lecturer development within a South African HE setting. There was clear evidence of self-directedness in terms of OERs for OEPs amongst the participants, as they were able to set goals around their individual or group needs. Participants were also quite capable of finding resources individually, and there was even evidence of groups achieving positive interdependence (Johnson & Johnson 2019) in their collaboration in this context. The participants experienced the collaboration within as well as across projects quite positively; however, more opportunities for cross-project interactions could have been created.

The workshops and seminars acted as useful starting points to inform and prompt further engagement by the participants in terms of OERs for OEPs in a self-directed manner. The value of expert inputs was also evident, and that acted as a starting point for further exploration by participants outside of the formal workshop or seminar context. To this end, participants regarded the fellowship as a motivation to know more about OERs and even embraced this for their classroom practice.

As regards the students in the participants' classes, it was clear that OEPs may act as a way to foster student agency, as OEPs created opportunities for students to actively engage and have a voice in terms of classroom resources and content. This led to a change in the current practices in classrooms and a distinct move from mere participation to student agency.

The value of OERs for learning and teaching was clear from the responses. Firstly, the possibilities around localisation in terms of content and language were prominent. In this regard, OERs provide a vehicle to adapt content to the specific needs of specific groups of students and student communities. Furthermore, the affordances of OERs for multilingualism (cf. Chapter 2) were also confirmed, as is evident in the literature (Olivier 2020a). The cost implications of using OERs were also highlighted by participants as being an

important advantage. Finally, a sense of lecturer agency was also supported by this specific self-directed approach to OERs for OEPs.

Finally, it was also important to note that participants within this fellowship indicated that they would continue embracing OERs and integrate OEPs into their classrooms. In this regard, the fellowship reached its aim to form champions for OERs who may promote good practices in this regard within their subject groups and schools.

Recommendations and limitations

From the discussion, a number of recommendations can be made for future initiatives pertaining to using OERs and embracing OEPs, with specific emphasis on fostering SDL and student agency. The recommendations are:

- Incentivising the use of OERs and OEPs may act as a good motivator for lecturers.
- The screening process for such programmes should also gauge existing skills and build in some individualisation.
- Buy-in and support from institutional management are essential.
- In most cases, it tends to be more appropriate if projects are done in groups.
- Opportunities should be created not only for collaboration within groups but also across groups.
- After initial structured workshops and webinars, participants may gain self-confidence to engage with OERs and OEPs in a more self-directed fashion.
- Researching OERs and OEPs as part of the process is quite positive, but this implies varying needs and may result in research-focus conflicts.
- Resource provision could be more structured and actively supported for participants.
- Developing and adapting OERs may take longer than twelve months, and even that might not be enough time.

Conclusion

At the start of this chapter, it was stated that this chapter aimed to explore how lecturers could become self-directed in their use of OERs and embracing of OEPs within the context of an institutional fellowship initiative. After an overview of some key theoretical concepts around OERs, OEPs, SDL and student agency, the empirical findings of qualitative research on the NWU OER Fellowship initiative were discussed. In this regard, it was found that this fellowship created ample opportunities for university lecturers to empower themselves in terms of OERs and OEPs and infuse open pedagogy within their classes. As is evidenced by the chapters that follow in this book, this fellowship

also opened up unique avenues for research for the fellows towards moving from actively engaging with open education in their classes to also embracing appropriate research practices.

Appendix 1

Open-ended questionnaire

1. How have you gained more knowledge about open educational resources?
2. What goals have you set for creating or adapting your open educational resource(s)?
3. Explain what needs you have in terms of open educational resources and the use thereof.
4. How far are you in creating or adapting your open educational resource(s)?
5. Who are involved in creating or adapting your open educational resource(s)?
6. What kind of resources do you need to create or adapt your open educational resource(s)?
7. What opportunities have open educational resources opened up as opposed to commercial resources?
8. What contribution has the OER Fellowship made on you learning how to create or adapt your open educational resource(s)?
9. How have you experienced the OER Fellowship workshops and webinars?
10. Reflect on your progress as an OER Fellow so far?
11. Describe your motivation in terms of applying for the OER Fellowship and how you feel about it now.
12. What form/type of support would you need from the OER Fellowship going forward?

Chapter 2

Digital multilingualism for social justice through localised self-directed open education

Jako Olivier
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Mahikeng, South Africa

Louise Olivier
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Mahikeng, South Africa

Abstract

The needs of a changing society and the looming Fourth Industrial Revolution (4IR) have led to increased technology infusion into classrooms. However, this digital education is driven by commercial entities and the hegemony of English and content from the Global North. In order to ensure social justice and the sustainability of digital education in highly multilingual and under-resourced contexts, such as South Africa, alternative approaches need to be considered. To this end, this conceptual chapter explores the affordances of localised self-directed open educational practices (OEPs) to address the needs within

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multilingual digital environments. Despite many initiatives around open educational resources, there have been limited developments around open educational practice, especially localisation. Based on the review of documents and research, this chapter concludes with recommendations for policy changes and some practical recommendations for localised self-directed open educational practices that would be responsive to the country's needs and a drive towards social justice.

Introduction

This conceptual chapter explores the affordances of localised self-directed OEPs towards multilingual digital education for social justice in South Africa and contextualises this book on open educational resources (OERs) and self-directed learning (SDL) within the South African context. Consequently, this chapter provides a broad perspective within which the university staff – who took part in the NWU OERs Fellowship (cf. ch. 1) – functions and also clarifies the need for contextualised, localised and multilingual open content for social justice.

The unique context at the southernmost tip of the African continent is generally regarded as being very multilingual, with eleven languages being recognised as official languages. Mwaniki (2012) notes how social justice issues are more manifest in this country as a result of its complex history in terms of exclusion practices and inequities within, amongst others, the educational context. Ultimately, for Mwaniki (2012), the issue of access links language with social justice, specifically in the higher education (HE) sector. Localisation allows content to be adapted in terms of content and language and contextualised through collaboration between content experts and the wider community. In addition, open education implies the re-use of existing content and allows for the open licensing of initially created digital content appropriate and relevant for students and their contexts. Within this context, it has been suggested that there is a need for students to become self-directed in translanguaging processes for OEPs (Olivier 2020a, 2021c). The term 'translanguaging' implies, according to Canagarajah (2011), the following assumptions:

> [*F*]or multilinguals, languages are part of a repertoire that is accessed for their communicative purposes; languages are not discrete and separated, but form an integrated system for them; multilingual competence emerges out of local practices where multiple languages are negotiated for communication; competence doesn't consist of separate competencies for each language, but a multicompetence that functions symbiotically for the different languages in one's repertoire; and, for these reasons, proficiency for multilinguals is focused on repertoire building. (p. 1)

Self-directedness in this context implies that, within an open multilingual context (Knowles 1975), students:

> [...] take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for

> learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes. (p. 18)

The advantages of multilingual content are evident from the literature, and hence, this chapter favours an additive approach rather than a monolingual approach to digital content. In this regard, students would benefit from accessing original content in English and have the opportunity to draw on content in their mother tongues and even contribute to creating suitable content. For this chapter, the concept of harmonisation is also considered, and this refers to a re-evaluation of prevailing formal borders between languages.

In this chapter, such access extends beyond mere opening up of access to learning through the use of more languages and the empowerment of students. Hence, the emphasis is on creating resources in students' languages of preference while becoming self-directed through localised OEPs. The central research question driving this chapter was: *How can multilingual digital education for social justice be achieved through localised self-directed OEPs in South Africa?*

Contextualisation and concept clarification

The increase in the availability of new technologies has prompted the importance of opening up access to education and resources (Ogange & Carr 2021) and such open access to resources is also essential for SDL, where students should be able to select their own resources. A very important realisation of such resources is OERs. Using OERs is highly relevant for a context such as South Africa because of the need for affordable resources that can be adapted to the unique educational context. In this chapter, this aspect is regarded in terms of social justice which relates to Fraser's (2005:76) concept of 'participatory parity', which relates to both an outcome and a process.

The student-driven movement demanding a decolonised curriculum (Cox, Masuku & Willmers 2020) also prompted additional impetus for a localised curriculum and localised resources. Makalela (2018) details the broader student protest movement in South Africa. Amongst other issues, the decolonisation of the curriculum was demanded by students, and this researcher explicitly highlights the important role language has to play in the process. The important role of OERs for the decolonisation of the curriculum (cf. Chapter 6 and Chapter 10) is evident from the literature (Olivier 2020a, 2021c). Amiel (2013) notes the divides between those who generally develop and those who merely use OERs and the role of more prosperous nations in terms of the bulk of resources being produced in the broader context. In South Africa, as is the case in the rest of Africa (Mosweunyane 2013), colonial education supplanted many existing precolonial African

educational practices, and this colonial approach did not value cultural transmission. For this chapter, the concept of OERs is understood in terms of how it is defined by UNESCO (2019) as being

> learning, teaching and research materials in any format and medium that reside in the public domain or are under the copyright that has been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others. (p. 3)

The relevance of OERs for localised teaching and learning, specifically in the South African context, has been highlighted in the literature (Olivier 2020a, 2021c). However, the focus in this chapter is also specifically on the use of OERs for the sake of learning, and hence the concept of OEPs is explored. According to Cronin (2017), OEPs are

> collaborative practices that include the creation, use, and re-use of OER, as well as pedagogical practices employing participatory technologies and social networks for interaction, peer-learning, knowledge creation, and empowerment of learners. (p. 4)

The relevance of OERs, such as open textbooks and OEPs for social justice, is also clear (Bali, Cronin & Jhangiani 2020; Cox et al. 2020; Hodgkinson-Williams & Trotter 2018; Ogange & Carr 2021), and this emphasises the importance of OERs for the context of this chapter and this book. For this chapter, social justice relies on acknowledging issues around access to education through the availability of resources, especially localised resources and open practices supportive of SDL.

Central to this chapter is localisation, which pertains to adapting both language and content to make content (Wolfenden & Adinolfi 2019), in this case, OERs, relevant to a specific context in terms of lingual, social, geographical and other variables pertaining to the learning milieu. The need for localisation is supported in this statement made by Amiel (2013:136) in terms of remixing '[a]n often-ignored barrier to remix and revision is the English-language and Western bias of the Internet and particularly OER'. Consequently, the hegemony of English in education globally and in South Africa drives the increased need for representation and the use of more languages. Localisation should also be considered to address artefact-based content in a multilingual context. The concept of translanguaging, which is highly relevant to the process of localisation promoted in this chapter, relates, according to García (2009:140), to an 'act performed by bilinguals of accessing different linguistic features or various modes of what are described as autonomous languages, in order to maximise communicative potential'. Here autonomous languages refer to the different languages that make up the repertoire from which multilingual-speakers choose to draw in their communication process. The relevance of translanguaging for social justice is also clear from the literature as this is a means to address challenges in this context (García & Leiva 2014). However, it is essential to note that merely

translating OERs might not be sufficient as, according to Hodgkinson-Williams and Trotter (2018), localisation

> May change the linguistic interface through which students engage with this knowledge, it may not do much to alter the underlying frames of reference upon which that knowledge is built. (p. 214)

However, in the South African language context, there have also been some attempts to expand on translanguaging, with much research being done on translanguaging in South African schools (Sefotho & Makalela 2017) and universities (Carstens 2016). The issue of translanguaging has also been raised in terms of the use of OERs (Olivier 2020a). This is then also the focus of this conceptual chapter as it engages with the affordances of self-directed localised OEPs towards multilingual digital education for social justice in South Africa. The self-directed aspect is central to the argument as it is intertwined with the concept of student agency, as is shown throughout this book, but also noted by Bali et al. (2020:1) as they regard that OEPs 'consistently focus on fostering learner activity and agency'. This approach underlies the way in which social justice and multilingual education are approached in this chapter.

Social justice and multilingual education in a digital context

Social justice and language

Social justice has been approached in terms of the role of language and specifically through scholarship on linguistic justice. This issue in language-related fields can relate to linguistic and cultural anthropological research using ethnographic approaches or focusing on language economy and policy (Barakos 2020). Furthermore, the issue of language is embedded in the role of multicultural education and social justice. Despite the apparent links, it is evident that these two concepts are regarded as distinct (Cho 2017).

The concept of intersectionality is also pertinent to the HE sector in South Africa. The term *intersectionality* refers to a 'method and a disposition, a heuristic and analytic tool' (Carbado et al. 2013:303) derived from the work by Crenshaw (1989). In this regard, Rojo (2021:174) notes that '[l]inguistic requirements become an example of intersectionality, where social and economic differences are inseparable from linguistic ones, reinforcing the social stratification of the academic field'. However, it is clear that issues around language cannot merely be approached through a distribution or redistribution view of social justice but rather a relational paradigm, as is the case with multicultural education (Cho 2017). Despite the recognition of language being a resource (Delavan, Valdez & Freire 2017; Wright 2002), it is essentially a social phenomenon (Cooper & Cooper 1989; Fishman 2019; Kovacevic, Spetic & Pleslic 2018), and its use is determined through relationships

and societal structures. Within these structures, there is a need for students to have agency and become self-directed in negotiating their lingual context.

However, this chapter focuses specifically on language within the complex South African context.

Multilingual higher education context in South Africa

Before interrogating the role of language in terms of social justice, it is essential to get a sense of the broader language context within South African HE. In the scholarship on language in education, there is general support for mother-tongue instruction and the promotion of multilingualism. Notably, there has also been a trend to move away (García & Leiva 2014):

> From studying language as a monolithic construct made up of discrete sets of skills to a conceptualisation of language as a series of social practices and actions that are embedded in a web of social relations. (p. 201)

As noted earlier, this chapter approaches languages from the point of view of integrational linguistics, which in terms of translanguaging, involves rejecting 'language as a discrete, bounded, autonomous, and abstract object that can be named and counted, as posited by canonical, mainstream sociolinguistic theory' (Chaka 2020:8).

The *Constitution of the Republic of South Africa*, hereafter the Constitution, recognises eleven languages as being the republic's official languages while explicitly acknowledging the historical reduced use and status of indigenous languages and committing the state to promote such languages (Republic of South Africa 1996). The eleven languages include English, which is prominent as the *lingua franca* and perceived language of social mobility. Afrikaans, which historically had a high status because of its support by the apartheid governments before 1994 and then nine indigenous languages: siSwati, isiNdebele, isiXhosa and isiZulu make up the Nguni language group; the Sotho group of languages includes Sepedi (also more neutrally known and Sesotho sa Leboa or Northern Sotho), Sesotho and Setswana; as well as Tshivenḓa and Xitsonga. Despite the mentioned languages being grouped as *indigenous languages* in this chapter, it is essential to note that they are considered independent and functional languages in their own right. The grouping is not intended as an act of de-naming or othering.

Furthermore, recognition and status between these languages vary according to the number of speakers and geographical location. However, they are considered together in terms of wider national recognition and overall trends. In a discussion on language and social justice, it is necessary to consider that one can regard 'language as social action that operates to reduce social justice but can equally be used to create more equitable societies' (Barakos 2020:271). Furthermore, languages are viewed in this

chapter not as separate compartmentalisable units but rather as social constructions on a dynamic continuum and within the context of integrational linguistics (Chaka 2020).

Social justice has implications for education as it is becoming increasingly relevant to the educational context, even leading to the establishment of social justice pedagogy (Cho 2017). When it comes to education, the Constitution (Republic of South Africa 1996) clearly states that '[e]veryone has the right to receive education in the official language or languages of their choice in public higher education institutions (HEIs) where that education is reasonably practicable'. English and monolingual approaches dominate HE in South Africa despite constitutional and policy requirements (Makalela 2018), with a continued diminishing role of Afrikaans as a language of learning and teaching. There have been many symbolic attempts to recognise African languages in university policies, the national minister for the Department of Higher Education and Training (DHET) has also even expressed support for the promotion of indigenous languages in the higher sector, and universities have even tried to make introductory courses for specific indigenous languages compulsory (Olivier 2014a, 2014b).

In terms of the power dynamics of language in HE in South Africa, despite the Constitution recognising eleven official languages, the dynamic has shifted from mainly using only two official languages in HE to using only one language, English, with diminished use of Afrikaans and only symbolic recognition of other indigenous languages (Olivier 2014a; Wright 2002).

Multilingualism in classrooms is regarded as a common reality worldwide (García & Leiva 2014) and in South Africa (Carstens 2016). However, Duchêne (2020) is critical of the general discourses on multilingualism that do not address power relations and social conditions. According to Duchêne (2020:93), 'multilingualism is not neutral, but rather intrinsically embedded in social processes that inform who and what counts as a legitimate speaker, language, and practice'. Furthermore, the notion 'that acknowledgement of linguistic diversity will foster social progress' is also critically interrogated (Duchêne 2020:94). Consequently, the benefit of mere recognition of multilingualism might not be sufficient and proactive and practical efforts in the education context – as will be expanded upon towards the end of this chapter – might be necessary.

Like many other countries, South Africa has seen many initiatives from the government and society to promote multilingualism and, specifically, indigenous languages (Carstens 2016). However, Smagulova (2021) states that language policy and management through ritualistic and symbolic gestures may not lead to language reforms. Similarly, as Smagulova observed in post-Soviet Kazakhstan, in South Africa, constitutional recognition of indigenous languages has been relatively symbolic.

Literacies as and for social justice

An important aspect regarding social justice and language, and in the context of this chapter, as regards localisation, is the issue of literacies. This chapter should be considered within a context where the concept of literacy has been extended to a myriad of different literacies, either attempting to encompass a range of sub-literacies or being shaped to address a specific need. Broadly, the movement around multiliteracies, as was conceptualised by the New London Group in the 1990s, is relevant to this discussion as this pertains to 'the importance of multiple modalities in meaning-making as well as the value and necessity of diversity in representations and meaning-making' (Serafini & Gee 2017:3). The digital environment and specifically the use of OERs and related OEP require certain digital literacies for use, adaptation and creation. However, because of limitations in access and challenges around infrastructure, teachers and students may lack appropriate digital literacies in the South African context (Hodgkinson-Williams & Trotter 2018).

This concept of multiliteracies shows specific affordances in terms of open education (Olivier 2019). A further extension of literacy is the approach of metaliteracy. Metaliteracy has developed from acting as a form of literacy to a broader pedagogical framework. In the context of this chapter, metaliteracy is also relevant as it 'promotes critical thinking and collaboration in a digital age, providing a comprehensive framework to effectively participate in social media and online communities', and it is considered as 'a unified construct that supports the acquisition, production, and sharing of knowledge in collaborative online communities' (Mackey & Jacobson 2011:62). Importantly, from a social justice point of view, it is essential to take note of how metaliteracy puts the student in the centre of the learning and critically supports student content creation (O'Brien et al. 2017).

North (2016) distinguishes between five types of different social justice literacies. This includes functional, critical, relational, democratic, and visionary literacy. Aspects of these literacies can be infused in OEP. As North (2016) notes, these competencies are required to excel academically and 'effect positive change at local and more global levels'. The five types of social justice literacies are briefly considered in terms of the focus of this chapter.

There seems to be a tension between functional literacy, which relates to functioning independently in terms of language ability, and critical literacy, which challenges prevailing knowledge paradigms (Cho 2017). Critical literacy is traced back to the work of Paulo Freire. This literacy is regarded as 'an overtly political orientation to teaching and learning and to the cultural, ideological, and sociolinguistic content of the curriculum', which also focuses explicitly on 'uses of literacy for social justice in marginalised and disenfranchised communities' (Luke 2012:5). Within this context, literacy in itself becomes integral to attempts to address social justice issues.

In moving towards developing visionary literacy, localised OEPs must allow for the development of students' own stories and recognise them as key contributors to the open resource content in a self-directed manner.

Open educational resources and localised self-directed open educational practices

Open educational resources and self-directed open educational practices

An essential benefit of OERs is that they can be adapted and localised to be aligned with the language and content needs of a specific learning context. These needs extend to the student and are also relevant for SDL within an open context (cf. Chapter 3). As stated at the start of the chapter, OERs can be used as a learning tool in themselves through OEPs. The opportunities for increased access and making learning culturally relevant are important reasons for using OERs and the movement around the resources (Hodgkinson-Williams & Trotter 2018). In terms of open education in South Africa, it is essential to note that '[c]hallenges still remain at the political level where national and institutional IP [intellectual property] legislation and/or regulations often restrict educators from sharing their teaching and learning materials' (Hodgkinson-Williams & Trotter 2018:220).

Open educational practices are also interpreted as open pedagogy or OER-enabled pedagogy by some scholars. For Bali et al. (2020:1), OEPs refer to the use of OERs but also to 'multiple forms of openness beyond or even without OER'. Wiley and Hilton (2018:135) view OER-enabled pedagogy as a 'set of teaching and learning practices that are only possible or practical in the context of the 5R permissions which are characteristic of OER'. In addition to David Wiley's (2021) 5Rs – retain, re-use, revise, remix and redistribute – Olivier (2020a) also suggests adding recontextualise, which relates explicitly to localisation as it pertains to

> [*T*]he right to append, adapt or modify content to be relevant to a specific learning context while considering existing biases and hegemony of knowledge from the West and the Global North. (p. 23)

Any self-directed OEPs within a South African context should consider not only the 5Rs but also specifically the needs for continued recontextualisation to address the varied and dynamic needs of students. In the reporting of the Research on Open Educational Resources for Development (ROER4D) project, Hodgkinson-Williams and Trotter (2018) note that in that project, OEPs involved

> [/]individual or collaborative conceptualisation; creation, curation (retention), circulation (distribution) of OER through practices such as open pedagogies; crowdsourcing; and open peer-review using open technologies so that they can be easily located to encourage copying (re-use 'as is'), adaptation, re-curation and re-circulation. (p. 205)

Despite the advantages of OERs and OEPs, South Africa, as is the case in many parts of the Global South, has certain restrictions. In this regard, Hodgkinson-Williams and Trotter (2018) observe that

> [*E*]ducators and students in the Global South may be impeded from full participation by the lack of access to necessary educational infrastructure and materials, such as adequate buildings for instruction, uninterrupted power supply, functional technological equipment, affordable and stable connectivity and access to requisite educational materials. (p. 207)

It is therefore important to address these challenges in order to allow for the effective implementation of OEPs within the South African context.

Open educational practices and social justice

Using Sleeter's (2015) dimensions of social justice, education provides a solid foundation for localised OEPs. Firstly, it is essential to *situate communities* in terms of structural inequities. In this regard, lingual dispositions and multilingual repertoires should be considered within broader local and national policies and systems. For the sake of open pedagogy, *developing relationships of reciprocity in terms of students and the wider community* allows for content to be localised for specific students in their specific social contexts. Moreover, the inputs from the broader community in terms of learning content cannot be overstated. Underlying the open localised approach advocated for in this chapter is explicitly informing the teaching process with *expectations building specifically on the culture, language, experience and identity of students*. Despite the focus of localisation on the learning content and language, the process itself should also be framed by students' culture and experiences. Finally, localised open content should overtly address marginalised perspectives and cover aspects of *inequity and power*. These four dimensions of Sleeter (2015) provide a bridge between social justice and the learning process and also provide a solid basis for more equitable and relevant localised open pedagogy.

The role of OEPs in social justice should be considered within the broader approach to social justice and education. In this regard, this chapter is aligned with Ogange and Carr's (2021) dual view of social justice:

> When looking at social justice in terms of education, we can conceptualise two facets: accessing education as a learner, a form of distributive justice, and participating in shaping education systems and processes, as a co-creator and contributor to one's own learning experience, which speaks to recognitional and associational justice. (p. 63)

When it comes to OEPs, the emphasis would be on the second face relating to co-creation and student agency within the learning process.

Localisation as part of self-directed open educational practices

As stated at the start of the chapter, localisation implies adapting both content and language to make a resource appropriate for a specific context. The term localisation is used in different disciplines and for different purposes. Wolfenden and Adinolfi (2019:327–328) state that localisation 'encompasses both adaptation (adjusting the content of materials to distinct environmental and contextual factors) and translation (converting the text or audio to a different language or linguistic variety)'. The term can also be used to adapt the education system in terms of values, knowledge, technologies and norms (Geo-Jaja 2013). However, the term is also widely used in the field of translation studies.

Language is central to any realisation of OEPs as learning is regarded as an act of communication (Canale 2019; Olivier 2020b) and communication is essential to SDL in an open context (Olivier 2020a). Amiel (2013), in reference to remixing, refers explicitly to the role of language within the process of finding, relating, creating and sharing resources, as there are lingual aspects relevant to all these steps. Furthermore, Amiel (2013) highlights the importance of repositories and tools being open in the languages relevant to remixing to support the process.

It has been proposed that teachers and students be supported to become self-directed in the process of localisation within OEPs. In this regard, Olivier (2020a) observes that there is a need for 'an open ongoing process which provides agency to local teachers and students to use the language of their choice to engage with content applicable and relevant to their contexts' (p. 26). This need for agency is highlighted by Du Toit-Brits and Blignaut (2021) as well as Wolfenden and Adinolfi (2019). In their research, it was clear that different individuals from different subjects acted differently as regards the extent to which localisers would feel comfortable changing the content of resources. Furthermore, within the precolonial African context, this lifelong learning approach also aligns with the idea that '[t]he teacher in precolonial Africa never stopped learning, which means the teacher was also a learner' (Mosweunyane 2013:53).

Significantly, Acharya (2019) highlights how the localisation of technical products has the potential to promote social justice. Furthermore, Acharya (2019:22) notes that in terms of 'a social justice perspective, participatory localisation for usability empowers the local users, especially those whose role is often deemed less important to play during the design process'. Hodgkinson-Williams and Trotter (2018:220) also noted the importance of localised content. However, they make the following observation: 'localised OER are not always re-disseminated on public platforms, thereby unintentionally lowering the potential value of these localised resources'. They

also advocate for the re-acculturation of material in order to 'create or remix OER that critically engage with and challenge hegemonic perspectives, to deliberately encourage a more deliberately "pluralist" perspective' and ultimately also share such OERs (Hodgkinson-Williams & Trotter 2018:220).

Open translanguaging through localisation

Alternative ways of knowing

The need for localisation is primarily related to linguistic representation. However, there is also a need to adapt content to be relevant within the context in which it will be used. In this regard, Amiel (2013:136) observes that '[t]here is a need to foment the production of local knowledge and indigenous ways of knowing in order to foster adequate learning opportunities'. It is proposed in this chapter that such ways of knowing can be supported through open translanguaging for localisation.

It is also essential that OEPs be underpinned by a theoretical foundation focused on learning and collaboration as is associated with SDL. In drawing from social constructivist ideas (Holmes et al. 2001), it is essential to move from merely collaborating for learning to collaborate for the benefit of others. In this regard, it is proposed that OEPs as open translanguaging be approached from a communal constructivist perspective. In this regard, Holmes et al. (2001) describe communal constructivism as

> [*A*]n approach to learning in which students not only construct their own knowledge (constructivism) as a result of interacting with their environment (social constructivism) but are also actively engaged in the process of constructing knowledge *for* their learning community [emphasis in the original]. (p. 1)

Open translanguaging as OEPs implies knowing and knowing through others in a contextualised manner. Furthermore, such OEPs rely heavily on the translanguaging process and the affordances it provides to students as creators.

Translanguaging as a self-directed open process

Translanguaging is considered a fairly common and natural phenomenon in multicultural contexts (Sefotho & Makalela 2017). It is essential to take note that García and Leiva (2014:214) contend that 'all doing is knowing and languaging, and all-knowing and languaging is doing, will there be a space to educate all children equitably and for social justice', and this implies that students who are bilingual should 'be allowed to build on their translanguaging practices, their peers must be engaged in translanguaging discourses, and teachers must value translanguaging and build on those flexible practices'. In this regard, students should be supported to make use of the available language codes in a self-directed manner.

The concept of translanguaging has been interpreted within the South African and, more specifically, African context as *ubuntu translanguaging* (Makalela 2018) as it is regarded as an African cultural competence within an 'African worldview where there is a deep sense of cultural and social understanding of oneness or familyhood' (Sefotho & Makalela 2017). Chaka (2020) considers *ubuntu* translanguaging one of seven general frameworks of translanguaging, as evidenced through a systematic review of translanguaging literature. This communal approach to translanguaging also epistemologically ties in with the basic tenets of SDL in terms of *ubuntu* (cf. Du Toit-Brits, Blignaut & Mzuza 2021). Furthermore, Makalela (2018) also makes the following important statement in this regard:

> Beyond deeper learning, in ubuntu one discovers the humane nature of the education enterprise and its decolonising outcome. In multi-languaging we find a plural vision of interdependence of the language systems and their fluid, overlapping and discursive nature to match the cultural competence of the students and their everyday ways of making sense of who they are and of the world. (p. 9)

So, through a contextualised form of translanguaging or, as Makalela (2018) calls it, *ubuntu* translanguaging or even multi-languaging, empowering students to use their language resources in itself may have social justice implications. However, in this process, the realities of different languages and multilingualism should be considered for the sake of practical implementation. Consequently, the issue of language harmonisation should also be considered.

☐ Harmonisation as a pragmatic localisation approach

An important issue within the South African context is the potential for language harmonisation. Historically single languages have been divided into multiple languages through interventions by missionaries and the language politics of the day. These 'languages' are considered unique entities despite mutual intelligibility (Makalela 2018; Sefotho & Makalela 2017). In a study related to the Sotho languages (Sefotho & Makalela 2017), it was found that in terms of decoding and comprehension across the borders of related languages, there are no clear differences in understanding when moving between languages.

The harmonisation of related languages is not a new concept and was already raised by Nhlapo (1945) in the 1940s. Despite initial combined developmental efforts between related languages, the apartheid government emphasised language independence and differences. Consequently, languages were also deemed symbols of autonomy and self-identity in the ethnically segregated homelands (Msimang 1994).

Within the context of open translanguaging and ultimately localised OEPs, it should be considered within the South African context that collaboration takes place within related languages. Furthermore, the benefit of pivot

translations of texts between related languages should be considered as this might ease localisation in even more languages.

Recommendations

The broader use of localised OERs and OEPs would require new approaches to recognition within institutions, specifically addressing challenges around universities' IP policies (Cox et al. 2020). Consequently, as important as it is that initiatives for localised self-directed OEPs are started from the bottom at the classroom level, the policy context should also be conducive to localised OEPs.

Lecturing staff should be motivated and incentivised to localise OERs and embed this in pedagogies supportive of SDL. Amiel (2013) notes the barriers to getting instructors involved in the authoring process and engaging with OERs. In this regard, the language repertoires of lecturing staff should be employed as a valuable supporting resource within the localising process.

Localisation activities should be approached in a participatory manner. In this regard, Ogange and Carr (2021) note the importance of participatory OER adaptation. It allows for a quality process that draws on communal and diverse expertise, supports student agency and self-direction and allows for peer-review processes to ensure the quality of the resources. Collaboration between lecturers and especially between students in the localised OEPs should be considered essential. In this regard, Wolfenden and Adinolfi (2019) are of the opinion that

> [*L*]ocalisation process needs to both draw on the expertise that the localisers bring and enable their participation to go beyond the familiar, allowing them to see the value of engaging in a practice which they may not previously have associated with what it means to be an educator. (p. 341)

Amiel (2013) also advocates for participatory practices in terms of remixing where translation is involved.

Microlearning may also present many opportunities in terms of OERs on a practical level. In terms of defining this concept, Corbeil, Corbeil and Khan (2021) share the following definition of microlearning as proposed by Khan in 2020:

> Microlearning can be viewed as a single objective-focused, outcome-based, stand-alone, meaningful, and interactive learning unit delivered in bite-sized snippets (i.e., a short modular format) either digitally (i.e., via computer, tablet, or mobile phone) or non-digitally (i.e. as via a flashcard or booklet). (p. 4)

The use of microlearning in terms of OERs and social justice is highlighted by Ogange and Carr (2021). Olivier (2021a) noted how short student-generated videos as microlearning objects could be used effectively for learning and be shared as OERs. Such an approach also shows promise towards localisation of OERs.

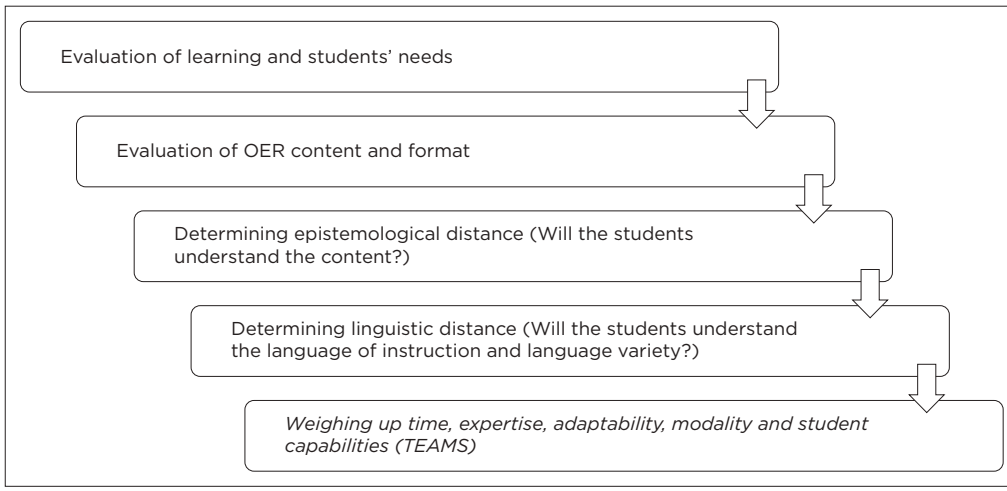
Any discussion about language and social justice should not merely focus on the language but rather, in the words of Barakos (2020:276), 'which agents, institutions, affects, discourses, and ideologies shape the way language is vested in (re)producing justice'. Hence, it is essential to specifically look at the societal power structures around, and linked to, language, and not merely language itself. As was noted by Duchêne (2020), mere recognition and enthusiasm about multilingualism may not lead to actual change or affordances from the use of more languages in a lingually unfair context.

Infrastructure and the broader ecosystem should be conducive to open practices and access to resources (Amiel 2013). Furthermore, it is recommended that repositories provide additional instructions and guidance towards effective localisation. This issue aligns with Amiel's (2013) concern regarding little guidance in remixing within the OER repository contexts. Similarly, Ogange and Carr (2021) also emphasise that in terms of social justice when working with OERs, the content should be considered, and the delivery medium as the nature of the technology may potentially exclude possible relevant persons. Furthermore, a multimodal approach might be necessary as, in some cases, OERs that are only available online might not be accessible to the target audience (Ogange & Carr 2021). This sentiment aligns with Olivier's (2020b) view that for students to be part of the OERs creation process would imply self-directed multimodal learning, which involves students taking charge of their own learning in the negotiation of different educational levels of multimodality. This covers not only blends of technologies but also different modes of communication and classroom delivery.

Certain language-specific issues also need to be considered in implementing open localisation practices. To this end, students need to be empowered through training on translanguaging practices and relevant corpora of translated content be created (Makalela 2018) that can be shared for broader re-use and ultimately to support language standardisation. Consequently, at a policy level, compulsory open licensing of translated content in African languages in a context such as South Africa should be seriously considered.

Based on the literature review, five steps towards localised self-directed OEPs are recommended, as shown in Figure 2.1.

From Figure 2.1, some form of evaluation of the needs would be necessary to empower students for the translanguaging and localised self-directed OEP processes. In addition, within the context of open education, it is essential to consider whether existing OERs cannot be re-used rather than merely be created. Furthermore, issues around understanding content (epistemological distance) and language (linguistic distance) need to be considered. For more on epistemological and linguistic or language distance, see Olivier (2021b). Finally, the process of localised OEPs will also be informed by the available time, expertise, adaptability, the relevant modality and student capabilities.



Key: OER, open educational resource time, expertise, adaptability, modality and student.
FIGURE 2.1: Steps towards localised self-directed open educational practices.

Conclusion

In conclusion, it is considered that a move towards localised self-directed OEPs could support a return to the precolonial African notion that is aligned with a social constructivist and, more specifically, communal constructivist (Holmes et al. 2001) ideals. In this regard, Mosweunyane (2013:53) notes that historically, 'every member of an African society was a teacher by virtue of them having vast experience that was worthy'. Furthermore, localised self-directed OEPs may potentially be a vehicle for negotiating social justice issues around access in terms of language (cf. Mwaniki 2012) as it allows for a more open, participatory and communal approach to language accommodation and recognition. Localised self-directed OEPs through digital technologies allow for student-driven translanguaging practices that are not limited by distance, adaptive systems responsive to language preferences and open language repositories that allow for the sharing of linguistic data.

This chapter explored the affordances of localised self-directed OEPs towards multilingual digital education for social justice in South Africa. The unique South African context shows the importance of language in terms of social justice in education. However, approaching language in this way also relates to global approaches to social justice and language and issues around intersectionality. Despite constitutional guarantees around multilingualism, monolingualism is a reality in South African HE. Furthermore, embracing various literacies is a crucial prerequisite for any localised OEPs and addressing relevant social justice issues.

The social justice potential of OEPs should be embraced as it may have a positive impact on students and their self-directedness in this context. In this regard, this chapter proposes building on the two elements of positive impact noted by Bali et al. (2020):

> [*F*]irstly, when used with individuals in marginalized populations, and secondly, in the long-term development of students as citizens who learn how they might empower others when they are in a context to do so. (p. 10)

In this chapter, it is proposed that through a communal constructivist approach, students may become active agents in localising OERs through open translanguaging activities where they use their language repertoires. This open translanguaging through localisation implies different ways of knowing, a totally open process, and considering the opportunities posed through language harmonisation. Finally, some practical recommendations are made towards localised OEPs through open translanguaging.

Chapter 3

Open educational resources' likely contributions to education and implications for self-directed learning

Cornelie Nienaber-Rousseau
Centre of Excellence for Nutrition,
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa

Medical Research Council Unit for Hypertension and Cardiovascular Disease,
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa

Charlene du Toit-Brits
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Potchefstroom, South Africa

Abstract

Open educational resources (OERs) under open copyright license are emerging as a result of technological advances and improved Internet access. Incorporating OERs has benefits for education, including implications for self-directed learning, but only a small body of research provides empirical evidence of such benefits for use in convincing decision-makers to invest in OERs and educators to embrace them. Our review of the literature reveals an

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urgent need for researchers to investigate improved ways to develop and use OERs. Preliminary studies suggest significant cost-savings when OERs replace traditional textbooks, so investigating and deploying OERs seems worthwhile. However, embracing OERs is hampered by challenges, stakeholders remain largely unaware of these materials and finding suitable OERs and appraising their quality is difficult. The pace of wide-scale adoption of OERs could be accelerated with evidence to convince investors of their benefits and by steering educators towards the best ways to develop and use these resources.

Introduction

As information technologies improve, OERs used in open education practices (OEPs), as well as open-source software, could potentially help to address some of the challenges faced by education systems worldwide. As defined by the William and Flora Hewlett Foundation (2018), OERs are:

> [*T*]eaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. (n.p.)

The comparatively unrestricted legal copyright licences attached to OERs, in contrast to other materials, offer an unprecedented opportunity to develop and co-create educational materials without needing further permissions (Kawachi 2014). Growing numbers of OERs are becoming available (McKerlich, Ives & McGreal 2013). However, the OER movement has not permeated formal education despite rising interest and the appeal of adopting open-access resources (Al Abri & Dabbagh 2018). Furthermore, there is a large gap between educators who are aware of OERs or willing to consider them and those who actively use them (Baker 2008; Padhi 2018). In addition, awareness of higher education (HE) amongst faculty members and students remains low (Allen & Seaman 2014, 2016).

Numerous claims are made by OER proponents, even as further potential benefits remain unexplored, with more expected to emerge in future. Appreciating current benefits is a necessary starting point, but hard evidence is needed both to convince governments, organisations, institutions, educators and other stakeholders to invest and for the OER movement to expand and flourish. The claims should be reviewed in terms of whether they remain theoretical or whether there is scientific evidence to support them and to direct and steer researchers. Broadening the espousal of OERs across education institutions requires proof of their effectiveness in teaching-learning, including self-directed learning (SDL). When enough indisputable evidence has accrued to support the use of these resources, wide-scale OER investment could be motivated to nurture a diverse and inclusive ecosystem in which open content is shared and OEPs place information in reach of all as

a public good. In this way, some of the challenges faced by the education sector can be more effectively addressed.

Methodology

Given that OERs offer relatively new advantageous scenarios, including the replacement of expensive proprietary textbooks, surveying the evidence in terms of perceived advantages and disadvantages and identifying gaps that can be filled with serious research is paramount when informing governments, education sectors, and policy and other decision-makers. To this end, the present review explores the advantages of OERs in the literature, determines whether the rewards claimed are evidence-based or whether more research is needed in support and suggests studies or standardisation of methods to allow comparisons. We argue, amongst other things, that OER adoption can improve the quality of the learning experience, especially SDL, by assisting flexibility and openness of resources. Also, because of the challenges of embracing OERs – including initial development cost, insufficient awareness of them, and difficulties associated with finding, appraising and using them – we identify them and recommend future research directions that could guide and facilitate effective OER development and deployment.

Defining open educational resources and self-directed learning

The benefits of OERs have been linked to their characteristics. Therefore, understanding their nature is important for appreciating their potential impact when adopted. Open educational resources are teaching, learning and research resources and materials in any medium and format that belong to the 'public domain' or resources not protected by copyright, or with expired copyright protection, or a combination of these, can be accessed without payment of any fee and are available for retention, reuse, adaptation, revision, remixing or editing, re-purposing and redistribution (UNESCO 2020). Wiley has introduced the 5R framework based on five permissions under the Creative Commons licences, which allow users to (1) *retain* the original material as well as control copies; (2) *reuse* original work as an exact copy; (3) *revise* original subject matter by adapting, improving and or translating; (4) *remix* original material through incorporation with other content and (5) *redistribute* the resource amongst educators, students or the public. Although OERs can be non-digital, Kawachi (2014) suggests that conveying their benefits would require them to be available in digitised form at some point to enable them to be stored, searched, retrieved, reused and shared, and proposes defining an OER as

> [*A*] digital self-contained unit of self-assessable teaching with an explicit, measurable learning objective, having an open licence clearly attached to allow adapting and generally being free-of-cost to reuse. (p. 12)

Chapter 1 has defined SDL, but, to repeat, Knowles (1975) defines it as:

> [*A*] process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (p. 18)

Benefits of open educational resources

Drawing on the inherent nature of OERs, the Hewlett Foundation (2013) summarised their potential benefits as:

> (a) to offer access to knowledge for all, (b) to reduce the cost of education, (c) to deliver greater learning efficiency, (d) to promote continuous improvement of instruction and personalised learning, and (e) to encourage translation and localisation of content. (n.p.)

The present review extends these categories by adding subsections, and proposing advantages of OERs, beyond those previously suggested, relating to ways in which they could be more environmentally friendly, improve learning by opening possibilities for SDL practices, potentially harness technology in line with the fourth industrial revolution (4IR), move students from being mere users of information to co-creators of it and advance research as part of the 'credibility revolution'.

Benefits to students and those that support them financially, the education sector and society at large

Expanded accessibility

As Nelson Mandela famously observed (Nelson Mandela Institute for Education and Rural Development 2022:n.p.), 'it is not beyond our power to create a world in which all children have access to a good education. Those who do not believe this have small imaginations.'

The availability of learning materials as OERs could provide a crucial tool towards achieving universal and quality education towards the realisation of the United Stations' millennium development goals (MDGs) and Education For All initiatives (United Nations 2011) and the sustainable development goals (SDGs) (United Nations 2022).

In 2015 in South Africa, the #FeesMustFall student revolt against denial of admission to, and economic exclusion from, HE again placed the spotlight on lowering the cost of education to improve accessibility for those with lower socioeconomic status (Godsell, Chikane & Mpofu-Walsh 2016). In some parts of the world, particularly in developing low- and middle-income countries (LMICs), expenses linked to education – including tuition fees, accommodation, travel and study materials – can be prohibitive, precluding citizens from

attaining even a basic level of education (Bhavnani et al. 2008). Education entails more than merely providing free admittance to learning content; it needs to facilitate the formation of learning communities so that interaction, sharing of experiences and learning, and more can take place (Ally & Samaka 2013). Therefore, costs can be lowered only partly through the incorporation of OERs, and open education processes are needed (Knox 2013). Nevertheless, making high-quality educational materials available could equalise access to knowledge for all, irrespective of people's location, status or background (Conole 2012).

Great strides have been made in developing learning technologies that allow knowledge sharing, permit OEPs, and provide free and open-source software and open content, in all of which OERs play an important part. It has been argued that inadequate access to computers makes it difficult for those in remote locations and, more broadly, in developing countries to access such materials, but these users are now sidestepping the wired desktop or laptop stage and progressing directly towards the adoption of wireless mobile tools (Bhavnani et al. 2008). Whilst mobile devices with improved technology are becoming reasonably priced, the cost of Internet data remains high in several areas of the world. However, solutions are possible, for example, during the height of the coronavirus disease 2019 (COVID-19) pandemic in 2020–2021, South African universities negotiated for their online sites to be available free of charge for registered visitors. Whilst OERs and OEPs are quickly increasing in developed western countries, their adoption is lagging in LMIC, including those in sub-Saharan Africa (Mtebe & Raisamo 2014) and the East (Hu et al. 2015), and this issue would need to be overcome for the envisioned benefits to be fully realised and for the achievement of social justice and more inclusive practice.

Improved technology and the erosion and disappearance of the digital hardware divide coupled with the introduction of OERs could also reduce the access barrier and learning divide (Ally & Samaka 2013). Eliminating at least some of the related financial barriers to access to education would benefit all, especially previously disadvantaged individuals. It could, for example, impact entry and facilitate career progression by enhancing the representation in the workplace of all people in any society, enabling them to be more productive, improve their quality of life, uplift economies and build nations (Azevedo et al. 2022; Bhavnani et al. 2008).

Currently, the restricted availability of teachers and educators and physical classrooms and the cost of accommodation and travel to attend physical institutions can deny learners or students an education in the present system (Ally & Samaka 2013). For OERs to impact education and to result in Education For All, as well as to reduce the need for millions of educators and physical spaces, a paradigm shift is needed from 'bricks to clicks' (Ally & Samaka 2013).

Rather than spending precious resources on extensive building and maintenance of classrooms, delivering OEPs and educational materials to learners *in situ* could help to service virtual learning communities instead of specific physical schools/colleges/universities and save accommodation and travel expenses (Ally & Samaka 2013). Access to education through the use of mobile technology for delivering OERs within online courses could offer equalising opportunities for all to learn by permitting access from anywhere and at any time, even in difficult conditions such as pandemics (Singh et al. 2020), political instability, natural disaster or other classroom-disrupt scenarios.

Expanded access to traditional, distance and virtual e-learning education could add value in the spheres of lifelong learning and continuing professional development (Al Abri & Dabbagh 2018; Latchem 2014). In addition, OERs expand informal access to education through autonomous, self-directed study and learning (Kawachi 2014). Effective SDL is an acknowledged promoter of lifelong learning (Blignaut & Du Toit-Brits 2022; Tekkol & Demirel 2018), enabling learners to adapt to a continuously changing universe of information and problems (Van Woezik, Reuzel & Koksma 2019). It boosts students' desire and willingness to continue learning and to improve their learning processes (Du Toit-Brits et al. 2021). The benefits of SDL through OEP to students' daily lives and future employment have been described as undeniable because it is both progressive and distinct from traditional approaches (Blignaut & Du Toit-Brits 2022; Olivier 2020) (see the 'Improved student learning' section for ways in which combining open education with SDL practices could impact learning). Further research is needed, however, to understand more fully the optimal conditions for designing and developing effective OERs based on SDL pedagogy for lifelong learning (Ally & Samaka 2013).

To promote reaching those not reached so far, Kawachi (2014) suggests translating OERs into local languages to augment access to information (see also the section 'Improved study materials: Quality, context and language preferences'). To the best of our knowledge, research to quantify increased information and education accessibility is scarce – possibly because OERs have been slow to be fully utilised in education sectors and it may be too early to measure effects on accessibility. As OERs start impacting education more profoundly and reducing costs more substantially, researchers and economists will be able to design studies that quantify OER influences on information and access to education. However, preliminary data already suggest reductions in cost that would contribute to improving access.

□ Lowered cost of education

Budgets for education are often restricted and even tightened. Learning resources are accessible at a cost for educators and learners or may be

available only at specific locations (schools or libraries), which requires users to travel to get access (Ally & Samaka 2013). Textbook costs keep rising (exceeding normal inflation rates) and have been contributing to rising education costs (Allen & PIRG 2010), so sharing OERs can reduce financial barriers for students' access to educational material. Advocates for using OERs to replace traditional publisher-produced proprietary textbooks claim cost-savings as a major reason, and the literature contains the most evidence for this benefit (Hilton III et al. 2014; Wiley et al. 2012). Given the limited samples of educators and disciplines in existing studies, further work on a larger, more comprehensive scale is needed. Several approaches have been used to estimate costs. A standardised method would allow the accrual of studies' results and comparisons. Wiley et al. (2012), for example, suggested incorporating teacher input in combination with OER production costs; they

> [*S*]ummed the money paid to teachers for participating in professional development/training activities, estimated the monetary value of the unpaid time teachers spent making their adaptations (at a rate per hour which should be standardised per country/district per year), and added these to the printing-related costs (including printing, binding, tax, and shipping or delivery costs). (p. 266)

Wiley et al. also factored in the number of students served. Hilton III et al. (2014) simplified their analysis by assuming that OERs are free. In digital formats, hardware, software and Internet costs should be considered. Computing the cost of traditional textbooks (e.g. as reported by bookstores or online stores or other sources), new or second-hand/used hard copies, hard copy versions or digital versions, with or without shipping or delivery costs, should also be standardised to facilitate study-replication. Non-purchasing behaviours, such as borrowing, renting, sharing textbooks, or using a library copy, or even actions that undermine traditional copyright, could affect the costs of traditional published books as well as address some of the difficulties when conducting such research *ex post facto*. In addition, surveying students enrolled in a course to obtain data on non-purchasing behaviour and the cost involved, such as travelling to the library, could yield more trustworthy cost analyses.

Giving or lending mobile technology to learners at entry level and supporting students with data to connect to the Internet in countries where individuals do not own their devices or where Internet access is expensive would increase costs for the education sector and also affect students' budgets. However, Ally and Samaka (2013) argue the former would be an easier task than designing and delivering inexpensive teaching and learning resources for access with mobile devices. They observe that many innovative technology-based education initiatives have failed not because of technological shortcomings but because of a dearth of quality content. Studies on costing conclude that the ideal situation is for international philanthropic and public funding to be used initially in OER creation and afterwards to allow private

initiatives to globalise or localise and use the materials (Kawachi 2008; Robinson 2008). For OERs to break into mainstream education, they must improve through collaborative efforts to reduce developmental costs (Wiley et al. 2012). Such coordinated projects improve efficiency because having various instructors designing learning material for the same class content misuses human resources as well as time – that could have been spent tutoring students (Ally & Samaka 2013).

Although developmental costs need to be considered, time spent to locate, vet or appraise and select OERs and then adapt or remix them can add substantially to the cost of adopting OERs. These factors are complex (Wiley et al. 2012) and are not easily researched. Some studies have considered the time spent on modifying OERs but note that the time used does not necessarily correlate with the extent of alteration – some quick alterations, such as removing chapters, can result in large changes, whereas amending content requires more time and results in comparatively smaller changes (Wiley et al. 2012). Therefore, researchers should not only ask educators to report on the percentage of modification but also on the time it took. The cost of maintaining and processing the developed materials in repositories to facilitate sharing should also be estimated. Another neglected cost involves training educators in searching for and using the technology, customising OERs, and implementing their use. These expenses should be calculated and considered carefully by the education sector. Coordinated collaboration in the development of OERs, such as new course designs and textbooks, could substantially lower development costs and improve quality (Wiley et al. 2012). In some instances, the creation cost of OERs is funded by grants from foundations, governments (Baker et al. 2009; Hilton III et al. 2014; Tlili et al. 2019) or universities (e.g. NWU OER Fellowship project, funded by institutional grants); in other instances, by the free time of instructors who are willing to share their work. Development costs are one-time costs, amortised when the OERs are used effectively by educators and students (Hilton III et al. 2014). In the long term, cost-savings for the education sector could be envisaged when teachers and lecturers can access lesson plans online, saving time, effort and money and serving more students per instructor with less need for physical classrooms (Ally & Samaka 2013; Pownall et al. 2021). Indirect cost benefits because of better student retention are also envisioned with OERs (Kawachi 2014). Whilst the cost of OER production and consumption remains to be established but is probably substantial, the potential cost-savings for learners make OERs valuable to explore and will contribute to the sustainability of their adoption.

□ Lowered environmental impact of education

If OERs are digitised – recommended as essential (Kawachi 2014) – and replace printed textbooks, OERs could be more environmentally friendly. Even if OERs are printed, it would be commensurate in a reduced environmental impact

because they are customised to contain only the information needed for achieving the course's learning outcomes as opposed to prescribed textbooks containing elaborate content. Studies have indicated, moreover, that students using electronic textbooks achieved comparable mastery of outcomes to those using traditional textbooks (Daniel & Woody 2013; Grissett & Huffman 2019). Some work indicates that materials with interactivity led to improved course outcomes (Edgcomb et al. 2015). Currently, no research has endeavoured to measure the reduced perceived effect of OERs used instead of textbooks on the environment.

Benefits for students

Improved student learning

To widen the adoption of OERs, the effectiveness of their influence on learning must be demonstrated, as well as whether the quantity and quality of learning they facilitate warrants the development costs. Well-designed, customisable and openly licensed materials are not just a key part of cost-saving, but their advocates also cite improved learning outcomes as a benefit.

Although studies are only now emerging that report on feedback from learners and students about improved learning achieved through the use of OERs, several reasons have been postulated. One is that students often fail to purchase traditional textbooks because they cannot afford them. The introduction of OERs to such students gives them access to the study material (but no evidence is available as yet to support this claim). Some researchers have observed no apparent differences in students' results (Grissett & Huffman 2019; Wiley et al. 2012) and no evidence that OERs improved student mastery compared with previous years when the same instructor prescribed traditional textbooks. Grissett and Huffman (2019) reported that students who compared using open textbooks and those from traditional publishers perceived cost, weight and convenience as advantages of open textbooks and cited reading ease, convenience, ability to annotate, to search a topic quickly and as a reference as the benefits of traditional textbooks. More research in this regard is needed, especially from developing countries such as South Africa. There are practical difficulties in researching changes in student outcome scores related to the use of OERs compared to traditional textbooks. Controlling for variability among instructors when investigating changes in learning by following up on teachers is preferred (Wiley et al. 2012). Using previously available data to compare when the same course used traditional textbooks versus prescribing OERs also poses difficulties in that educators move (Wiley et al. 2012) or gain experience and therefore might teach better so that improvements are not only due to the incorporation of the OER but partly to other confounding factors. Controlling for increased experience is more difficult and could be done statistically or approached by at least using comparative data that are not separated by long time periods in between.

Other reasons suggested for improved learning when OERs are used include the fact that OERs often contain multimedia and other interactive elements that could engage students better than traditional textbooks. Furthermore, OERs could democratise knowledge and empower learners and students more effectively. Access to materials by many authors with varied perspectives and views could help students to achieve course and programme goals and could also contribute to the global citizenry and greater in-depth understanding (currently, evidence for this view raised here is lacking). Open educational resources could promote deep learning through problem-based learning in which learners are given problems to solve, during which process they have to locate the necessary information and apply it (Hmelo-Silver et al. 2007). Using mobile technology during problem-solving allows learners to access information as OERs improve access to learning materials. Improved access to remedial study resources in the form of OERs could also help to reduce dropouts from formal education and improve retention of at-risk students (Kawachi 2014; Weller et al. 2017).

Including OERs in blended or online learning modalities can support learner autonomy, self-reliance and independence, leading to learning that can be more self-directed and learner-centred. As reviewed in Chapter 1, SDL occurs when a person or group of students takes charge of the learning process and accepts responsibility for and the consequences of such learning. To facilitate SDL, educators jettison their traditional role as 'givers of knowledge' (Du Toit-Brits 2018), break down traditional power structures and shift the classroom to one where the student and the educator work together to create a valuable and meaningful learning experience (Wiley & Hilton III 2018). Student participation in the learning process is essential to provide meaning to teaching and learning (education). Self-directed learning supported with OERs is an active meaning-making process in which students should not be viewed as passive recipients of learning content but rather as active and self-directed contributors to the learning process, developing a consequential understanding of the learning content and resources available in their learning setting (Du Toit-Brits 2018). Du Toit-Brits (2018) believes that students should be encouraged to pursue their personal development with an emphasis on:

> [*L*]earning as belonging, learning as becoming, learning as experiencing, and learning as doing. (p. 54)

A solid teaching objective, focus on independence, a positive attitude toward SDL, and being practitioners of SDL themselves and incorporating OERs in SDL may help educators to establish learning circumstances that encourage students to own their learning (Blignaut & Du Toit-Brits 2022; Du Toit-Brits 2015; Olivier 2020). Students need to be skilled in controlling and master SDL to foster a focus on independence in students' approach to open education (Du Toit-Brits 2018).

Students derive several benefits from SDL. One of these is that self-directed learners create a commitment to learning, actively participate in the process and overcome obstacles to learning (Blignaut & Du Toit-Brits 2022). Integrating SDL with OERs and real-world learning can potentially increase students' appreciation for the significance of such learning and the value of its contribution to their future jobs or careers (Du Toit-Brits et al. 2021; Olivier 2020).

Open education can be seen as a creative and innovative development in teaching-learning that provides students with the opportunity for creativity and self-direction (Picciano 2021). The potential of using OERs in OEPs to improve the nurturing of student interaction and to generate opportunities for innovative teaching that focuses on getting students to take ownership of their learning advocates for open education (Cronin & MacLaren 2018; Olivier 2020; Picciano 2021). Open education can also be seen as a learner-centred approach that fosters self-directedness and SDL skills by promoting and empowering students to improve their ability and willingness to use OERs in a creative, collaborative and encouraging learning environment (Cronin & MacLaren 2018). Cronin and MacLaren (2018) believe that students need to be empowered with appropriate skills to explore OERs and find high-quality learning material online to fit their learning needs. They also believe that these skills and OER will give students more autonomy and encourage self-direction in their learning.

Open education has been shown to improve student outcomes, critical thinking and self-direction and generate a stronger sense of satisfaction (Picciano 2021). In addition, research suggests that open education may positively influence student engagement, assist in developing skills essential for educational success and promote motivation (Jung 2019; Picciano 2021). Openness in educational design is explored by Picciano (2021) as increased engagement in creating learning activities such that students themselves are active. Jung (2019) suggests that such openness relates to the establishment of learning objectives, selection of resources used in the teaching-learning process, the activities in which students will participate, and assessment procedures. An atmosphere in which students are thoroughly engaged in the learning processes and OERs needs to be fostered by acknowledging students' learning needs and the purpose of learning and assessment tasks (Du Toit-Brits 2018; Jung 2019). In this way, OEPs can foster, nurture and facilitate the skills of learning to learn. The research reported in this section shows that open education and SDL are progressively developing as desired learning methods worldwide.

Improved study materials: Quality, context and language preferences

Open educational resources include multimedia content (text, images and videos), simulations, interactive materials, website resources and conventional

educational resources (articles, open-access textbooks and digital objects) and collections in repositories include scholarly journal publications and open-access textbooks (McGreal, Anderson & Conrad 2015). Other OER repositories most used by K-12 teachers were TED (technology, entertainment and design) talks, YouTube, KhanAcademy and iTunes, and the formats of OERs frequently used by a sample of teachers were videos, open textbooks, images and quizzes (De los Arcos et al. 2014). These examples show that OERs can widen the variety of resources and provide more interactivity for instructors or learners to support different approaches to learning. The provision of more interactivity to materials, including navigational aids, constitutes a significant improvement over using a traditional textbook (Baker et al. 2009). In addition, learners value pop-ups, in-place glossary definitions, show-and-hide exercises with various problems, interactive simulations and practice quizzes, all of which are possible with digitised content (Baker et al. 2009).

Wide concerns regarding the quality of OERs have been reported, however (Chen 2011; Yilmaz 2011). As more Internet users generate information and learning content and edit such resources, instructors and learners must check the content's trustworthiness, reliability, accuracy and validity (Ally & Samaka 2013). Learners should access content from accredited and credible educational organisations and recognised experts or specialists in the fields being studied (Ally & Samaka 2013). The challenge for OER providers and instructors when reusing OERs is to ensure that the materials are of sufficiently good quality for learners and students to obtain a valid education (Ally & Samaka 2013). Some evidence has emerged that OERs have been perceived to be better or of the same quality as conventional textbooks (Baker et al. 2009; Bliss et al. 2013). In two further studies, faculty reported OER quality to be on par with traditional materials but also indicated that they were unaware of how to judge the quality apart from offering their own perceptions (Allen & Seaman 2014, 2016). Evaluating materials' quality objectively is fraught with difficulties where quality depends on whose perspective is adopted (Kawachi 2014). Defining quality for global use and establishing frameworks to assist in assessing quality is challenging. Fitness for purpose, that is, satisfying the objectives or reasons for conceiving and creating an item (proposed by Harvey and Green [1993]), seems to be the most relevant way to evaluate OERs. It requires that the purpose of the OER be defined (Kawachi 2014). Standardisation of such tools will improve OERs design by creators and enable researchers to conflate similar research results or make comparisons between studies. The TIPS (Teaching and learning process, the Information and material content, the Presentation, product and format, and System, technical and technology) Framework version 1.0 was developed after reviewing various frameworks of quality dimension (Kawachi 2014:14). Further improvements to this framework have been made (TIPS Framework version 2.0) and 205 criteria for quality assessment have been identified that are continually added to and reduced or simplified for ease of use (Kawachi 2014). Notwithstanding the

usefulness of having this framework and others such as OERTrust (Almendro & Silveira 2018) and COUP Framework (https://openedgroup.org/coup), the challenge lies in searching for and judging several OERs before using them. Other initiatives – such as collaboration and peer review by the entire community of instructors linked to carefully curated repositories from accredited and credible educational institutions as trusted clearing houses – have increased user confidence in the quality of the materials in collections (such as MERLOT; http://merlot.org) (Al Abri & Dabbagh 2018) and Connexions (http://cnx.org) (Baker et al. 2009).

Reuse of OERs will enable continuous cycles of content improvement, provided that users offer critical feedback and evaluations of the quality and effectiveness of these resources (Casserly & Smith 2008). The rapid dissemination of information in the form of OERs provides access to relatively more up-to-date information than traditionally published textbooks, and OERs can be disseminated more quickly online in digital formats than traditional publishing allows.

Because licences governing OER use generally permit adaptation, most instructors have adapted, tailored, re-purposed and remixed existing OERs to suit the needs of their students and to promote the opportunity for them to personalise what they have learned and how they learned it (De los Arcos et al. 2016). According to Baker et al. (2009), learners often find it disturbing when instructors assign lectures in an order different from that in their textbooks and customisation can address this issue. Open educational resources, however, can be tailored to be more context-specific and can be narrowed down to topics relevant to the course (Baker et al. 2009).

Traditional textbooks often lack regional, local or cultural information relevant to diverse student populations (Baker et al. 2009). Customisation allows content to be presented in locally meaningful ways to address the specific context in which they are used (D'Antoni 2009; Kawachi 2014). Instructors can customise OERs to the context of their own geographical area rather than prescribing materials that are either almost context-free or that present contexts with which they and their students are unfamiliar. However, instructors should be trained in customisation that adapts existing OERs to varied cultures or contexts, and the OER license must permit customisation. We believe that, in some instances, excessive tailoring of content could rob students of the benefits of working with original content compiled by multiple authors with different perspectives and views. Materials incorporating divergent views and contexts could not only help students to master course and programme goals but could also contribute to the global citizenry and deepen understanding of views surrounding a topic. To address the lack of skills in creating global OERs and the need for culturally relevant OERs, educators should be trained to design OERs whilst considering cultural differences, values and different contexts of learners globally (Holmberg 2011).

Kawachi (2014) uses the following four terms in this regard –globalisation, internationalisation, localisation and world-readiness – and defines these in the glossary as:

> Globalisation: taking an old OER and retrofitting it to suit other local context(s), e.g. taking an OER from an old local context, internationalising it, then re-localising it into a new local context; Internationalisation: creating a new context-free OER that is transmissible and enables later easy adaptation to a local context, having the capabilities built in to be adapted but not local-contents built in; Localisation: adaptation of OER from any other place to suit the culture, language, and other requirements of a new other specific local context, where the resulting OER appears to have been created in the end-user local culture; World-Readinesss: creating a new OER that is internationalised and has a wide range of or all localisations/local contents built into it, where simpler versions allow intermediate-level users to add-in local culture (self-localisation). (p. 33)

Open educational resources can be translated into different languages promoting multilingual material development provided that the licenses of the OERs permit translation (see Chapter 2). Currently, most available OERs are in English, with educators who translate them requiring language proficiency in English; alternatively, when left untranslated, students require a command of English, and learners are obliged to choose English as their preferred language for studying and learning OERs (Yilmaz 2011). Almost all (88%) of 27 international students preferred to read or use OERs in English, even though only one of them had English as their mother tongue (Yilmaz 2011). Because we are of the opinion that language preferences might be influenced by the learner's phase in the education system (mother tongue might be preferred for setting the foundation for learning, whereas English might be preferred for work place readiness, especially at exit level in HE) and the quality of the available translations, we encourage researchers to investigate the language preferences of OERs to extend the work of Yilmaz (2011) on the HE system. Care is needed to make sure that translations are reliable. Open educational resources in extensible markup language (XML) semantic format can accelerate achieving compliance with the *Americans with Disabilities Act* for digital materials and thereby improve access to information for those with disabilities (Baker et al. 2009). When OER cost is independent of the number produced, customisation is rendered more feasible (Baker et al. 2009).

□ Exposure to technologies aligned with the Fourth Industrial Revolution

The drive of education is to provide learners with the knowledge and skills that will enable them to be productive (Fullan 2001). However, Kivunja (2014) argues this moral purpose was applicable to pre-21st-century learning but is no longer sufficient. Preparing students (in some instances for jobs that do not yet exist) and giving them a competitive advantage to

become global citizens when the world moves further into the 21st century and enters the 4IR requires changes in education systems. Such changes would entail embracing, harnessing and aligning with emerging technology to meet the needs of new generations of students and impart essential technology, computer literacy and digital fluency skills. According to Kivunja (2014):

> [*O*]ccupations relate not just to the application of technology but more importantly, to the ability to engage in independent critical thinking, and a high level of problem solving, often using technology. (p. 81)

Open educational resource initiatives, in which educators re-think how they design materials and Web 3.0 allows high levels of social collaboration, will help to move education into the innovative Learning 2.0 era and to equip students adequately (Ally & Samaka 2013). In Learning 2.0, learning material and social interaction conflate to improve and provide a global education for post-modernity (Ally & Samaka 2013; Seely Brown & Adler 2008). Ally and Samaka (2013) further envisioned

> [*L*]earning in the cloud where OERs and access to learner support will exist everywhere and anytime where cloud applications will facilitate sharing, networking, communication, and the production and publishing of OER. (p. 16)

☐ Students as co-creators of learning materials

Another beneficial avenue can arise from the promotion of learner-created OERs that can be published publicly under a copyright license in which learners' works can be distributed and reused by other learning settings in so-called reusable or renewable assignments. Keegan and Bell (2011) asked learners to generate videos as OERs. They reported that, as learners became creative in the process of compiling the video, they were learning by processing the content they presented in the videos at a high level. After the generated videos were posted on YouTube, peers and users provided excellent comments. Having learners design and generate OER has various advantages, including the use of relatively simple language, step-by-step procedures and providing examples that their peers would easily grasp. It is at the core of open education, where learners may contribute insights into learning materials. Educators in open education acknowledge that knowledge building is not a closed process but one to which information is constantly contributed and allows students to take charge of their education (Wiley & Hilton 2018). Taking control of their education empowers learners, and educators and students can participate in the co-creation of learning when students take part in online communities, implement and construct OERs, and apply technology as they do so.

☐ Benefits for educators or instructors and for researchers

Further research that showcases the benefits to faculty, educators and instructors should help to close the gap between willingness and action in the

use of OERs (Baker et al. 2009) and practising openness in their research (Azevedo et al. 2022). Research indicates that most educators have positive attitudes and perceptions regarding the use of OERs but lack experience in online teaching (Zhang & Li 2017).

Research that tracks the familiarity with and acceptance of OER amongst educators and learners is needed to target those who remain unaware. Raising awareness amongst educators about the open licenses and OERs and empowering educators to search for, appraise and reuse OER should be closely aligned with their development. Some educators might be using OERs but be unaware that the resource they are using is an OER because they do not recognise the special copyright permissions (Allen & Seaman 2014, 2016). Even though research efforts have only begun touching on the benefits for educators, several are perceived and discussed here.

Educators must be made cognisant that OERs exist, and their capacity should be developed to search for, access and use them (Nikoi et al. 2011). Creating and developing OERs can empower instructors as writers, increase their self-esteem and even social status, and help raise the profile of the institution to which they are affiliated (Kawachi 2014). Tlili et al. (2019) reported, for example, that the Chinese Quality Course funded by the Chinese Ministry of Education provided bonuses (in addition to salary) for instructors publishing their courses within the project.

Whilst empowerment and incentives benefit educators directly, an indirect benefit is that OERs enable instructors to find similar or even better resources relatively easily (Gurel & Wiley 2008) and to tailor those materials to meet their needs. Access to materials generated by others, and storing them in private repositories to customise them to meet their learners' requirements, could reduce time spent creating learning content and free up time to facilitate students' learning. Good quality OERs could energise educators and lead to cross-pollination among educators in ways that enable more responsive teaching and better learning (William & Flora Hewlett Foundation 2018). Cohen, Reisman and Sperling (2015) reported that the reuse of OERs in a personal online environment created a lively virtual community through user activities (such as writing comments, rating, making recommendations, sharing learning activities and peer reviews).

The customisation of OERs (as discussed in the 'Improved study materials: Quality, context and language preferences' section) has several benefits. It provides educators with assorted options to meet their own and students' diverse learning styles and specific needs. Study materials improved by customisation in a unique way aligned with instructors' teaching style and personal style of use can enhance educators' capacity to deliver quality instruction (Baker et al. 2009; Cohen et al. 2015).

Whilst Wiley et al. (2012) indicated that OERs could be leveraged to enable novel pedagogical practices, research conducted by Pitt (2015) was unable to show that adopting OER led to any development or change in pedagogical practices. There is a call for a qualitative study that examines how OER can influence teaching and learning by building on or improving upon existing pedagogical practices, including OEPs (Pitt 2015). In OEPs, SDL is required as students must use sound judgement when deciding what, how and when they will participate in learning activities and OER use. Because of the flexibility of OEPs, self-direction in learning is essential. Students must be mindful of their behaviour and actions and understand that they, rather than the educator, bear the primary responsibility for their learning because of this flexibility. Educators must therefore construct their pedagogical techniques uniquely and creatively and consider active learning to generate meaningful learning experiences in OEPs that encourage SDL skills. Furthermore, educators need to regard the teaching-learning method as complementary to using OER in open education. Incorporating OERs into SDL requires teaching-learning strategies to help to develop students' SDL abilities and to prepare them for autonomous learning in OEPs. However, conducive learning environments will be more constructive when incorporating OER into SDL. Priority needs to be given to OEPs that can engage students in constructive engagement with OERs during the learning process and simultaneously empower students. Open educational resource-based SDL should improve teaching and learning experience quality by assisting flexibility and openness of recourses. Therefore, implementing OERs can be seen as an SDL tool that effectively constructs an active learning environment, which places more responsibility on students to take the initiative in their learning.

The benefits for research in terms of the 'Open movement' and the Open Science Framework (https://www.cos.io/) are numerous. The benefits are improved quality and integrity of research generated by the future generation of researchers (Azevedo et al. 2022). Open scholarship or the 'credibility revolution' endorses the vision that knowledge should be rigorous, accumulative, reproducible, replicable, shared, transparent and inclusive and that pre-registration and data sharing are practised (Azevedo et al. 2022); it also improves the accessibility of science to both researchers and the public (Azevedo et al. 2022). Sharing research data is especially beneficial because data provide evidence for knowledge. The better the level of transparency and reproducibility, the more efficiently the scientific process benefits the researcher and society (Molloy 2011).

Challenges for open educational resources and potential solutions

The increasing global interest in the open education movement demonstrated in 2017 at the Second OER World Congress (Ljubljana Declaration) is coupled

with a positive perception of academic staff and students towards OERs and interest in using them even when awareness of such resources was minimal (Allen & Seaman 2014, 2016), and can be harnessed to overcome the associated challenges. Finding proper OERs is one of the biggest obstacles to utilising these resources (De los Arcos et al. 2014). Several obstacles can be addressed by determining best practices and training educators in OERs. Tlili et al. (2021) provide a detailed report on key barriers hindering the use of OERs and how challenges could be overcome through the assimilation of novel technologies, such as artificial intelligence and blockchain, with big learning data and educational data mining algorithms. The dynamics of integrating emerging technologies to solve OER challenges are revealed using examples, and the possible boundaries are discussed. Whilst these challenges must be resolved, Al Abri and Dabbagh (2018) warn that other hurdles may arise as more faculty and learners begin developing and using OERs.

The Commonwealth of Learning provides suggestions for educators to put OERs into practice, including developing the skills to evaluate OERs successfully; considering the publication, compilation, adaptation and contextualising of existing OERs; leveraging networks and communities of practice; encouraging learner participation; promoting OER use through publication on OER; providing feedback on, and data on the use of existing OERs; and disseminating and updating knowledge of intellectual property rights, copyright and privacy policies (COL 2011) (Table 3.1).

TABLE 3.1: Challenges and obstacles confronting open educational resources adoption.

Challenge	Citation	Possible solutions
Lack of appropriate research to support the benefits of using OERs	As discussed in the review here	Funding to promote interest in research on OER and OEPs to increase quantity and quality
Raising awareness and knowledge of OERs when using traditional textbooks is deeply ingrained as normative and learning material selection processes are generally slow and bureaucratic	Allen and Seaman 2014; Baker et al. 2009; Frydenberg, Matkin and Center 2007	Support OERs on an institutional level; develop supportive OER policies at the institutional level; access funding to create awareness and to educate; do not assume educators prefer published textbooks; build capacity for education systems to implement OER
Lack of understanding of OER licenses permissions and fair use specific CC permission	Allen and Seaman 2014	Funding to create awareness and to educate; enrol in free open courses or MOOCs such as the one hosted by the Commonwealth of Learning
Intellectual property issues; willingness to share knowledge that could be used commercially	Belawati 2014	Institutions should have clear OER policies in place

Table 3.1 continues on next page→

TABLE 3.1 (cont.): Challenges and obstacles confronting open educational resources adoption.

Challenge	Citation	Possible solutions
Time-consuming to locate (especially with an ever-increasing list of websites/repositories), vet and select proper OER; lacking ability of instructors to locate quality OERs	Chen 2011; Dhanarajan and Abeywardena 2013	Rating, tagging and commenting on OERs using social networking features and using recommendation services by asking users to keep and recommend the best OER for a specific teaching and learning context to overcome discoverability issues (Ally & Samaka 2013; Kortemeyer 2013; Wiley, Bliss & McEwen 2014); Explore other sharing approaches in personal spaces (Cohen et al. 2015); using built-in intelligence technology in interfaces could help in finding appropriate OERs by basing it on preferential contexts and expertise level (Ally & Samaka 2013); curation, especially in terms of quality, could save stakeholders' time and effort
Curation (organisation) of OERs by open course library poses logistical challenges as most OER contents are stored in institutions' own repositories and digital libraries and therefore are decentralised	Drabkin 2016	Repositories should provide instructors with a way to copy, customise, share and distribute open textbooks rather than merely providing access whilst being highly searchable, allowing faculty and students to easily locate open textbooks and relevant OERs (Baker et al. 2009)
Limited access to computing devices; Internet access is expensive; limited connectivity in certain areas	Ally and Samaka 2013; Peña-López 2007	Develop affordable mobile technology (Ally & Samaka 2013); giving tablets or laptops to students at entry; easy-to-mirror repositories to improve access to mobile devices without broadband connections (Ally & Samaka 2013); universities negotiate with mobile companies to have LMS site free or zero-rated; to convert OERs to PDFs that can be read offline (Baker et al. 2009)
Quality control issues with OERs	Badarch 2011; Chen 2011; Yilmaz 2011	Collaboration, peer review (Cohen et al. 2015); OERs can be vetted by communities of instructors as well as by academics researching and appraising teaching materials (Baker et al. 2009); access content from accredited educational institutions, credible organisations and specialists (Ally & Samaka 2013); curators of repositories could be a trusted clearing house where educators can find information related to OERs (Baker et al. 2009); fast feedback loops of users and developers create an environment for the improvement of content (Casserly & Smith 2008)
Challenges to the production and adoption of OERs: 1. […] expectations of high production quality and ancillaries for open textbooks 2. Methods for documenting and maintaining control over various versions 3. The process of converting existing open content to digital and accessible formats (Baker et al. 2009:1)	Baker et al. 2009	Style guides, assembly-line workflow, naming conventions and standard math authoring tools, and customising print formatting based on the purpose of the material (e.g. chapter vs homework or lab) are important (Baker et al. 2009)

Table 3.1 continues on next page→

TABLE 3.1 (cont.): Challenges and obstacles confronting open educational resources adoption.

Challenge	Citation	Possible solutions
Problems in designing and developing OERs: 1. Development of OERs with the same content by different educators 2. Instructors lack the skills to create OER 3. OERs developed with too much local context that is not understandable to some global learners	Dhanarajan and Abeywardena 2013	• Coordinating collaboration efforts (on the district, national and international levels) required to develop high-quality OERs • Training hands-on practice workshops (Kawachi 2014); providing guidelines (examples of OERs, demonstrations of OER in reuse and checklist of consideration when creating OERs); offering suggestions and advice may be helpful to expand the OER author base (Kawachi 2014) • Supporting the improvement of inclusive and equitable OER (UNESCO 2020)

Key: CC, Creative Commons; LMS, learning management systems; MOOCs, massive open online courses; OERs, open educational resources; OEPs, open education practices.

Conclusion

The growing body of scholarship about OER benefits, effectiveness and practices is encouraging, but more is needed. Systematic reviews are emerging, with some (Tlili et al. 2019) answering important holistic research questions such as 'What policies and initiatives have been launched to support the adoption of OER and OEPs?'; 'What kinds of OEP have been and are being implemented?' and 'What are the impacts of OERs and OEPs?' and 'What challenges might hinder the use of OERs and OEPs?'. When reflecting on the status of OERs, it needs to be remembered that OERs are relatively new and in that the concept was first coined at UNESCO's Forum on Open Courseware in 2002. Several advantages of OER use, based on their nature, have been envisioned that should inspire the use of fully vetted, high-quality OERs. Social inclusion, justice and cost-savings are compelling reasons to move the OER movement forward and OERs can have great practical economic significance in providing for everyone to achieve a basic level of education; their continued growth also depends, however, on demonstrating the benefits for learning to enable and sustain open education. Researchers in the field urgently need to demonstrate the discernible impact of OERs, to prove to decision-makers that OER can indeed profoundly impact education and OEP. Preliminary data indicating OERs' comparative affordability could be leveraged to encourage further research about OERs in developed and developing countries. Because the OER and OEP movement is promising and emerging, its impact on the education sector must be continually examined to determine best practices and explore its impact on teaching and learning outcomes and behaviour.

In conclusion, it is considered that OEP can change education by changing the 'balance of power' in teaching and learning. In this regard, the change in 'balance of power' focuses on promoting collaboration in sharing learning

outcomes, OERs and learning activities amongst students and educators. Furthermore, OEP can be expected to encourage and stimulate students to become more involved and connected in their learning as learning partners, co-creators of knowledge and knowledge owners in the enhancement of SDL experiences. Letting students be autonomous learning partners, knowledge creators and knowledge owners, thereby integrating SDL in OEPs, can contribute to meaningful educational practices. Educators and students in OEPs also need to create and build reliable learning environments where OERs, commitment and self-confidence are essential for achieving individual and collective learning goals. Finally, effective implementation of OERs as a self-directed education and learning tool helps to construct and support an active learning environment; OER-based SDL also supports learning further within the learning environment and permits students to participate in learning and lifelong learning. However, if educators do not see the benefits of developing and using OERs, they will neither use them nor promote their use. To this end, practical implementation can be facilitated by setting standards for developing and delivering quality OERs and certifying learners after they complete open courses in which OERs are employed. Applying advances in technology to address key barriers hindering the use of OER will be paramount.

Chapter 4

Multilingual philosophy glossaries: Steps towards socially just pedagogical praxis

Yolandi M. Coetser
School of Philosophy,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa

Chantelle Gray
School of Philosophy,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa

Aïda C. Terblanché-Greeff
School of Philosophy,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa

Nolwandle Lembethe
School of Philosophy,
Faculty of Humanities, North-West University,
Vanderbijlpark, South Africa

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Abstract

Like many other academic disciplines in South Africa, philosophy is haunted by the legacies of colonised curricula and English teaching instruction and the epistemic injustices that emerge from these. In this chapter, we think about what some of these epistemic injustices are and how we can practically begin to ameliorate some of the challenges posed by them. As a step towards more socially just pedagogical praxis, we propose the use of openly licensed multilingual philosophy glossaries in classrooms as one way to promote participatory parity in this field. We also describe our experience of the creation of such an openly licensed glossary, discussing translation exigencies and how these might be overcome. This glossary is created as an open educational resource (OER), serving to aid philosophy students in southern Africa to access key terms in their own language. Making a glossary like this available to students encourages self-directed learning as students can take learning into their own hands by searching for key terms.

Introduction

The long history of apartheid in South Africa – and colonialism before that – is well known and documented. Moreover, whilst it is true that apartheid was officially disbanded in 1994, the effects thereof persist. South Africa is, for example, one of the most unequal societies in the world – a reality which has serious implications not only for living standards but also for access to every phase of learning, from preschools to higher education institutions (HEIs) (Amnesty International 2020).

On 09 March 2015, attention was called to this situation. Few South Africans have forgotten the viscerality of the bronze statue of the British politician and colonialist Cecil John Rhodes covered with human faeces 'obtained from a portable flush toilet in Khayelitsha, a large "township" (or district) outside of Cape Town' (Gray van Heerden 2018:15). The statue, then located on the main campus of the University of Cape Town (UCT), was seen by students as representative of the ongoing institutional racism on campus. The call for the removal of this statue – as symbolic of the removal of structural racism – known as #RhodesMustFall, soon gave way to a new wave of protests, namely #FeesMustFall, which highlighted the frustration of a generation of students who were fighting against centuries of systemic and systematic oppression that left millions of people economically destitute and unable to afford their studies. What these protests called for, in summary, was free higher education (HE), decolonised curricula, mother-tongue instruction, and HEIs free from the biases inherited from colonialism and apartheid (Fairbanks 2015).

The government responded to the call for free HE by changing the National Student Financial Aid Scheme (NSFAS) from a loan scheme to a bursary

scheme, thereby mitigating some of the economic obstacles to HE. Nevertheless, other impediments remain, for example, what has been called *epistemic barriers*, which include, but are not limited to, curricula dominated by Western voices and discourses alien to the lived experiences of students and educational instruction in languages other than students' mother tongue (home language) – which is often a third or even fourth language. It is precisely this language barrier that bears relevance to this chapter. Our argument is not that 'poor performance at university' can be solely 'attributed to learning in an additional language as such', but that it is 'an aggravating factor when these students also come from educationally, socially and/or historically disadvantaged backgrounds' (Jonker 2016:iii).

One way to attempt to mitigate the epistemic alienation that students face is by creating course content that attempts in some way to bridge the gap between the language of instruction – which typically is English in most HEIs in South Africa – and students' mother tongues. Because South Africa has eleven official languages and there are limited resources, it is necessarily not possible to have a lecturer in every language for every module. This, we argue, is why subject-specific glossaries are useful tools: because they help bridge the gap between the language of instruction and the mother tongue of the student and, in so doing, promote multilingualism and translanguaging class practices, according to which all possible linguistic and cognitive resources and strategies are employed to understand academic content (Freeman & Freeman 2017).

Accordingly, in this chapter, we consider the need for a multilingual glossary in the discipline of philosophy, drawing on previous work on socially just pedagogies, decolonisation and our experience of creating such a glossary. Having recognised the need for such a glossary, we (the authors of this chapter) applied for and were awarded a fellowship to develop an OER in 2021 and 2022 by the United Nations Educational, Scientific and Cultural Organization (UNESCO) Chair on Multimodal Learning and Open Educational Resources at the North-West University (NWU) (cf. Chapter 1). Having created a multilingual philosophy glossary, this chapter reflects both on why we thought the creation of the glossary was needed and the process followed to create it. To explain our process, we begin by unpacking the colonial background against which the need for such glossaries arises and, thereafter, consider the issue of language as a specific epistemic barrier. Finally, we turn our attention to glossaries and OERs as means of addressing this specific encumbrance, considering also the possible translation exigencies of projects such as this one.

The legacy of colonised curricula

In his article, *The Struggle for Reason in Africa*, Mogobe Ramose argues that we cannot simply teach a philosophy that reflects and ratifies the white

people's experience but that we have to also teach African philosophy as both a critique of racism and an affirmation that the black perspective 'has been devalued and omitted from' Western philosophy for ideological reasons (Ramose 2003:7). The implication for classroom praxis and experience is thus double: not only that Westernised canons do not reflect the lived experiences of our students but also that not including African voices and views carries with it the assumption that voices *other than* Western ones are *less than*. As a call to decolonisation, this is a reminder that the expression of self-determination lies, in part, in the 'decolonization of imaginaries and of the forms of representation' previously taken as given (Cusicanqui 2012:96). In other words, it is the call for counter-narratives that can rupture what 'appears as a civilizational paradigm encompassing all domains of social life' which has created strata of segregation, supremacy and discrimination that include the economic, social and political spheres 'but also cultural and epistemological ones' (De Sousa Santos 2007:xix). As such, there is a need not only to challenge and oppose existing paradigms but also for creating new critical theories and emancipatory practices that incite and produce new subjectivities. Decolonisation may, as such, be described as an 'attempt to address systemic or structural issues rather than merely the more apparent – if perhaps more pressing – concerns, such as constitutional and legal rights, obligations and support' (Van Heerden 2016b:7205).

It is useful, here, to make a distinction between decoloniality and decolonisation. Whilst the terms are often conflated and both traditions present radical critiques of European dominion and assumed supremacy, as well as their costly extraction practices – which extend not only to labour and resources but also to knowledge, 'where colonial subjects were classified as the *other* in Europe's empire of reason' (Appadurai 2021 [emphasis added]) – decoloniality and decolonisation in fact differ in terms of their scope and emphasis. For decolonial proponents, such as Walter Mignolo and Catherine Walsh, decoloniality does not succeed colonialism and coloniality; instead, it 'offers an alternative, one that is rooted in Indigenous thought and practice about nature, community, and solidarity' (Appadurai 2021). This, as Indian American anthropologist Arjun Appadurai argues, is a seductive vision, but one which 'rests on a reversal of the historical impact of capitalism and colonialism' by seeking 'to return us to an earlier period of precolonial splendor' (Appadurai 2021). The problem with this kind of vision is that it smacks of notions of the 'noble savage' – as if precolonial peoples were not also capable of the *whole* range of human emotions and capacities, including base and vulgar ones. After all, even those lower tendencies and capacities are part of our *collective* human heritage and should, as such, be regarded as belonging to all of us, as part of our communal epistemic heritage. It is, for this reason, that Appadurai sides with proponents of decolonisation, such as Achille Mbembe, who, rather than arguing for a return to some imagined pure past, urges us to 'imagine a future based on our less-than-ideal present', requiring

us 'to refashion the structures of race, power, and technology into a more liberated relationship' in the here and now (Appadurai 2021).

This kind of vision resonates with that of Frantz Fanon who, as early as 1961, argued that the 'proof of success' of decolonisation 'lies in a whole structure being changed from the bottom up' (Fanon 1963:35). As such, decolonisation 'sets out to change the order of the world' which, for Fanon, means it should be seen as a historical *process* rather than a historical *moment*. As such, it cannot 'become intelligible nor clear to itself except in the exact measure that we can discern the movements which give it historical form and content' (Fanon 1963:36). The objective of decolonisation can thus be described as a historical process aimed at reconceptualising and re-enacting ways of knowing, being and seeing previously excluded from or considered incompatible with Eurocentric normative social orders, frameworks and dominant conceptions, and which recognise the intersection between classes, ethnicities, races, sexual differences, territories and so on. At the same time, there is a growing recognition of the role played by capitalism and neoliberalism and the need for re-envisioning and realising democracy outside of free market 'conceptions of individual agency and state government' (Talpade Mohanty 2003:8). What we see here, then, is the need to resist single-focus narratives that replace one grand vision with another. Instead, people like Fanon, Mbembe and Chandra Talpade Mohanty urge us to affirm the heterogeneities and complexities of our many different lived experiences. So too does Boaventura De Sousa Santos (2014) when he says that 'the understanding of the world by far exceeds the Western understanding of the world' (p. viii). According to him, however, many of these understandings were 'murdered' as a result of European expansion – an act which De Sousa Santos calls *epistemicide*. But epistemicide is in fact more than just the 'murder of knowledge' – it also involves 'the destruction of the social practices and the disqualifications of the social agents that operate according to such knowledges' (De Sousa Santos 2014:153).

When it comes to epistemological practices, we should also be careful not to conflate coloniality and colonisation and what they did to our understanding of knowledge-making with actual practices of knowledge production which are, after all, a collective endeavour. Is not all knowledge collectively produced? Does not all knowledge belong to all of us? And should the decolonising project not, therefore, also entail a questioning of reductive propertarian views of knowledge in favour of an epistemic *undercommons* as Stefano Harney and Fred Moten (2013:28) name the space and time which is always-already *here* whenever 'the commons give refuge' and 'the refuge gives commons'? In a different but related register, Caribbean philosopher Édouard Glissant (1997:11) calls this kind of epistemic undercommons a 'poetics of relation', where 'each and every identity is extended through a relationship with the Other'. In this extended relationality, the dominant figure is neither that of the traveller, nor that of the discoverer, nor that even of the conqueror but, rather, that of the *errant* who 'strives to know the totality of the world yet

already knows'; this can never be accomplished, all the whilst acknowledging that this, precisely, is 'where the threatened beauty of the world resides' (Glissant 1997:20). Following Glissant, errantry 'challenges and discards the universal – this generalizing edict that summarized the world as something obvious and transparent, claiming for it one presupposed sense and one destiny' (Glissant 1997:20). In place of such universals that deny heterogeneous experience in favour of totalitarian worldviews, errantry 'plunges into the opacities' of the world (Glissant 1997:20). Thus, decolonisation, from the point of view of errantry – which is to say from the point of view of the wayward,[1] the liminal, the undercommons – is expansionist in view: pan-Africanist rather than parochial and nationalist. It is in this spirit of expanding knowledge that we turn to the issue of language, again drawing on Glissant who, in his work, 'attempts to create an epistemology with which to understand the complex nature of African diasporic culture' and particularly Creolised cultures in the Caribbean (Mulira 2015:115). To do this, Glissant, in *Poetics of Relation*, takes his readers back to the slave ship, 'the incubator of Caribbean culture' (Mulira 2015:116), and calls on them to (Glissant 1997):

> Imagine two hundred human beings crammed into a space barely capable of containing a third of them. Imagine vomit, naked flesh, swarming lice, the dead slumped, the dying crouched. Imagine, if you can, the swirling red of mounting to the deck, the ramp they climbed, the black sun on the horizon, vertigo, this dizzying sky plastered to the waves. Over the course of more than two centuries, twenty, thirty million people deported. Worn down, in a debasement more eternal than apocalypse. But that is nothing. (pp. 5–6)

Once docked – wherever that might be – the dispossessed had to find new ways to keep on living, to survive despite not knowing what the future held. 'Hailing from different ethnic backgrounds and realities', the now enslaved Africans had to find:

> [*W*]ays to weave the fragmented pieces of their past into a cultural fabric that could support their lives in a foreign land. Over time, this fabric became Creole culture as we know it today. (Mulira 2015:116)

It is perhaps needless to say that Caribbean culture is not exactly African culture, but the Caribbean exists *because* Africa exists – and there is something we can learn here about what Glissant calls *créolité* (or creoleness): how, in a territory, despite the many different linguistic and cultural backgrounds forced into divergent socio-political dynamics, a rhythm emerged that formed 'the basis for a style of life' (Glissant 1997:63). Drawing on these theories, we asked ourselves: How can we forge this kind of *créolité* in our classrooms? And how can this, in turn, help us ameliorate at least some of the epistemic barriers created by language in our classrooms? It is here, then, that the idea of a multilingual glossary comes to the fore.

1. Here we think of Saidiya Hartman's important work *Wayward Lives, Beautiful Experiments* (2019), for example.

Language as epistemic barrier and carrier of epistemic injustice

Philosopher Miranda Fricker (2007) describes epistemic injustice as the wrongdoing done to a person in their capacity *as a knower* or epistemic subject, which we argue extends also to their capacity as *knowledge producer*. Ian James Kidd, José Medina and Gaile Pohlhaus (2017:1) expand this definition by describing epistemic injustice as 'unfair treatment that relates to issues of knowledge, understanding, and participation in communicative practices'. Recently, Fricker expanded her initial definition by arguing that epistemic injustice is not only discriminatory but also distributive in nature – meaning it is not just inequitable in terms of access but also in terms of uneven dissemination (Fricker 2013:1318, 2017:53). There are, of course, many examples of how epistemic injustice is both discriminatory and distributive, though language is perhaps one of the most prominent examples receiving international attention in literature at the moment (see Da Costa 2021; Rees Kind & Newton 2019; Vargas-Bello-Pérez & Hernández-Castellano 2019). One of the reasons for this is that language is the foremost vehicle for disseminating and cognitively synthesising and integrating information, whether online or as part of classroom instruction. However, in South Africa, as we have noted, most instruction takes place in English, even though many of our students are not first-language English-speakers. This poses a significant obstacle to students' knowledge intake and in fact their entire experience of HE where it is not only the case that English is the language of instruction but also that of their educational milieu more broadly. The effects of this cannot be underestimated – or overstated – because how we make sense of ourselves, our place in the world and the world at large are directly influenced by language. When language becomes an instrument of ghettoisation, it has a direct effect on students' capacities to know and produce knowledge. It is clear, then, that language is an epistemic barrier and contributor to epistemic injustice, especially given that South Africa is a multilingual society where two languages are of Germanic origin (Afrikaans and English), with the remaining seven being of Sintu origin (siSwati, Sesotho sa Leboa, Xitsonga Setswana, Sepedi, Tshivenḓa, isiXhosa, isiNdebele and isiZulu). How to deal with students from diverse backgrounds with various levels of English competency is not only a challenge for students but also for lecturers – one that is exacerbated by discipline-specific language or jargon. This is not to say that jargon is 'bad' – it is often very necessary – but the point is that we need to find ways to be more epistemically just in our classrooms. Philosophy is a good point in case, as it is a discipline riddled with jargon, often from Western philosophical traditions (analytic and continental), such as those being taught at South African universities. Although the use of jargon itself is not problematic, it does become so if a student does not have the means to translate these terms into their first language, or at least a language they are comfortable learning in. At this point, jargon becomes an epistemic barrier, not only because it hinders understanding but also because it creates problems in terms of the

reproduction of knowledge in tests and exams. Besides demotivating students because of low marks, this can also deter class participation and lower students' general confidence and motivation. In fact, research conducted by Vittorio Tramontin et al. (2015) found that students whose mother tongues were not English emphasised language 'as highly affecting their performance due to the fact that they experienced problems in understanding lecturers' explanations and were mostly prevented from participating in classroom discussion and asking questions' (p. 23). Clearly, language is an epistemic barrier and vehicle of distributive epistemic injustice. So, how might we overcome these persistent epistemic injustices in our pedagogical praxis? One way in which to start overcoming the language barrier, in our view, is through the translation of key concepts – especially discipline-specific jargon – in glossaries.

A practical suggestion: Multilingual glossaries

Against the background of colonisation and apartheid, the issue of language is not a trifle one, and it should be clear to readers by now that language remains a prominent epistemological barrier to many students in South Africa, impeding their capacity as knowers and knowledge producers. The challenge for pedagogues and students alike is thus to challenge 'existing ways of knowing and the power attached to certain forms of knowledge' and knowledge production (Gray van Heerden 2018:26). However, as Donna Haraway (1988) explains, it also entails an understanding that the:

> [*K*]nowing self is partial in all its guises, never finished, whole, simply there and original; it is always constructed and stitched together imperfectly, and therefore able to join with another, to see together without claiming to be another. (pp. 586–587)

Nonetheless, whilst it is helpful to remember that we are all *knowers in the making* and that we produce knowledge together, it is imperative that we try to provide contexts that lend themselves to making such knowledge production as equal as possible for all participants. That is, *how* we produce knowledge together should be interrogated as much as *who* produces it, which led us to create an OER in the form of a multilingual glossary for our discipline, philosophy, to be made available online.

By availing key terms to students, students are empowered to learn in a self-directed manner because they can read the terms in their mother tongues and incorporate them into their own epistemic world. Moreover, creating and using multilingual glossaries is a useful tool for challenging existing paradigms and aiding new forms of knowledge co-production. Having said that, openly available online glossaries in philosophy are a dime a dozen (e.g. Axtell et al. n.d.; Dahnke & Dreher 2016; Perry, Bratman & Fischer 2007; The Basics of Philosophy 2008), but most of these glossaries have two shortcomings that we attempted to address. Firstly, these glossaries focus mostly on

Anglo-American (or analytic) philosophy and, secondly, they are available only in English. Our glossary addresses these shortcomings by including terms from African and Continental philosophy and making the glossary available in three additional languages to English, namely isiZulu, Setswana and Afrikaans. Our glossary can therefore also be seen as a project in localisation because it takes terms that are usually only available in English (and perhaps Afrikaans), and provides the terms and/or the definitions in the local languages that are relevant to our students. It is especially this latter aspect that distinguishes our glossary from the majority of those available online.

Because our glossary is an OER, it is useful, at this juncture, to briefly discuss OERs before turning to the actual glossary. UNESCO (2021) defines OERs as:

> [*T*]eaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions.

The term was coined in 2002 by UNESCO with the goal of providing access to quality education (SDG 4) as a way to contribute to peace, sustainable and economic development, as well as intercultural dialogue (UNESCO 2021). Open educational resources fulfil their own social justice (cf. Chapter 2) ends – because education drives social change, and OERs provide 'educational resources at the most convenient place/location and cost', it follows that the wider inclusivity and non-discriminatory design of OERs contribute to social justice ends (Ochieng & Gyasi 2021:107–108). As Vollan Ochieng and Razak Gyasi (2021:109) argue, the academic practice of freely sharing resources for HE purposes encompasses the social justice ideals of fairness and equity. A similar argument is put forth by Virgina Clinton-Lisell et al. (2021:317) who hold that OERs 'serve as tools to improve teaching and learning and promote social justice in higher education'. As such, it is a practical response to epistemic injustice.

Cheryl Ann Hodgkinson-Williams and Henry Trotter (2018:205) warn, however, that OERs face unique challenges in the Global South. For example, structural inequalities may, in some cases, hamper the social justice ideals of OERs. This 'implies that educators and students in the Global South may be impeded from full participation by the lack of access to necessary educational infrastructure and materials', which include aspects 'such as adequate buildings for instruction, uninterrupted power supply, functional technological equipment, affordable and stable connectivity and access to requisite educational materials' (Hodgkinson-Williams & Trotter 2018:207). In addition, 'the current domination of Western-oriented epistemic perspectives' as well as the 'proliferation of hegemonic English-language' OERs (Hodgkinson-Williams & Trotter 2018:207) may hamper Global South educators and students in terms of what Nancy Fraser (2009:16) calls participatory parity. She defines participatory parity as

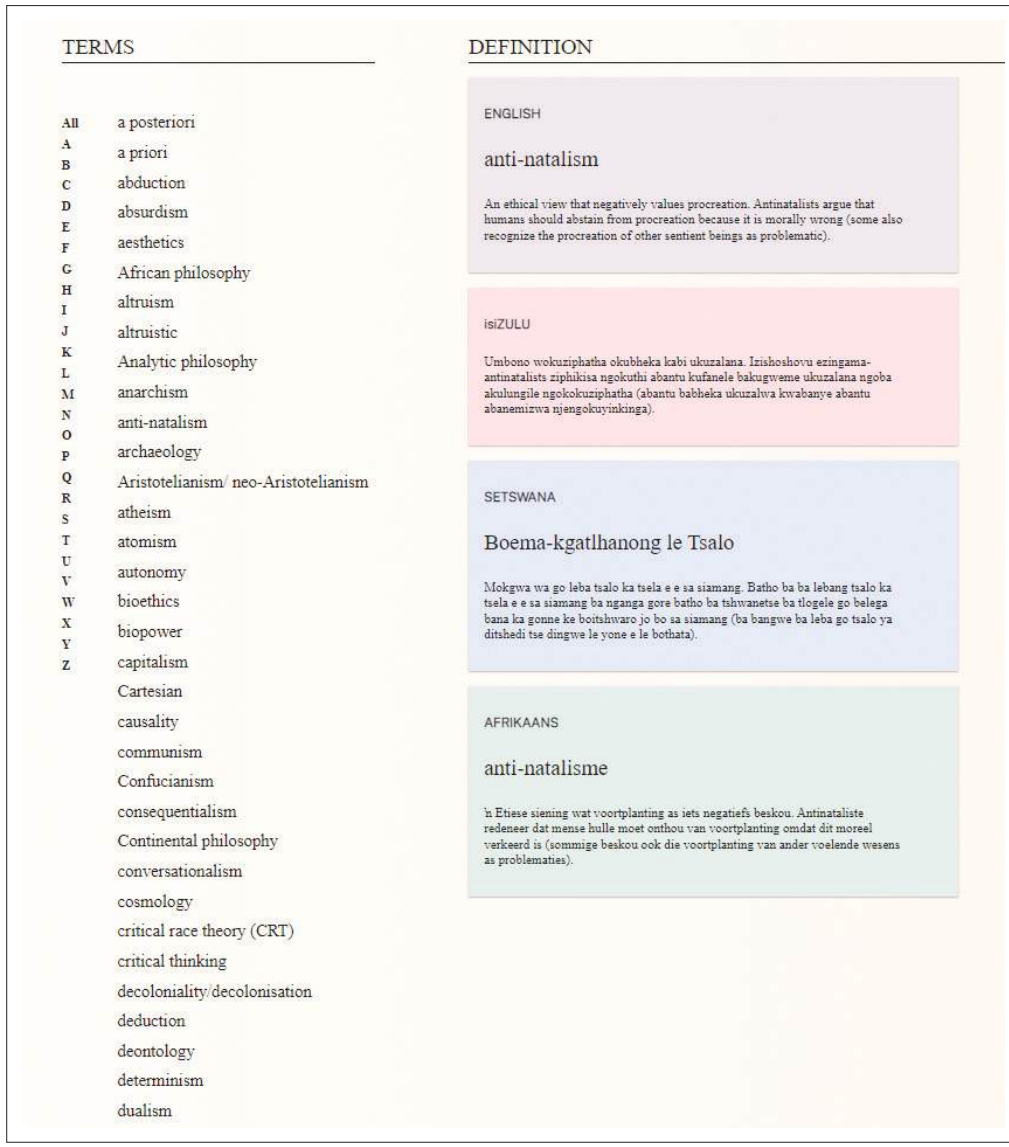
the 'most general meaning of justice' because it 'requires social arrangements that permit all to participate as peers in social [and educational] life'. All of these aspects highlight the importance of creating OERs in local languages and from alternative epistemic positions.

It seems to us that creating multilingual glossaries not only addresses epistemic injustice but also improves participatory parity by creating the conditions for *créolité* to emerge and form the basis of a new socio-political and educational space that welcomes all participants more equally in the classroom – in our case, the philosophy classroom. Besides the legacies of colonialism and apartheid, the history of the NWU itself makes it a pertinent place for the creation of such resources. Between 1951 and 2004, the NWU was known as *Potchefstroom Universiteit vir Christelike Hoër Onderwys* (Potchefstroom University for Christian Higher Education), and its language of instruction was mainly Afrikaans. However, the university has an even more contentious history when it comes to language. Many readers may be aware that *Potchefstroom Universiteit vir Christelike Hoër Onderwys* merged with the University of Bophuthatswana to become the NWU in 2004. However, by 2013 most lectures were still conducted in Afrikaans, with non-Afrikaans students able to receive lessons only through translation headsets (Nkosi 2013). This did not only cause linguistic discomfort but also contributed to racial tension (John 2013). In 2018, a new language policy was adopted (NWU 2018). Broadly, this policy encourages the use of 'functional multilingualism' where 'sensitivity is shown towards the language preferences, language needs and language expectations of individuals and groups that have an interest in the institution' (NWU 2018:2). The policy also states that 'within the parameters of the principle of functional multilingualism English, Setswana, Sesotho and Afrikaans are employed as official languages of the NWU' (NWU 2018:2). It is still the case, however, that some lectures continue to be given in Afrikaans, with English translation being offered to those who might need it. Keeping in mind the goals of this policy, the original aim in the creation of our glossary was to provide key terms and concepts as well as their definitions in the four official languages of the NWU.

After some consultation, however, we decided to replace Sesotho with isiZulu, as Setswana and Sesotho are fairly similar and including isiZulu broadens the reach of the glossary. In future, however, the hope is to translate it into all official languages of South Africa. Once these decisions had been made, we compiled a list of common philosophical terms and concepts, aiming to strike a balance between those commonly used in philosophy courses and those we use in our own courses. This resulted in a term bank of roughly 110 terms and concepts, after which we compiled definitions for them, drawing, where possible, on extant OERs, such as the glossary of philosophy made available through, for example, Wikipedia (https://en.wikipedia.org/wiki/Glossary_of_philosophy) and entries in the Stanford Encyclopedia of Philosophy (https://plato.stanford.edu/index.html). Definitions garnered from other OERs were added to a Google Docs file that was shared between us. As subject specialists,

we all took turns to read, edit and amend the definitions. Google Docs allows for real-time collaboration and discussion using the 'comments' feature. Where suitable definitions could not be found, they were created using our subject knowledge. It is important to note that the glossary remains a work in progress. Thus, whilst the initial glossary was set up by the four authors of this chapter, we will be incorporating feedback from students and other lecturers in future.

Once the list was approved by all the members of the team, a website (saphilglossary.com) was created (see Figure 4.1). The website was released under a Creative Commons Attribution-Non Commercial-Share Alike 4.0



Source: This is an original screenshot from openly licensed content published by the chapter authors on http://saphilglossary.com/.
FIGURE 4.1: Screenshot from the website showing the terms on the right, and the translations on the left.

International License. It is worth mentioning here that the designer we chose has a long history of working on educational materials and went to great lengths to further our goal of accessibility by including specific design elements to this end. For example, in terms of typography, the font *noto serif* was used to increase legibility on screens. Additionally, the font colour was a 'muted' black rather than a pure black against an off-white rather than stark white background to reduce the harsh contrast and aid readability.

Going forward, the plan is to continue to grow the glossary, both in terms of the number of languages it is translated into and the number of terms that are used. In addition, we hope to create audio recordings to help with the pronunciation of key terms. We also welcome feedback on the 'Contact' page in the hope of having a collaborative space to improve and expand on the glossary.

Some translation considerations

Translating terms into African languages is indubitably a complex process but one that cannot be put on hold if we want to ensure epistemic justice and participatory parity. However, as Moragh Paxton (2009:345) argues, students already engage with concepts multilingually by code-switching between English and their primary languages in order to better grasp unfamiliar concepts (cf. Chapter 2). That being said, many difficulties remain when it comes to enacting multilingualism, one being diminishing resources, especially as universities are increasingly being treated as businesses with little incentive to implement transformation policies (Mesthrie 2008:328). Other difficulties pertain to translation itself, for example considering how to minimise translation losses and balance the inevitable losses with translation gains so that concepts and terms maintain their integrity as far as possible, especially in the case of *lexical gaps* or the lack of direct translation equivalents. Yet even when there are similar concepts in different languages and cultures, it sometimes happens that the words that make those concepts concrete do not exist or hold meaning in exactly the same way. In epistemology, engaging with the universality theory can assist us here. The universality theory is the claim that

> [*T*]he epistemic properties referred to by the English epistemic verb 'know' contained in the expressions of the form 'S knows that *p*' or 'S knows how to φ' are shared by the translations of the epistemic verb in all other languages, such as Chinese, Japanese, Korean, Russian, and so on. (Tsai & Lien 2018:267)

But, as Cheng-Hung Tsai and Chinfa Lien argue, if it can be shown that there is an epistemic property in the Chinese verb form of 知 ('know') that cannot be found in the English, then this would go to some lengths to show that the universality theory does not necessarily hold for all cases of *semantic primes* – concepts thought to be in their simplest terms, cross-translatable between different languages, and innately and universally understood.

Put simply, semantic primes are thought to have lexical equivalents in every human language, meaning the verb equivalents 'know' (English), *ukwazi* (isiZulu) and 知 (Chinese) are not only lexically equivalent but also carry the same epistemic properties. Although 'know' seems to be the same across languages, the abstract noun 'knowledge' – that is, to 'think about' or 'know about' (*ulwazi* in isiZulu) – does not seem to function quite the same in every language, nor to hold exactly the same meanings across languages, making translation more difficult. Another such word is 'believe'. In isiZulu, *ukukholwa* can mean 'spiritually' or 'faith-based'. It can also be used as the verb 'to believe in' or 'belief of something', translated as *ukholwa ukuthi* and *ukholelwa ekutheni*, respectively. In English, however, the word 'believe' is used to reflect the 'folk epistemology embedded in modern English', meaning 'the word *believe* (or *belief*)' is 'not semantically simple' and therefore not easily 'cross-translatable' because it carries 'a highly language-specific set of meanings, complicated patterns of polysemy, and a complicated grammatical profile' (Goddard 2020:140). The English phrase 'I don't believe we have met' can, for example, be translated into isiZulu as 'angikholwa sisake sahlangana', but the English phrase 'I believe we have met' – translated as 'ngikholwa ukuthi sisake sahlangana' – makes no sense in isiZulu because the use of the word *believe* is not proper in this sense. The appropriate syntax for this translation would be 'ngicaba ukuthi sisake sahlanga', roughly translatable as 'I think we have met' in English. We see here that for the universality theory to hold, it needs to be fair to all languages. It therefore makes more sense to use terms that are semantically simple. Yet this is not always possible – especially for philosophy glossaries filled with jargon, as we have seen.

Translating from English to Afrikaans poses a different challenge, namely that much of the philosophical terms do not exist in Afrikaans. However, Afrikaans allows for the use of anglicisms, which proved pragmatic in the construction of the glossary. For example, 'anti-natalism' was translated into 'anti-natalisme', 'determinism' to 'determinisme' and 'ethical egoism' to 'etiese egoïsme'. Even for a person with no understanding of Afrikaans, it is obvious that these words relate strongly to the English equivalent. The reason for this is that both English and Afrikaans are Germanic languages, making translation easier vis-à-vis anglicisms than it would be from English to Sintu languages.

The preceding discussion illustrates why Walter Benjamin argues that 'no translation would be possible' if it strove for perfect 'similarity to the original' (Benjamin 2012:77) because the original itself changes in translation to gain an 'afterlife' (Benjamin 2012:76). At best, then, the translator's task 'is to find the intention toward the language into which the work is to be translated, on the basis of which an echo of the original is awakened in it' over and over again (Benjamin 2012:79). It is for this reason that Coetzee (2013:1), in *Accented Futures*, argues '*against* translation' in favour of what she terms *accentedness*. In other words, the translator 'has to resist the homogenised (orientalised,

some might say as a shorthand) representation of ourselves/themselves, and offer, instead, heterogeneity and a refusal of essence' (Coetzee 2013:3). This 'refusal to translate' (Coetzee 2013):

> [*M*]ay be viewed as a reclaiming of social agency by the translator in that it requires writing and translation not to be solely about cultural transfer and the manipulation of linguistic conventions or semantic content, but instead to be.(p. 3)

That is, an ethical, affective, linguistic and cognitive 'orientation' (Van Heerden 2016a:94). Put differently, accentedness – as an ethical orientation – asks us to 'question the historicity of abstract codes (such as master narratives) and be situational' and relational in our translation practices, taking into 'consideration the complexities of the legacies or our disciplines that are always linked to "specific narratives and power structures"' (Van Heerden 2016a:95).

Conclusion

This chapter looked at some of the effects of colonialism and apartheid on current educational practices. It is our argument that the dominance of English as the medium of instruction creates certain constraints for students, particularly in terms of their capacity as knowers and knowledge producers. Accordingly, language can be viewed as an epistemic barrier that is both discriminatory and distributive in nature – meaning it is prejudiced in terms of access and uneven dissemination. This is not solely a problem for students, however. We see this as a challenge for pedagogues too, one which asks us to challenge existing power structures and the manner in which they inform our ways of seeing, knowing and being. Having said this, we recognise that limited resources mean that it is not possible to have a lecturer in every language for every module. It is for this reason that we propose the creation of subject-specific glossaries to help bridge the gap between the language of instruction and the mother tongues of students. At the time of writing, the glossary has been included on some of our class sites on our learning management system (LMS) as an additional resource. Students were informed of this resource either in class or via an announcement. Anecdotally, students have reported finding the glossary useful, but there has not been a sustained inquiry into this yet.

In closing, we hold that openly licensed subject-specific glossaries promote multilingualism and translanguaging class practices which can be seen as the enactment of more socially just pedagogical praxis. We acknowledge, however, that the creation of glossaries presents certain translation exigencies which need to be taken into consideration. Thus, we argue for what Coetzee (2013) calls *accentedness* – an ethical orientation to translation that resists homogenised representations and questions the historicity of abstract codes and master narratives, aiming for more situational, relational and ethical praxis instead.

Chapter 5

Designing an open educational resource to support the development of oral interactional competence at beginner level[3]

Carina Grobler
School of Languages,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa

Juan Steyn
South African Centre for Digital Language Resources,
Potchefstroom, South Africa

Abstract

Developing oral communication skills in a foreign language is difficult given that the average foreign-language learner mostly functions in an environment with limited classroom time and few speaking opportunities. A technology-enhanced practice environment could address this by providing more exposure to the

3. This chapter includes themes from the PhD study of one of the authors. The thesis is available on https://repository.uantwerpen.be/docstore/d:irua:897.

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target language and opportunities for students to foster self-directedness. However, software that could facilitate the creation of context-specific content for such an environment is not readily available. This necessitated the creation of an open educational resource (OER) software package which meets the needs of the teacher and content creator and the language learner. To create a practice environment that is contextualised, meaningful and integrated into the broader teaching and learning context, activities should be planned in an informed and structured way. This chapter describes the different phases involved in creating a context-sensitive OER – a process that is based on sound instructional design (ID) principles and general open educational practices (OEPs).

Introduction

Communication relies heavily upon spoken language, and the development of this skill therefore deserves the same attention in the language learning process as written language skills (Clancy & Murray 2016). Although spoken interaction is seen as the most difficult skill to master when learning a foreign language (Mystkowska-Wiertelak 2011; eds. Pawlak, Waniek-Klimczak & Majer 2011; Salcedo-Viteri, Pinza-Tapia & Toro 2021) and a skill that represents and benefits an encompassing knowledge of a foreign language (Pawlak 2011; Pica et al. 1996) at most South African universities – as is the case in other contexts – students learning a foreign language have very few opportunities to develop these skills because of different constraints: a limited number of contact sessions per week and the lack of interaction with other speakers of the language in their local environment (Helmke et al. 2007; Ko 2012; Pino James 2013). A need for more opportunities at local institutions to practise oral communication in French has long been firmly established (Delena-le Roux 2010). Focusing more intently on oral interactional competence is particularly important in the current educational climate where online teaching & learning seems to have a negative impact on the development of oral communication skills (Alcalde Peñalver & García Laborda 2021).

From the perspective of beginner students in French at a local university (in this case, the North-West University [NWU], South Africa), oral interactional competence has been identified as the most desired skill to master when learning a foreign language. In this study, 64% of respondents listed spoken interaction as the main priority in foreign language learning, and pronunciation was identified as a skill that merits special attention (Grobler & Smits 2016). These findings correlate with the finding of studies that were conducted in other contexts, such as Texas and Georgia in the United States of America (USA) (Swanson & Nolde 2011; Volle 2005) and Nottingham in the United Kingdom (UK) (Stollhans 2015).

Because the average foreign language learner must function in an environment where teaching hours are limited and classroom conditions are not conducive to speaking, developing spoken interactional skills remains challenging (Alrabadi 2011; Mystkowska-Wiertelak 2011). There is thus a need for more time-on-task exposing students to the target language – hearing the language and producing the language themselves. One must keep in mind that the extent to which target language input and feedback are provided has an influence on language acquisition (Doughty 2003).

The challenge is compounded by the limited number of appropriate resources to support the development of oral interactional skills. Available resources for beginner learners of French as a foreign language are either limited to users of a specific French textbook or its content or progression do not correspond to that of the modules offered at the different institutions and no adaptation of the content was possible. Neither adopting nor adapting an existing educational resource was thus not an option (cf. OERs in the broader educational context). To address this problem, it was decided to create context-specific OERs that would provide a platform and content that would support the development of students' oral communication skills in French in an out-of-class environment.

These OERs include a three-part software package and its accompanying content that are aligned with the learning outcomes for the specific level of competency. When referring to the *content* aspect of the OERs specifically, the aims were to identify the pertinent activities and their associated tasks that should form the basis of a practice environment that promotes the development of oral communication skills and to determine the best way to organise these activities and tasks.

This study, therefore, addressed two research questions: (1) What activities and tasks should be included when designing an OER that aims to develop beginner language learners' oral communication skills?; and (2) how should these activities and tasks be organised to create a research-based learning experience? Open education practices and strategies to foster self-directedness were the main preoccupation in the dual process of identifying these activities and tasks and creating the software to support the out-of-class practice environment.

Openness: Educational resources, education and educational practices

The practice of sharing educational resources in many ways predates the labelling of these as OERs at the 2002 Open Courseware in Higher Education forum hosted by United Nations Educational, Scientific and Cultural Organization (UNESCO). Since then, much work and collective effort have

gone into fleshing out what OERs are and what role they play in different sectors. This culminated in the adoption of a global standard for OERs at the UNESCO General Conference in 2019: to 'support[s] the creation, use and adaptation of inclusive and quality OER, and facilitate[s] international cooperation in this field' (UNESCO 2019).

A definitive description of what an OER is, is not yet formulated, however. Standardisation in the definition of the concept of 'OER' would go a long way to support the expansion of OERs given that it would provide a shared understanding of what an OER is and is not. Various definitions are provided to contextualise and stress the importance to allow for non-restrictive interpretation of OERs in general.

UNESCO (2019) defines OERs as being:

> [...] learning, teaching and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation, and redistribution by others.

The Creative Commons' (CC) definition echoes the UNESCO perspective and describes OERs as:

> [...] teaching, learning, and research materials that are either (a) in the public domain or (b) licensed in a manner that provides everyone with free and perpetual permission to engage in the 5R activities. (CC n.d.)

The 5R activities refer to the 'open' aspect elements such as *retain*, *revise*, *remix*, *reuse* and *redistribute* that correlate with those mentioned in the CC definition of OERs as what an open license permits. *Retain* is, however, an expansion of UNESCO's *access*, as it opens up the possibility for the user to 'own' a reproduction of the work (CC Wiki 2020; CC n.d.; Wiley n.d.).

The Hewlett Foundation supports the CC view when defining OERs as 'teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others' (Hewlett Foundation 2015). Another interpretation of OERs is done by Kawachi (2013). The 2002 UNESCO definition of an OER is interpreted as 'a small technology-enabled self-contained unit of self-assessable teaching with an explicit measurable learning objective, being at some point in time in digital electronic format and generally free-of-cost to use' (Kawachi 2013:7, 12). This means that assessment questions and their answers are integrated into the OER, and it is preferable that these questions are open-response questions rather than multiple choice, for example (Kawachi 2013:7).

When looking at the Hewlett Foundation's previous definition of OERs, one sees more specific examples of what could constitute an OER: '[...] full courses, course materials, modules, textbooks, streaming videos, tests, software, and

any other tools, materials, or techniques used to support access to knowledge' (Hewlett Foundation 2016). Though clearly sharing the broad definition of what an OER is, the removal of the practical examples by the Hewlett Foundation could be seen as inadvertently limiting what could be classified as an OER, as it provided a rare explicit classification of software as an OER, which is an area of interest for this chapter.

When looking at the different elements encapsulated within the notion of 'OERs', 'open' refers to instances where constraints that vary from cost, place and time to language, people and ideas are 'minimised compared with alternative practices' (Kawachi 2013:9). The Hewlett Foundation – a foundation actively involved in funding development and creating awareness of OERs – defines 'open education' as 'the myriad of learning resources, teaching practices and education policies that use the flexibility of OERs to provide learners with high-quality educational experiences' (Hewlett Foundation 2022). This also alludes to where OERs may fit in educational practices and how that can play a role in providing the desired high-quality educational experiences. Open education is also defined as 'encompassing resources, tools and practices to improve educational access, effectiveness, and equality worldwide' (Cronin & MacLaren 2018:127).

Open education (or open pedagogy) is considered to be a subset and a central element of OEP (Cronin & MacLaren 2018; Olivier 2020). Definitions of OEPs vary widely, but either the creation or both the creation and use of OERs is always included (Cronin & MacLaren 2018; Olivier 2020). Wider definitions of OEPs refer to practices such as constructive engagement with content, tools and services; working in teams; promoting learners' self-management – also a salient aspect of self-directedness; sharing of teaching ideas; and respecting and empowering students to become co-producers of learning (Cronin & MacLaren 2018).

This chapter provides a reflective report on the creation of a software package and its related content. At its core, the software is an unpopulated environment that allows teachers to create content for language learning activities. These learning activities would allow learners to work towards obtaining the objectives identified at a specific point in their foreign language curriculum. In this way, the software constitutes an OER that can integrate and expand beyond its original self-contained design. It could be argued that the custom-designed software on its own cannot be described as a 'self-contained unit of self-assessable teaching' (Kawachi 2013:7, 12) and that it does not strictly qualify as learning, teaching and research material in the sense that it could be used independently. However, this chapter shows its value as an OER by examining how it was designed, how it can be used in conjunction with context-specific content and how it integrates within a broader educational context.

Managing the open educational resource design process

The definitions and context provided as part of the section 'Openness: Educational resources, education and educational practices' provide a broad starting point when embarking on OER design. However, elements pertaining to integrating quality management as part of the creation process still require more reflection and prominence when defining what an effective OER is or what quality standards an OER should ideally adhere to. This can shift the focus to integrating quality management as part of the OER design process (rather than evaluating an OER post creation) and would ensure adherence to UNESCO's global standard of 'equality OER' (UNESCO 2019).

There are several aspects to consider when creating an OER for a specific context. This is particularly pertinent, because the challenges associated with OERs are no longer limited to their availability and accessibility but have long since shifted to their 'area of use', for example, skill demand for OER usage and learning design of OERs (Ehlers 2011).

Open educational resources in the broader educational context

When considering OERs as defined by Kawachi (2013), the self-contained nature of an OER as well as its specific learning objective are stressed. One could argue that this would contribute to ensuring that an OER is a well-rounded learning artefact that can be used for the specific learning purpose for which it is designed. This approach would provide new OER creators with a clear focus on what is expected and would guide OER development for their specific context. However, this view puts less emphasis on what is one of the strongest contributions that OERs bring to the educational domain, which is its reusability and adaptability. Viewing an OER in isolation – even in the case where it is a fully self-contained artefact – has the potential to limit its future usability for different contexts and levels of learning, as it would limit the OER's potential to be reused, revised, remixed and redistributed (Wiley 2013).

It could be argued that it would be more beneficial to first know what OERs already exist and rather focus on adapting or creating bridging content for a specific learning artefact to contextualise it within the specific learning programme for which an OER is created in the first place. This would ensure better positioning of the contribution within the broader educational context. This would allow for much more efficient use of limited time, energy and financial resources in the development of OERs, especially in resource-constrained environments such as South Africa (Godongwana 2022).

Considerations for integrating an open educational resource in a learning environment

Building on the idea that OER development should take into consideration what is already available before 'reinventing the wheel', one should ask what approaches would enable and support the future reuse and adaptation of an envisioned OER. In this section, the authors propose and discuss three integration concepts that would assist in framing non-isolative OER development: horizontal expansion, vertical integration and elements of cross-domain integration.

Horizontal expansion

When referring to horizontal expansion, the focus lies on the creation of more of the same content on a specific learning level. Within the context of foreign language learning, an OER artefact could entail a lesson plan with specific examples that can be used to test and hone students' understanding and subsequent application of content shared with learners. This could include efforts to contextualise OER materials using relevant examples, or purely the addition of more examples and content at a particular level that expands the availability of material that can be provided.

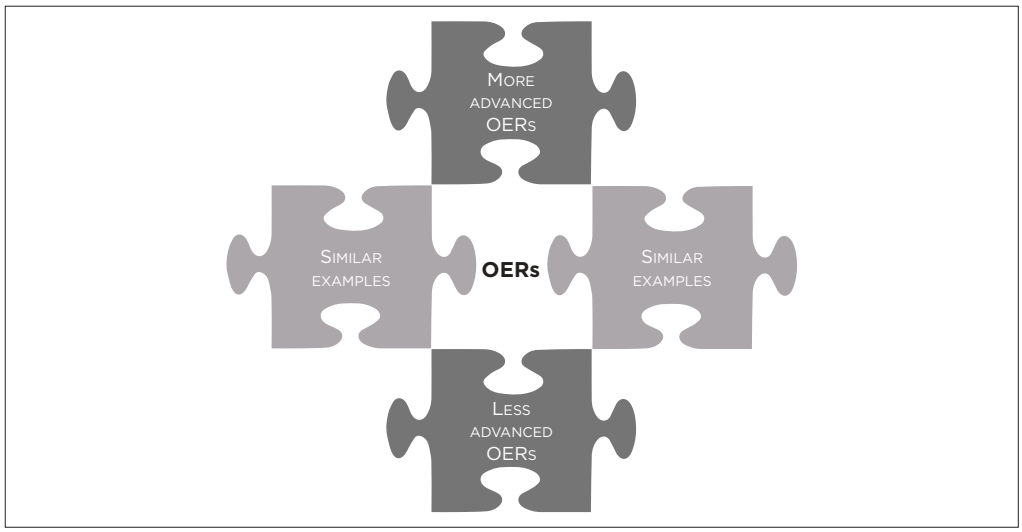
Vertical integration

Vertical integration can be explained as how an OER can be inserted at a specific point on a student's learning pathway or as a specific building block within a specific course (Great Schools Partnership 2013; Green et al. 2019). Drawing from the domain of language learning, one OER may deal with introducing oneself and greeting other people in the target language; the next OER could then focus on places, things and asking for directions. In the context of language learning, this systematically builds towards higher levels of language competency. Students can gain greater autonomy if a sufficient number of OERs are available for use in a self-directed manner in order to achieve a specific learning objective (cf. Chapter 3).

Horizontal expansion and vertical integration may be best illustrated using a puzzle (Figure 5.1) as a metaphor where different OERs can systematically cover a sufficient area or domain of learning that would provide the learner with a complete picture of a specific domain or subfield in a domain such as the content that forms part of a first-year course in French.

Cross-domain integration

The level of cross-domain integration refers to how well an OER could be transferred to different knowledge domains. At its simplest level, cross-domain



Key: OER, open educational resource.
FIGURE 5.1: A proposed approach to horizontal expansion and vertical integration of open educational resources.

integration could, for example, entail re-using the OER or its structure. In the case of the custom-designed software discussed in this chapter, which was designed for use in a beginner's module in French, the OERs structure could be used for a beginner's module in Setswana or another language-acquisition context. This could also refer to how the OER could be adapted to learning-specific skills that are central to other learning domains such as interpreting studies, for example. What makes this especially challenging to plan for is that the OER creators do not know what potential uses or adaptations the OER might hold. This is especially true in the context of a software package that forms an integral part of delivering specific content in a technology-enhanced environment.

One way to address this in part is to ensure that open-software development standards are adhered to as part of the design process. This would ensure that reuse and adaptation are possible in the future. This brings to the fore the need to be clear on how software could support the creation of an OER and how some custom platforms could be classified as an OER as proposed by the authors earlier. One could argue that by seeing software only as part of the technology-enhanced practice environment and not an OER itself limits ways of encouraging the creation of such novel environments. The custom-designed software package described later in this chapter not only enables the creation of a self-contained learning artefact but is also part and parcel of the OER that is used by a learner, as it delivers the content that is engaged and interacted with and which also finally enables individualised feedback to a learner from the teacher or facilitator.

Lastly, ensuring that all forms of expansion and integration can take place would require good documentation to be present in the case of an open-software package as well as the availability of relevant metadata accompanying an existing OER. Metadata can be defined as information about a specific artefact (Collins et al. 2022). In the context of an OER, this could be the scope of content covered, the mediums in which the OER is available, its licencing and its structure. In other words, ensuring good metadata would contribute towards the openness of the artefact. The use of open standards, which assists in keeping technologies 'open', would also further the potential for cross-domain integration (Red Hat 2022).

Findable, accessible, interoperable and reusable principles and open educational resources

Together with the last-mentioned concepts, it may be useful to consider the findable, accessible, interoperable and reusable (FAIR) principles in short as a departure point to encapsulate these in the same way that the FAIR principles have been put forward to better guide scientific data management and stewardship (Wilkinson et al. 2016). The acronym FAIR aims to summarise important principles when managing research data that must be FAIR. We would argue that designing OERs with FAIR principles in mind can foster a design focus that lies beyond the creation of a self-contained learning artefact that could be used in the context of self-directed learning. The design includes possibilities for reuse and adaptation beyond an artefact's original scope. The following summary, with examples of using the FAIR principles in the context of OERs, can guide design considerations for future OER users and reusers on their OER creation journey.

Findable open educational resources

Ensuring that OERs are easy to find is crucial; otherwise, they would not be used. Platforms that host content should ensure adherence to good metadata practices, such as the learning level of an OER (e.g. high school, undergraduate, etc.). This can make it possible to find content or identify a lack thereof for a specific domain at a specific learning level. Findability would differ between a learner and user (i.e. teacher) of an OER. A user may require a broader overview of what is available for specific learning outcomes and how these may scaffold or be vertically integrated or horizontally expanded. It would be equally important to ensure that the final artefact is described well enough to enable a learner to find it and use it self-directedly.

When considering software in this context, it goes beyond the downloadable programme or app, as there is a need to ensure that the open-source code is also available through a dedicated repository for programming code such as

GitHub (GitHub 2022) that would enable further development and reuse by a broader community.

☐ Accessible open educational resources

Accessibility primarily relates to the cost or the effort to gain access. YouTube's educational videos may not compare favourably to a well-developed massive online open course (MOOC) by a leading university, but it has the benefit of a nearly zero barrier to access. For a user, this is also an important consideration: where to place an OER? Is it or will it be shared in a way that promotes ease of access to reuse, refine or adapt in the future?

In the case of software, its accessibility is also an important consideration. It is possible that the final software package or app can be downloaded directly on a device via a link from an OER repository, but to enable further development, additional access should be facilitated. This includes linking out to the source code which could be reused or built upon using general version control platforms such as GitHub or GitLab which allow for open public access.

☐ Interoperable open educational resources

When an OER creator designs with interoperability in mind, it would ensure that future users are not locked into a specific platform or way to develop an OER. The use of open standards and approaches are encouraged. This can aid further vertical integration and horizontal expansion. As an example, one could consider the TedEd platform (TedEd 2022) which is free and allows for very easy adaptability to create a self-contained unit of learning, but it is not interoperable beyond the point of embedding a fully contained unit on a course website.

In the software development context, adherence to open standards is encouraged, as it would enhance interoperability. The use of open standards would help to ensure that further development is possible, as the 'way it works' would be open and transparent. As an added benefit, these standards typically do not attract royalties in the case of audio open (Opus 2017).

☐ Reusable open educational resources

For a user of an OER, its reusability remains the most crucial part. One could argue that a so-called OER that limits its reuse through pricing, restrictive licencing or general usage restrictions is not really an OER to begin with. However, as contextualised by Petrides (2013), there are good reasons why somewhat more restrictive licences may actually be required to protect the open-source nature of the OER from commercial exploits. It is, therefore, not that simple or clear-cut as, to rephrase Biswas-Diener (2017), a free OER does

not mean that it was free to produce (Biswas-Diener 2017; Elder 2020; Petrides 2013). The reuse of an OER lies at the core of OERs and should therefore be one of the most important considerations when designing an OER. An application or software package can be reused and reinstalled many times. However, reuse in the context of software as an OER goes beyond just the reuse of the application and includes the reuse of the source code to adapt or extract elements that can be built into future development projects, which aligns with the rationale of using free software in general (Free Software Foundation 2021).

The FAIR principles can provide an easy-to-use approach when developing an OER by considering whether it would be consumable, reusable and adaptable for use cases not yet known or conceived. This also links well with ID principles, used as part of the OER design process described in this chapter, which aim, through effective planning, to create a final learning artefact, or in this context, OERs that can make a positive impact on the efficiency and effectivity of language learning (Morrison et al. 2011).

Important considerations for open educational resource design reflects on the practical application of the design considerations discussed as part of the design process followed for an OER as part of a technology-enhanced practice environment.

Important considerations for open educational resource design

In this section, the role and advantages of computer-assisted language learning (CALL) are investigated. This is followed by a discussion on the conversational framework (Laurillard 2012) and its role in determining the different design elements that should be included when creating a teaching and learning environment. Lastly, the domain of oral communication and, more specifically, the elements that are fundamental to the development of this skill are discussed.

Computer-assisted language learning

Advantages offered by CALL and context-sensitive asynchronous computer-mediated communication (ACMC) – especially at the beginning of language learning – are widely recognised and include, for example, an increase in student interaction, receiving both intrinsic and personalised extrinsic feedback, allowing students to determine the pace at which they work and enhancing student motivation (Almoshigeh 2022; Collentine & Collentine 1997; Laurillard 2012; Pino James 2013; Reinders & Hubbard 2013; Reinders & Thomas 2014). Some of these advantages such as working at one's own pace

and increased learning motivation are indicators of a higher level of student self-directedness (Cheng et al. 2010; Knowles 1975). A technology-enhanced practice environment could provide greater exposure to the target language and more opportunities to practice speaking (Bluestein 2017), especially if the practice environment is designed for out-of-class use. Software that could be used in such an environment and that allows language teachers to create context-specific content is, however, not readily available. Creating a context-sensitive software package that addresses the specific needs in the process of developing students' oral interactional competence and that aims to provide support to students who are in the process of developing their oral interactional skills in an out-of-class practice environment seems like a viable option to fill the existing gap.

An extensive literature review revealed the different components of a technology-enhanced learning environment and the components that are fundamental to the development of oral communication skills (Grobler 2020). These components – for example, focused listening, extensive practice and receiving feedback – served as the basis for the ID process described in the section 'Instructional design: Approach and method'. The theoretical foundation of the broader teaching and learning environment, the different elements of the software package and the motivation for including these design features are discussed in the section 'The conversational framework' and the section 'Elements specific to spoken interaction'.

The conversational framework

To ensure a pedagogy-driven design approach, Laurillard's Conversation Framework (CF) was used as a starting point in mapping the elements required for the design of the different activities in the teacher-peer communication, practice and modelling cycles that form an integral part of the CF (Laurillard 2002, 2012). The CF encompasses requirements from different approaches to learning as well as design principles from the field of ID to clarify the role of teachers and students (Laurillard 2012). Within the context of creating new software, this translates into creating opportunities for students to generate and share their productions with the teacher, exposing students to explicit and implicit feedback, creating an environment that models the desired outcomes, and creating a practice environment that facilitates student actions (Grobler 2020; Laurillard 2012) – activities that once again promote self-directed learning (also see the section 'Computer-assisted language learning').

Elements specific to spoken interaction

When designing a teaching intervention, the activities should be contextualised, meaningful and integrated into the broader context (Pawlak 2011), and elements that could contribute to the mastery of a language should be

identified and included in these teaching interventions so that students can optimally learn the language. In the context of the study presented here, the following elements were identified for inclusion in the design of the software.

☐ Productive and receptive activities

Speaking as a learning outcome is comprised of both oral production and oral comprehension (Dumais, Lafontaine & Pharand 2015) and at the beginner level, it is most advantageous to address oral and aural skills as a unit and in equal measures (Clancy & Murray 2016; Eisenmann & Summer 2012). The new software will provide ample opportunity for students to both listen to recordings in French and participate in speaking activities, thus encouraging learning.

☐ Focused listening

Including focused listening activities in a teaching intervention establishes a balance between listening and speaking. This can be achieved by providing recordings of either simulated conversations or assessments that have been completed successfully and asking students to pay particular attention to words or phrases in order to answer questions (Eisenmann & Summer 2012). This is then followed by feedback on students' replies. Within the technology environment created for the context of this study, focused listening will be required when students listen to the questions they have to answer, and if they struggle, they could listen to a pre-recorded simulated conversation to identify the structures that are modelled.

☐ Extensive practice

By exposing students to practice – defined as 'an opportunity learners receive to perform the task at least twice, with the first performance treated as a preparation for the one that follows' (Mystkowska-Wiertelak 2011:248) – repetition and elaboration, they are given the opportunity to plan their utterances. Having more time to plan leads to more fluent and more grammatically correct utterances (Altarriba & Basnight-Brown 2009; Chen 2020). Procedural knowledge is acquired through extensive practice and feedback and is subsequently more easily activated when producing speech (cf. Heredia as cited in Altarriba & Basnight-Brown 2009; Morgan-Short et al. 2014). The custom-designed software will provide the students with ample time to perform tasks for the first time and with opportunities to repeat their contributions in the simulated practice environment. Elaboration on these tasks will be integrated into the broader teaching and learning context by asking students to make videos in pairs and to participate in an individual oral with the teacher. The SDL domain of interpersonal communication (Cheng et al. 2010) especially comes into play here.

☐ Review of own oral production

Providing students with opportunities to review their own oral production allows them to address challenges and difficulties, which leads to improved performance, improved accuracy and spontaneous error correction (Dumais et al. 2015; Song 2018). The technology-enhanced practice environment will also allow students to compare their production with target-like outputs (i.e. a model dialogue) and to evaluate the effectiveness of their learning strategies (Mok et al. 2006; Ölmezer-Öztürk & Öztürk 2016). This provides an opportunity for students to identify their own learning needs and to establish their individual future learning goals, thus encouraging self-directed learning (Knowles 1975) in the learning environment.

☐ Oral corrective feedback

Corrective feedback provides information on errors in student utterances, and this enables students to monitor their learning (Bransford, Brown & Cocking 2000; Doughty 2003; Mohamed 2020). Delayed feedback offers the advantage of not hindering direct communication, and it allows the teacher to provide more comprehensive and individualised feedback (Ölmezer-Öztürk & Öztürk 2016). In the case of this study, the focus is on providing personalised oral corrective feedback on student productions, which could have the additional benefit of improved pronunciation (Pino James 2013). The last element, self-assessment, identified for inclusion in the design of the software is discussed in the section 'Self-assessment'.

☐ Self-assessment

Self-assessment is a continuous and dynamic process through which students become self-directed learners who monitor and reflect on their performance, learning behaviour and proficiency, and confront their weaknesses (De Saint Léger 2009). By participating in self-assessment activities, students become increasingly autonomous and self-regulated (Lew, Alwis & Schmidt 2009). A compulsory self-assessment activity will be included at the end of a series of activities done within the practice environment.

In this section, an answer to research question 1 was provided by identifying the activities and tasks that constitute the foundation of the content of an OER. Next, a process of ID was implemented to guide the organisation of the practice learning experience (cf. research question 2).

■ Instructional design: Approach and method

This empirical study was based on a pragmatic research paradigm, thus focusing on finding the best possible solution for a problem through a process

of action and reflection (Creswell & Poth 2018; De Vos et al. 2006; Newby 2014). Because a design-based research approach aligns well with a pragmatic paradigm (Sloane 2006), it was decided to adopt this approach. This implies doing research in a real-world setting and implementing iterative cycles to test and refine a new learning environment, thus ensuring a quality product (Kawachi 2013:13). This, in turn, results in new context-sensitive design principles (Amiel & Reeves 2008; Wang & Hannafin 2005).

A design-based research cycle consists of four phases: analysis, development, testing and reflection (Amiel & Reeves 2008). During the first phase, researchers and practitioners work together to analyse and identify the practical problems and research goals. The second phase focuses on the design and development of the new learning environment. This is then implemented, tested and refined in the third phase and finally, the results are used to redefine the problem and to evaluate the possible solutions in order to create new designs in the fourth phase (Amiel & Reeves 2008; Wang & Hannafin 2005).

To strengthen the ID process, a model of ID was included. The design process of ID models is a theory-based decision-making process that guides researchers and practitioners on how to apply the different steps of the ID process (Seel et al. 2017). For this study, the ADDIE (analysis, design, development, implementation and evaluation) model of ID (Almelhi 2021; Branch 2009; Yeh & Tseng 2019) was selected, because the phases of the ADDIE model – analyse, design, develop, implement and evaluate – correspond well with those of the design-based research cycle.

Two cycles of the design process were completed over a period of 3 years. The analysis phase of the ADDIE model was completed once at the start of the study, whereas the remaining phases were completed twice. The literature review presented in the section 'Important considerations for open educational resource design' formed the foundation of this first phase by identifying possible causes of a performance gap, identifying necessary resources and possible delivery systems.

The aim of phase two – the design phase – is to identify the tasks that would be conducive to reaching the specific performance objectives and to generate appropriate testing strategies for the specific context. This is followed by the development phase, which has several objectives, including selecting or developing media, creating appropriate content, deciding how to present learning activities and applying formative revisions where necessary. During the implementation phase, students are actively involved in the learning activities, which allows researchers to assess whether the activities performed were as expected. Empirical evidence on student performance, the worth and effects of the learning activities implemented in a previous phase, is gathered during the evaluation phase. The aim is to make informed decisions about revisions that would strengthen the context-specific procedures implemented.

Instructional design: Practical application

As part of the first iteration of ID design process (cf. the section 'Instructional design: Approach and method'), the general characteristics of the software were established, the tasks related to the performance objectives were identified, and testing strategies to establish the suitability and effectiveness of the practice activities were established (ADDIE: design), and the first version of the new software – *Papotons!* (*Let's chat!*) – was developed (ADDIE: develop). This was followed by the first implementation (ADDIE: implement) and evaluation (ADDIE: evaluate) phases. During the second cycle, the same phases were completed. The two cycles, their related phases as well as the results of these cycles are discussed in the subsections 'Cycle 1 – Design', 'Cycle 1 – Develop', 'Cycle 1 – Implement', 'Cycle 1 – Evaluate', 'Cycle 2 – Design', 'Cycle 2 – Implement' and 'Cycle 2 – Evaluate'.

Cycle 1.1: Design

The different tasks that would enable students to reach the performance objectives and the strategies implemented to evaluate the out-of-class practice environment are discussed in this section. This is done in relation to the elements discussed in the section 'Important considerations for open educational resource design'.

Tasks and activities

As a starting point for the conceptualisation of the software, it was decided that it would be made available as an OER and that once the software and the necessary content were downloaded from the learning management system (LMS), students could continue working offline. Students are allowed to work independently in the environment of their choice (at home or in a language laboratory) requiring students to display self-directedness by taking initiative and to be less dependent on teacher intervention (Knowles 1975; Yang 2015).

The interface remains basic to facilitate navigation, and apart from the navigation prompts, no written support is provided. However, students are not left to their own devices and have access to a model dialogue ('simulated authentic conversation in a communicative situation'; Laurillard 2012:216) on the LMS supporting their understanding of the task and their readiness to participate in the task (Eisenmann & Summer 2012:49) (cf. the sections 'Productive and receptive activities', 'Focused listening', and 'Review of own oral production').

The teacher determines the content of the learning activities based on the outcomes that have been defined within the broader teaching and learning context. Each learning activity is presented as a simulated conversation – with a

question-answer format – during which students listen to a series of questions, record and save, or re-record their answers (cf. the section 'Review of own oral production'). There is no time restriction allowing students to consult their notes or other sources of information, and they can re-record their replies as many times as they wish (cf. the section 'Extensive practice'). After completion, students take part in a self-assessment activity (cf. the section 'Self-assessment') before submitting the task to the teacher, who, in turn, records personalised feedback on each task (cf. the section 'Oral corrective feedback'). As a final step, the teacher attributes marks according to predetermined assessment criteria.

Testing strategies

To investigate the suitability and perceived usefulness of the technology-enhanced practice activities, a mixed-methods approach was chosen. This method is appropriate for this design-based research project, because it is closely linked to this study's pragmatic paradigm (Creswell & Poth 2018; Johnson & Onwuegbuzie 2004). When the software was implemented for the first time, the teacher-researcher and the software developer were present, firstly, to support students in using the new software and secondly, to observe student behaviour and to take note of student comments. These observations and notes were used to subsequently improve different aspects of the software (cf. the section 'Cycle 1 – Evaluate').

For the second evaluation cycle, a context-sensitive instrument was designed and validated to obtain information related specifically to the *Papotons!* software and the activities done within this environment. Participation was voluntary, and students who decided to take part signed a form confirming their consent. The relevant ethics committees at the NWU granted permission for this study to be conducted. The instrument consisted of a questionnaire on oral communication practice activities in general. The questions related to the software were of a quantitative nature that focused in more detail on the simulated conversation activity, the self-assessment activity and the teacher's individualised audio feedback. Information about these three aspects was also gathered during face-to-face focus group interviews. These interviews were conducted 3 months after the last practice cycle. The results obtained from the quantitative and qualitative analysis of student feedback were used in the first *evaluate* phase (cf. the section 'Cycle 1 – Evaluate') to improve the software and its related activities. This feedback was supplemented by observations made by the teacher, assessors and software designer throughout the semester.

Cycle 1.2: Develop

During this phase, a three-part software package was created. Each part has its own functions. The *Create* and *Feedback* elements are destined for use by

the teacher, whilst the *Student* part allows the students to participate in the learning activity.

Create: The teacher records questions or imports audio files to create the basis for the simulated conversation and then captures the criteria for the student self-assessment activity.

Student: This part allows students to listen to the teacher's questions as many times as they like (cf. the section 'Extensive practice') to record a reply to each individual question, and then they have the option to listen to their answer before saving or re-recording the answer (cf. the section 'Productive and receptive activities' and the section 'Focused listening'). Students have continuous access to a model dialogue illustrating the skills required for completing the Papotons! activity if they need help with understanding a question or with formulating a reply. When done, students use a sliding scale to evaluate their performance, after which they save and submit their assignment (cf. the section 'Self-assessment'). The activities could be completed either at home or in a designated university language laboratory where technical support was available.

Feedback: The teacher uses this part to listen to the recordings submitted by the students. The performances are rated within the software based on criteria formulated by the teacher. Lastly, the teacher records feedback on the assignment in its entirety (cf. the section 'Oral corrective feedback'). The format of the final audio output starts with the questions and the students' replies (allowing a review of one's performance). This is followed by the teacher's feedback. The content for each of the practice cycles was created according to the performance outcomes defined for each of the cycles. The content that was intended for use during the simulated conversation activity included the recording of a model dialogue and the questions that students must answer. The first implementation of the technology-enhanced practice activities within the broader teaching and learning context is described in the sub-section 'Cycle 1 – Implement'.

Cycle 1.3: Implement

During the 12-week semester, the *Papotons!* activities were integrated into three practice cycles of learning activities within the broader context (cf. Grobler and Smits [2016] for more detailed information), and each cycle included the following steps (the software is used during the steps marked with*):

Step 1: Face-to-face classes

This involves traditional classes where the teacher guides students to discover and master different aspects of the French language. The teacher provides practice activities and model answers, and the group engages in discussions on relevant topics.

Step 2: Module dialogue

Students participate in a listening comprehension activity on the LMS. The recording consists of a simulated conversation that illustrates the different outcomes identified for each of the cycles. After having listened to the recording, students are required to answer a series of questions. During this process, they receive metalinguistic cues or questions to help them discover the correct answer. This is followed by overt automated feedback provided on the LMS.

Step 3: Simulated conversation*

In this step, the *Student* part of the software is used. The activities involved are described in detail in the sub-section 'Cycle 1 – Develop'.

Step 4: Audio feedback*

The *Feedback* part of *Papotons!* allows the teacher to record personalised audio feedback (cf. the sub-section 'Cycle 1 – Develop – Feedback'), and students receive their recordings via the LMS.

Step 5: Student videos

Students work collaboratively in pairs to make videos to demonstrate their mastery of the outcomes specified at the beginning of each cycle, thus including the social constructivist element that is at the core of OEPs (Cronin & MacLaren 2018). A list of instructions is provided to students, and they are informed that they are not allowed to read a text during filming. The final product is shared with a peer group who comments on the video.

Step 6: Individual face-to-face oral

In the final step of each of the cycles, students participate in a face-to-face oral with the teacher, and students can illustrate the skills acquired in the steps described in this section. The interaction follows a question–reply format during which the teacher can repeat or reformulate questions if students struggle.

The last phase of the ID process – the evaluation – is discussed in the sub-section 'Cycle 1 – Evaluate'.

Cycle 1.4: Evaluate

Following observations made by the researchers during the implementation phase (cf. the sub-section 'Cycle 1 – Design – Testing strategies') on the simulated conversation learning activity, several changes that had to be made during the next ID cycle were identified within each of the three parts of the software as well as in the general management of the software and activities. These changes are discussed in this section.

Papotons! Create

- *Increased flexibility*: When creating activities, the teacher has no option to combine importing audio recordings and recording questions within the *Papotons!* software.

Papotons! Student

- *Interface*: The interface was seen as bland, and students requested a more colourful and modern display.
- *Accessibility of model dialogue*: Students proved to be reluctant to consult the model dialogue outside of the *Papotons!* environment. This might be because of the elaborate action of having to log in to the LMS and retrieving the recording. This limits their opportunities to receive important intrinsic feedback on their performance (Laurillard 2012).
- *Review of recorded replies*: Observations on the time students spent on completing the activities revealed that students generally rushed through the questions and that they rarely reviewed their own replies before continuing to the next question.
- *Preparation for self-assessment*: In the first version of the software, students have no opportunity to listen to their recorded answers before doing the self-assessment.

Papotons! Feedback

- *Easier access to student recordings*: The first version of the software restricts teachers' access to student productions to the *Papotons!* environment, thus limiting opportunities to replay certain excerpts and forcing the teacher to wait until the end of the recording to complete the assessment with the software.
- *Teacher-student assessment criteria*: Differences in the criteria for the student self-assessment and teacher assessment must be eliminated to ensure a just and fair assessment.
- *Adapted format*: Benefitting from the teacher's audio feedback is hindered by the fact that students are obliged to listen to the whole 'conversation' before having access to teacher feedback.

Papotons! General management

- *Software incompatibility*: Several instances of incompatibility between the software and students' personal devices were recorded.
- *Improved architecture*: The initial architecture for accessing files created by teachers and students is clumsy, and file retrieval is unnecessarily complicated.

Cycle 2.1: Design and develop

The improved version of the *Papotons!* software was prepared during the second design and develop phases of the ID process, considering the elements

that resulted from the first evaluation (cf. the sub-section 'Cycle 1 – Evaluate'). The adaptations that were made are presented in this section.

☐ Papotons! Create

- *Increased flexibility*: In future, the teacher will be able to both record questions directly in the software environment when creating activities and to import pre-recorded questions. This will improve flexibility in the activity creation process.

☐ Papotons! Student

- *Interface*: The new version is more modern, and more nuanced colours are used. The interface has an iPod-like look.
- *Accessibility of model dialogue*: Providing direct access to the model dialogue will encourage students to make use of this opportunity to receive intrinsic feedback through one-click access within the *Papotons!* Environment (Figure 5.2).
- *Review of recorded replies*: In the new version of the software, students are obligated to listen to their production before continuing to the next question, thus encouraging them to reflect on their work.

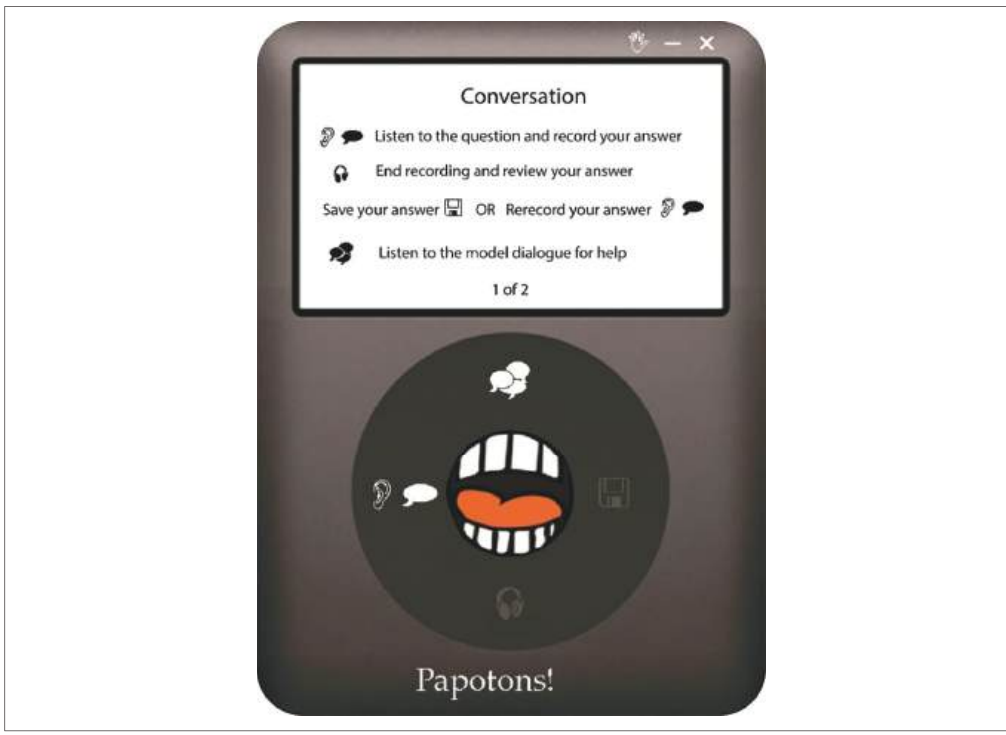


FIGURE 5.2: Interface of *Student* part of the software with direct access to the model dialogue.

FIGURE 5.3: Interface where students are prepared for self-assessment activity.

- *Preparation for self-assessment:* Including an additional step which allows students to review their productions before completing the self-assessment not only allows students to assess their work more accurately but the time spent on the task will increase (Figure 5.3). It was also decided to provide pre-recorded model answers with which students could compare their work, which allows the integration of answers to open-response questions into the OER (Kawachi 2013:7), and this again allows students with another learning opportunity (Laurillard 2012) and to receive intrinsic feedback once again.

☐ Papotons! Feedback

- *Easier access to student recordings*: Student productions will in future be made available in a format not strictly associated with the software, allowing teachers and assistants to access the recordings independently. This allows assessment whilst listening to student recordings, and it facilitates sharing of recordings for assessment by others.
- *Teacher-student assessment criteria*: An assessment grid was created and refined. This grid consolidates the criteria for the student self-assessment and the teacher's assessment and can be used in both contexts.

- *Adapted format*: The teacher is now able to record feedback on each question, creating a final recording that consists of the original question from *Papotons!*, the student's recorded answer and the teacher's audio feedback, in this sequence, question by question. This replaces the dissociated feedback at the end of student productions from before.

☐ Papotons! General management

- *Software incompatibility*: To minimise technical challenges in future, students will be required to complete the *Papotons!*-based activities in a language laboratory where the software is already installed and where technical support is available.
- *Improved architecture*: The architecture is streamlined, and new file extensions are created for the *Papotons!* environment. This facilitates file retrieval.

Cycle 2.2: Implement

Following the first implementation of three practice cycles (cf. Cycle 1 – Implement), it was decided that in future, only two practice cycles of the teaching and learning activities will be completed per semester to allow more time to complete the different steps and to benefit from teacher and peer feedback. The outcomes remain unchanged, however.

The practice cycles were implemented during the second phase of implementation, and the steps were completed over a period of 13 weeks.

Cycle 2.3: Evaluate

The evaluation was done by means of a 25-question questionnaire with multiple choice and open-ended questions (Grobler 2020). This was supplemented by face-to-face semi-structured group interviews with students who agreed to participate in these discussions (cf. the sub-section 'Cycle 1 – Design – Test strategies'). Student feedback revealed that no further changes were necessary to the software or the activities that are done within the *Papotons!* environment. The teacher and software designer did not report any other aspects that needed to be changed either.

Discussion and recommendations

Open educational practices provide teachers at different institutions and different levels of education with an opportunity to share resources with colleagues and to use or adapt those of colleagues within the same discipline. Open educational practices do not, however, focus solely on teachers but encourage student self-management, creativity and teamwork (cf. Cronin & MacLaren 2018).

Ensuring quality educational experiences when using OERs is a prominent aspect of open education (Hewlett Foundation 2022). The current definitions of OERs do not, however, allude to this. Creating an all-encompassing definition is challenging, no matter what the topic at hand. The act of defining something is in its very nature a limiting exercise (Harper n.d.). In the case of software, an OER definition that is too narrow could hamper active development, and opening the domain of OERs to an open-software development community could contribute to furthering the foundational aims of OERs in general. Ideally, an expanded definition which aims to capture the breadth of possibilities that OERs can hold should be encouraged; a definition that allows, for example, the explicit inclusion of software as an OER, the importance of strengthening the OER design process through embedding quality assurance and ensuring that openness is actively planned for from the start. Such a definition could assist with the acceptance of unpopulated environments such as the *Papotons!* software package as an OER.

Considering the points discussed above, one could then suppose that quality should firstly be ensured by the teaching practices or education policies that allow the incorporation of OERs within the teaching and learning context. To do this, teachers and policymakers should know what strategies to implement that would result in the desired level of quality. Investigating and proposing different ways to reach this goal would empower decision-makers when deciding to include OERs in their teaching environment and would allow a greater degree of openness in their teaching practices (cf. the section 'Openness: Educational resources, education and educational practices'). This could include, firstly, active integration in the broader educational context through horizontal expansion – that is, the material with more relevant examples for a specific learning outcome – secondly, vertical integration which focuses on building supplemental OERs that could feed into or from a particular OER and finally, cross-domain integration of the structure of an OER. In the case of *Papotons!*, an unpopulated environment is provided to help teachers with content creation and learners to achieve learning objectives in other domains. This integration and expansion would allow for broader use, adaptation or re-purposing of these materials.

Building quality OERs entails more than a self-contained artefact; it entails an artefact that can be built on and expanded within the software context. This particularly links to open standards, good documentation and ingraining the FAIR principles (cf. FAIR principles and OERs), **F**indable and **A**ccessible OERs, as well as OERs that are **I**nteroperable and, importantly, **R**eusable. This would enable horizontal expansion, vertical and cross-domain integration. Quality OERs also require sound ID to create impactful learning experiences for learners using an OER.

The practical application of such an ID process described in this chapter could serve as an example of what responsible design could represent.

This process started with an overview of the context and subject-specific considerations that should be considered before embarking on the ID process. This includes delivery considerations (technology-enabled or not), applicable theoretical frameworks, and elements that would ensure a contextualised and meaningful teaching intervention. Deliberately focusing on including strategies to promote self-directed learning is recommended as part of the conceptualisation of the ID process, because this is part and parcel of an open education approach.

This is followed by structuring a design process that suits the specific teaching and learning context. Decisions about the approach (e.g. pragmatism) and the ID instruments to be used (e.g. ADDIE) are then taken. The inclusion and practical application of these considerations and decisions should be rigorous and precise to ensure an optimal result.

Certain skills are required for creators and users of OERs to be responsible designers and to function effectively in the OER context. For designers, a core recommendation is to familiarise oneself with what OERs are before embarking on the design process. This would allow for better planning and ingrained quality assurance as part of the design process. For users, developing one's own technical skill set should be encouraged, as it could be a limiting factor when using OERs. Certain technical skills, such as understanding how microphones function and how to make recordings in the best possible way, are required.

Designing effective and impactful OERs requires time and a lot of effort to ensure that these are not spent in vain. The following recommendations can be kept in mind by future users and creators of OERs:

1. Think broadly: An expanded definition that leaves room for different learning artefacts, such as software packages, can benefit the overall use and impact of OERs.
2. Quality is key: Design with quality in mind; use ID principles to ensure high levels of learner benefit.
3. Think about how your OER can be expanded and integrated further from the start – embrace the FAIR principles.
4. Hone your skill set and build your open networks.

This list is not exhaustive, and aspects such as working collaboratively with students to co-create an OER could be pertinent in certain contexts (Olivier 2020).

More room exists to explore how to focus on quality assurance that can be ingrained as part of the design process and less as an evaluative exercise. Possible ways that this could be achieved is to expand the *TIPS* framework (Kawachi 2013) to be a design tool that could be used side by side with the OER creation process. This framework provides quality assurance guidelines for OERs. It addresses the following aspects: '**T**eaching and learning processes;

Information material content; **P**resentation, product, and format; **S**ystem technical and technological aspects' (Kawachi 2013:20–24).

Conclusion

At the beginning of this chapter, we looked at the existing definitions of OEPs, open education and OERs, and the challenges resulting from a too narrow description of what OERs entail. Because quality is a prominent characteristic of what open education, OEPs and OERs should entail, we investigated different principles that could be implemented to ensure that OERs adhere to this requirement. These principles include considerations for integrating OERs into the broader educational context and design principles that one should consider when creating the artefact for a specific teaching and learning context.

This was followed by a description of the practical implication of these principles during the design process of a custom-designed software package and context-specific content that aim to support the development of the oral communication skills of university students studying French as a foreign language in South Africa. The design principles were sensitive to including opportunities for students to increase their level of self-directed learning practices through, amongst others, independent work, participation in self-assessment activities, working with peers and receiving explicit feedback. The chapter is concluded with a discussion of the design project, and recommendations are made.

Chapter 6

Decolonising the journalism curriculum through co-creating an open educational textbook with students

Andre Gouws
School of Communication,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa

Abstract

Journalism as an academic discipline is relatively new. The field of journalism has changed significantly as a result of the effects and challenges of digitalisation. The changes in journalism mean that the curriculum needs to adapt to remain relevant. In a decolonising society such as South Africa, there is also a need to decolonise the journalism curriculum. A possible route towards adapting and decolonising the curriculum is through the use of open educational resources (OERs) and open educational practices (OEPs). Adapting and decolonising the curriculum can be achieved through a process of self-directed learning (SDL), where students can participate in the creation of their own learning material and play an active part in deciding what they would like to learn. This chapter reflects on a project at the School of Communication at the North-West University (NWU), Potchefstroom campus,

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where students participated in a project to co-create an open educational textbook with the lecturer. By inviting students to participate in writing the textbook, the lecturer provided an opportunity for students to integrate their own knowledge and learning experience into the curriculum. The aim of the project was to address the lack of locally relevant, up-to-date and decolonised learning material in the field of journalism. This chapter is a critical reflection on the project by systematically analysing student contributions to evaluate whether the creation of an OER textbook offers a way to address decolonisation demands from students, which often centre on the need to participate in creating their own learning experiences and the need for content that is more relevant to indigenous contexts. The project showed that SDL as part of an OEP project to create learning material can play a significant role in decolonising the curriculum and giving students a voice in their own learning.

Introduction

In many countries, formal journalism schools or departments were only formed in the 1970s. The debate about what journalism schools should teach and how they should teach is a continuous and contentious one, both in academia and in the industry (Anusharani & Benda 2020; Ercan 2018; García-Galera, Martinez-Nicolas & Del-Hoyo-Hurtado 2021; Gillmor 2016). Technological changes, economic realities, the loss of career opportunities (Dugmore 2018; Jacobson 2021; Kruger 2022), the increasing participation of ordinary citizens in journalism (Kruger 2022; Mabweazara & Mare 2021:5) and the need for decolonising the curriculum (cf. Chapter 10) in a country such as South Africa add further layers of complication to the question of how journalism curricula at higher education institutions (HEIs) should adapt to remain relevant. As journalism is no longer simple to define in the 21st century (Deuze 2019; Deuze & Witschge 2018), educators should regularly evaluate what journalism is and how journalism should be taught. In the South African context, there is a need to decolonise the journalism curriculum, which is still dominated by normative views from the Global North (Dube 2017). This chapter proposes that some of the challenges facing journalism educators may be addressed through a SDL process within the framework of OEPs. The discussion in this chapter reflects on the co-creation process of an open educational textbook by students and their lecturer by systematically analysing student contributions to the textbook. This was part of a process to empower students, decolonise the curriculum and adapt the curriculum to become more relevant to the challenges of the 21st century.

The journalism curriculum encompasses skills that can be useful to anyone who creates or distributes information. In 2008, a former Public Broadcasting Service (PBS) host in the United States of America (USA), Robert MacNeil, called journalism education probably ‘the best general education that an American citizen can get’ (Gillmor 2016:815). The skills journalism students

learn are, indeed, useful 21st-century life skills. These skills include the development of critical thinking and the ability to evaluate information – in other words, the development of information literacy skills (Swart 2021). By empowering students to take charge of their own learning, they are encouraged to critically evaluate their own knowledge and add this knowledge to the curriculum (thereby participating in renewable assessments), thus becoming self-directed learners. In turn, this process contributes to decolonising the curriculum by providing an outlet for student voices and promoting SDL.

However, despite much academic debate on the need for transforming the journalism curriculum in South Africa, little has in fact changed (Dube 2017:2). Western normative views of what journalism is, still dominate curricula. Two decades ago, De Beer and Tomaselli (2000) already showed that the journalism curriculum in South Africa needed to become more Africanised with a more social-democratic outlook. A decolonised curriculum should represent previously marginalised voices (Rodny-Gumede 2018). This has not happened in journalism education (Reid & McKinley 2020; Shaw 2017).

Decolonisation also relates to access to educational material, which could help address inequalities and social injustice in higher education (HE) (Cox, Masuku & Willmers 2020). Cox et al. (2020) argue that textbooks in South Africa are prohibitively expensive for most students. Indeed, one of the main demands of student protestors in 2015–2017, when the #RhodesMustFall and #FeesMustFall protests took place on university campuses in South Africa, was for free or equal access to education (Quinn & Vorster as cited in Cox et al. 2020).

Viewed against the need for decolonisation and the need to adapt the journalism curriculum because the field of journalism is changing so fast, the value of OERs becomes apparent. Open educational resources, particularly when co-developed by lecturers and students, can provide an outlet for student voices and needs (Olivier 2020:25). Listening to student voices can be a way to help integrate indigenous knowledge into the curriculum (De Beer & Mentz 2019). Such a process helps keep learning material relevant and helps to decolonise learning material by increasing access and encouraging the transformation of contents. As regards co-creation, OERs are 'particularly conducive to multi-authorship strategies and participatory content development processes, integrating the learner in resource development and providing opportunities for pedagogical innovation' (Cox et al. 2020:2). The creation of an open textbook in this project is an example of OEP (cf. Chapter 1), a term that broadly describes the use of OERs and open practices (Cronin 2017) – a 'suite' of open practices in education that can help address inequalities and lack of access to educational resources (Cox et al. 2020:2).

In this chapter, the author of the textbook *How to be a journalist in the 21st century* (published under a CC BY-NC-SA licence) reflects critically on a

project in his journalism modules at the School of Communication at the NWU's Potchefstroom campus. He invited students to co-create their own learning material by contributing to a new journalism textbook. The book was a prescribed text in 2021 in two of his journalism modules. The textbook fills a gap in the corpus of journalism textbooks. It is, as far as the author knows, the most up-to-date journalism textbook currently available in South Africa taking into account the changes brought about by digitalisation as well as calls for more relevant and decolonised content. The author and his colleagues have struggled over the years to source up-to-date South African textbooks for use in teaching and learning, and currently use either online sources, self-created teaching and learning material or the textbook *Introduction to journalism* by Gwen Ansell, published in 2011 in South Africa. The process of co-creating a new textbook with students is a good example of SDL, where students were empowered to be 'open-minded and aware of their role as active learning participants', to reflect on their own knowledge, and add this knowledge to the curriculum (Du Toit-Brits 2021:29).

In order to meaningfully reflect on the co-creation process and analyse student contributions, this chapter initially explores, through a literature review, three important issues facing journalism educators in the 21st century, namely: the core question of what journalism in the 21st century is and how it should be taught; the need for the decolonisation of journalism education in South Africa and adapting the curriculum to remain relevant; and open pedagogy with reference to the creation of an OER through SDL and renewable assessment. These three broad themes provide a conceptual framework for further discussion in this chapter. There are still few empirical studies about the use of OEPs in HE (Cronin 2017). This study contributes towards an understanding of OEPs in a particular context in South Africa and can help promote the use of SDL.

Problem statement

Journalism is faced with various challenges and changes because of the effects of digitalisation (Deuze 2018; Guo & Volz 2019). Historically, journalism was practised mainly by what is commonly known as the mass media, legacy media outlets such as traditional printed newspapers and magazines, as well as broadcast media, both private and public (Nygren, Tenor & Leckner 2018). Many legacy media outlets have now created online versions of their publications, particularly in attempts to attract younger readers (García-Avilés, Kaltenbrunner & Meier 2016). However, many legacy media outlets have struggled to remain relevant in the digital era, because of, amongst other factors, the loss of income and readers, with the inevitable loss of income and subsequent loss of career opportunities for young graduates (see Dugmore 2018; Jacobson 2021; Kruger 2022). Journalism has been an industry in crisis for some time, with the coronavirus disease 2019 (COVID-19) pandemic again leading to mass retrenchments and financial losses at legacy media outlets in

2020–2021 (Skinner 2021). The challenges and changes in journalism as a practice, which refers to journalists *and* other people doing journalistic work (Deuze 2021:8), and journalism as an academic field of study have led to much debate in academia about what journalism is and who can be a journalist (Anusharani & Benda 2020; Deuze 2021; Ercan 2018; García-Galera et al. 2021; Gillmor 2016; Kruger 2022). However, despite the changes and challenges in journalism, the journalism curriculum in South Africa has remained relatively static. The curriculum has traditionally been rooted in a Western, liberal normative media model (Dube 2017), while there have been increasing calls for decolonising the curriculum (Garman & Van der Merwe 2017). It has also become clear that formal career opportunities have become fewer, while other opportunities have become available (Morrish 2019). These opportunities include entrepreneurial journalism (Caplan, Kanigel & Tsakarestou 2020), often through the use of social media and blogging (Bor 2014), public service journalism (Kruger 2022) and what Kruger (2022:28) calls 'accidental journalism'. Many people drift into doing journalistic work without realising it, presenting news on YouTube or other platforms.

Considering the changes and challenges in the field of journalism, it seems clear that the curriculum needs to adapt to remain relevant (Kruger 2022; Rodny-Gumede 2018). The curriculum does not yet fully reflect the changing definitions of what journalism is, nor the new opportunities that have opened up, nor has it been decolonised sufficiently (Dube 2017; Kruger 2022). Open educational practices provide a possible option to address this gap, particularly through co-creating an open textbook with students. By providing students with an opportunity to direct their own learning through the textbook creation process, it is possible to adapt the curriculum and to address many of the gaps in the journalism curriculum,, including new definitions of journalism, entrepreneurial journalism and decolonised content. This could help keep the curriculum current, relevant and help address the need to decolonise the curriculum.

The reflection in this chapter is based on the following **general research question**: How can the co-creation of an OER textbook for journalism, as part of an SDL process within the context of open pedagogy, assist educators in updating and decolonising the curriculum in South Africa?

Conceptual framework

Journalism education has not adapted well to the challenges of changing technology, changing definitions of journalism and changing ideas of the roles of journalists (Kruger 2022). In South Africa, there is a need to decolonise journalism as well as journalism education (Dube 2017; Rodny-Gumede 2018; Shaw 2017). Based on the discussion in the problem statement, it can be argued that the changing face of journalism and journalism education demand

that journalism educators should constantly reflect on and adapt their curricula to remain relevant (Jordaan 2018).

An overview of the conceptual framework whereupon the reflection and analysis in this chapter is based, is necessary. The overview that follows briefly explores the meaning of journalism in the 21st century, suggestions on how to teach journalism, debates around the decolonisation of the journalism curriculum in South Africa and the use of SDL within open pedagogy to help achieve the goals of decolonisation.

What is journalism and how should it be taught?

To teach journalism effectively, one needs a clear understanding of what journalism is. This is not simple. More than a decade ago, Stephenson (2009) argued that the world of journalism education had changed beyond recognition in the preceding two decades because journalism itself was changing. Now, another decade later, some scholars argue that it is even harder to clearly define what journalism is and how it should be taught (Deuze 2008; Deuze & Witschge 2018; Guo & Volz 2019; Lee 2021). Stephenson (2009) identified various changes in journalism, writing from a European perspective. These included technological changes because of increasing digitalisation as well as economic challenges faced by many legacy media outlets in the face of increasing competition from the Internet. These factors still remain relevant, while there have been further important changes since then. Deuze (2018) and Mabweazara and Mare (2021) highlight the increasing participation of ordinary citizens in journalism, whether through blogs or social media posts. Journalism in the 21st century is no longer necessarily practised within the routinised operations and industrial arrangements of the past, as explained by Deuze (2018, 2019, 2021). There are now many actors in journalism, both professional and amateur, producing forms of journalism across many different platforms (Deuze 2019) and in new ways.

Another increasingly important challenge is the rise of fake news and disinformation; both the general public and journalists now need sophisticated information literacy skills (Swart 2021) to navigate the media world. The rise of a post-truth society has seemingly added additional challenges to the teaching of journalism (Friesem 2019). The rise of journalistic entrepreneurship is also important. Against the backdrop of fewer career opportunities at large and well-known media outlets (Kruger 2022; Skinner 2021), journalistic entrepreneurship has become essential (Caplan et al. 2020).

The journalism curriculum should reflect these changes but, in many cases, does not (Kruger 2022). The world of journalism is significantly different from just a decade or two ago when journalism schools had a clearer path towards producing graduates who would generally join industry – either print, broadcast or web-based media outlets (Garman & Van der Merwe 2017).

Traditionally, curricula in South Africa have focussed on technical training and preparing journalists to join industry (Garman & Van der Merwe 2017), with curricula based on the *correct* way of writing and producing stories for mass media outlets (Mensing 2010:512). Many journalism schools were in fact founded by or received significant help from mass media organisations – the Perskor-sponsored School of Communication, founded in 1959 at the former Potchefstroom University for Christian Higher Education (now the Potchefstroom campus of the NWU) is one example (Garman & Van der Merwe 2017). The Journalism School at Stellenbosch University (SUN), founded in 1978 by a former newspaper editor from Naspers (Rabe 2018), is another.

For journalism schools, the question of their students' future career paths is a challenge, which, arguably, they do not always manage to address. Too many journalism schools in South Africa still prepare students for professional careers in industry, while these careers are becoming fewer and fewer (Kruger 2022:24). Against the background of the many changes in the journalism industry, journalism schools need to produce more independent thinkers (Dube 2017) and more entrepreneurs (Caplan et al. 2020). The educator should carefully balance the needs of industry with the changing face of journalism and the changing needs of students.

It seems clear that it is no longer easy to define journalism and career paths, as they are not as clear-cut as before. Not only are the definition of journalism and the roles of journalists no longer clear (Morrish 2019; St Clair 2015), but in South Africa, an over-reliance on the liberal model does not fully take into account the realities of the new journalism environment in a decolonising society.

Furthermore, in a world of disinformation and fake news, journalism education now seems to have some relevance for a much wider variety of students and not only those who are interested in becoming professional journalists. For example, Deuze (2019) is a proponent of a new definition of journalism that looks beyond current and existing structures and organisations towards a more inclusive form of journalism where anyone who practises journalism, even if they do not realise it, understands the 'perspective of a journalist'. Journalism educators in Africa should also teach innovation and make students aware of expanded opportunities in the world of journalism (Jjuuko & Njuguna 2019).

Decolonising the journalism curriculum

The need for transformation and change in HE have been highlighted by the #RhodesMustFall and subsequent #FeesMustFall movements (Cox et al. 2020). Students have been demanding better access to HE, transformation, decolonisation of the curriculum and their voices should be heard for some

years (Olivier 2021a). Olivier (2021a:149) explains that decolonisation of the curriculum is not about destroying existing knowledge but 'implies some change with specific sensitivity to historical and political origins, and influence on knowledge within the educational context'.

However, the journalism curriculum in South Africa is mostly rooted in the liberal, Western model which relies on the assumption that journalism is necessary for democracy to function (Hanitzsch & Örnebring 2019:110). At a normative level, what Bromley (2009) calls the North Atlantic or liberal media model, has always had a strong influence on South African journalism schools. All Journalism 101 students in South Africa know the basic principles of the liberal model, the idea of the media as the Fourth Estate, as a watchdog, holding power to account, being objective and reporting events based on fact (Wahl-Jorgensen & Hanitzsch 2019). The liberal model is also underpinned by an adherence to commercialisation (Bromley 2009); it is about making money. According to this liberal model, which is widely taught at South African universities, journalism's functions include being a watchdog, holding governments and corporations accountable and informing citizens, plays a vital role as a watchdog, holding governments and corporations accountable for their actions and ensuring that citizens are informed. These assumptions are, however, increasingly being questioned. Other non-Western societies also have journalism (Wahl-Jorgensen & Hanitzsch 2019) but they 'may prioritise collective needs and social harmony' (Bromley 2009:110). This is relevant in the postcolonial context of a country such as South Africa. The emphasis on the link between journalism and democracy 'has been seen as necessary props for each other since the earliest normative theories of journalism prescribed parameters that the news was expected to follow in democratic regimes' (Zelizer 2012:462). This view neglects the fact that journalism is a central institution in many societies that are not democracies (Wahl-Jorgensen & Hanitzsch 2019). The reliance on the assumption that journalism is the defender of democracy has led to the construction of a theoretical framework that considers journalism 'in terms of its more or less consensual news values, dominant frames, routinised operations, gatekeeping functions, and industrial arrangements' (Deuze 2019:3) while neglecting all the other things that journalism can be and does. Deuze (2019:3) suggests the need to examine new structures and new ways of telling stories that matter. It is important to remember that, in an African context, journalism can also be about storytelling, social cohesion, nation-building and transformation (Rodny-Gumede 2018). However, in South Africa, the mainstream media have patterned themselves on Western models of gathering and reporting news by 'largely operating on free-market principles and according to neo-liberal functionalist logic' (De Beer & Wasserman 2005:38).

It can be argued that there is a clear need for a different type of journalism in a decolonising society such as South Africa, where there is a need for an African model of journalism in the context of nation-building and developmental

needs (Dube 2017; Rodny-Gumede 2018). There are still very few examples of decolonised journalism curricula at universities in South Africa (Dube 2017).

One way to approach the decolonisation of the curriculum is through the process of open pedagogy and content production by students as Olivier (2021a) suggests. In this chapter, it is argued that the creation of an open textbook by students, through SDL, can help contribute to the decolonisation process.

Open pedagogy: Creating an open textbook through self-directed learning

Based on the four broad interpretations of openness in education discussed by Cronin (2017:16–18) – namely open access, free education, OERs and OEPs – this study can be broadly placed within the domain of OEPs. Open educational practices entail 'collaborative practices that include the creation, use, and reuse of OER, as well as pedagogical practices employing participatory technologies' (Cronin 2017:4). Open pedagogy, seen within the broader context of OEPs, is 'associated with the creation, use and sharing of OERs' (Wiley & Hilton 2018:134). Wiley and Hilton (2018) define OER-enabled pedagogy as:

> [*T*]he set of teaching and learning practices that are only possible or practical in the context of the 5R [retain, reuse, revise, remix, and redistribute] permissions which are characteristic of OER. (p. 135)

According to Wiley and Hilton (2018), one of the great advantages of open pedagogy is that learners can engage with content, change it and learn by doing. As Cronin (2017) explains, citing the Open Education Consortium (n.d.), openness in education is not just about access but about the ability to adapt and personalise material for specific circumstances. The creation of an OER textbook in this study is an example of an OEP.

The open textbook discussed in this chapter was created through SDL. Self-directed learning is 'an approach to education which involves learners taking responsibility of their own learning' (Letseka & Seeletso 2021:176). Self-directed learning was defined by Knowles (as cited in Letseka & Seeletso 2021) as:

> [*A*] process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (p. 178)

This process allows learners to identify what they would like to learn and allows them to participate in creating their own learning strategies.

Self-directed learning can be implemented as part of open pedagogy (cf. Chapter 3), such as in the project discussed in this chapter, where learners

participated in creating their own, open textbook through SDL. Furthermore, in the light of the preceding discussion, it can be argued that SDL within open pedagogy can play a decolonising role in the South African context by providing students with the opportunity to identify their own learning needs and contribute to their own learning. This process allows for student voices to be heard. As has been explained in the section 'Decolonising the journalism curriculum', one of the demands for decolonisation from students is for their voices to be heard. Letseka and Seeletso (2021:182) argue that open learning has always been a feature of traditional African education, where learning was a lifelong practice and teaching happened through socialisation. Open education in the South African context also relates to the philosophical concept of *ubuntu*, where 'the individual is seen as an integral part of and from the community' (Olivier 2021b:2). According to Kemeh (as cited in Olivier 2021), *ubuntu* and the goals of sustainable development (which include open education) are the same, namely making equal opportunities open to all. Open pedagogy can, therefore, help improve access to education, and through SDL, open pedagogy allows for a more student-centred approach (Olivier 2021b:3), which one can argue is, by definition, a decolonised approach. This approach, as Letseka and Seeletso (2021:175) argue, helps create autonomous and self-directed learners 'who can champion their own learning', which is essential for the creation of decolonised OERs.

Olivier (2020:31) suggests that SDL has an important role to play within the context of open education. Open pedagogy and SDL share a student-centred approach (Olivier 2020). This student-centred approach can help decolonise the curriculum by empowering students to contextualise and localise content. Localising content means adapting the curriculum to be more relevant to students in their specific context, namely South Africa, and also includes translation of content into indigenous languages (Olivier 2020). De Beer and Mentz (2019) found that indigenous knowledge is often held by learners themselves, therefore the use of SDL within the context of open pedagogy gives students an opportunity to share their local knowledge. By taking part in the process of creating an open textbook as an OEP, students are permitted to take charge of their learning. In this way, the textbook creation process can also address issues of marginalisation and unequal access to educational material (Cox et al. 2020), and it can contribute to making educational material more relevant to students.

The creation of an open textbook as discussed in this chapter also represents an example of renewable assessments, which are assessments that 'result in new or improved open educational resources that provide a lasting benefit to the broader community of learners' (Wiley & Hilton 2018:136). Renewable assessments will not merely be discarded once graded, but will add value to the world, as suggested by Wiley (2013). He argues that renewable assessments make students invest more time and effort into their work because they know

their peers will benefit from their work in the future. The textbook students helped create is an example of renewable assessment because it will be distributed as an open textbook and will continue to be prescribed at NWU for use by future students. Cox et al. (2020) define open textbooks:

> Digital collections of OER and open access materials published under an open licence on platforms and in formats that provide affordances for the integration of multimedia, remixing of various content components, printing and redistribution. (p. 2)

Cox et al. (2020) argue that open textbooks can help address social injustices, particularly three specific injustices, namely economic, cultural and political injustices. These injustices correlate with demands of students for decolonising the curriculum, namely free access to teaching and learning, and demands for greater representation of marginalised voices. By involving students in the process of creating a textbook, these injustices can be addressed by students themselves because students are provided with the opportunity to direct their own learning (Du Toit-Brits 2021).

Cox et al. (2020) argue that the absence of student voices in creating learning material is an injustice that suppresses students' ability to shape what they learn. Cox et al. (2020) explain:

> Open textbooks help to overcome various types of silencing (political misrepresentation) by including student voices. They provide academics with an opportunity through which they can design teaching activities to include student content in textbooks, facilitate opportunities for students to guide the content in textbooks, and, in a truly transformational sense, author the textbooks themselves. Through open textbooks, lecturers have the ability to change the way they teach, include student voices and create innovative teaching activities. (p. 8)

As has been shown, the involvement of students in co-creating a journalism textbook creates the opportunity for recontextualising and localising, empowers students and gives them a voice. The creation of an OER textbook together with students can help provide students with an opportunity to 'construct meaning in particular contexts indigenous to them' (Du Toit-Brits, Blignaut & Mzuza 2021), a significant step towards creating a decolonised curriculum. The open textbook is also an example of renewable assessment – students knew they were creating value for others.

Methodology: The process of reflection

This chapter is a qualitative analysis of and reflection on student contributions to an open journalism textbook. This section describes the research paradigm and analysis methodology.

Research paradigm

As a qualitative reflection on and analysis of student contributions to the creation of the textbook *How to be a journalist in the 21st century*, this study

is rooted in the interpretivist paradigm. Interpretivism flows from the idea that there is 'no single objective view of reality and that individuals have their own view of a situation or event' (Du Plessis & Abdool-Satar 2020:111). Interpretivism is a research tradition that is more interested in exploring different truths and different meanings by interpreting findings (Scauso 2020). To understand (Fossey et al. 2002) and reflect on student contributions to the journalism curriculum, the author of this chapter reflects on student contributions to their textbooks in the interpretivist tradition. This approach allows for the social construction of knowledge (Du Plessis & Abdool-Satar 2020:110), which is one of the main aims of the textbook project discussed in this chapter. Critical reflection in this study is an approach where the author not only thinks about the curriculum but listens to student voices and their own understandings of social reality (Jordaan 2018). The author also acknowledges student agency, where students play active roles as participants (Du Toit-Brits 2021) in the learning process. An interpretivist approach is also particularly suitable because it allows for the integration of marginalised voices (Scauso 2020).

Student contributions were examined through reflective practice (Hébert 2015). Reflective practice should serve a clear purpose; it is not merely 'to think about things' (Jordaan 2018:826) but should be a practice that helps educators evaluate and adjust their own work to remain relevant in a fast-changing world. Dewey (as cited in Hébert 2015:362) describes critical reflection as focussed, careful and methodological. Such a reflection should be focussed on a clear problem, and examined in a careful way, by offering justification for views and the chosen methodology, like any scientific study.

The research design

This study is a qualitative reflection on student contributions to a textbook creation process. Qualitative research is traditionally seen as interpretive, involving a search for meaning and understanding (Aspers & Corte 2019). Qualitative data are 'rich in meaning' (Babbie 2021:26) and useful to provide explanations in social science but require an understanding of the context of the participants (Allan 2020). This chapter aims to develop an understanding (Du Plessis & Abdool-Satar 2020) of student views of the journalism curriculum by reflecting on and interpreting the collected data (i.e. student contributions [in the form of assignments] to their textbook). Ultimately, the aim is to give students a voice. Qualitative research should help illuminate the subjective understandings of research participants (Fossey et al. 2002) because of the richness of the data collected. The reflective discussion in the section 'Reflection: What students want and how they think' is based on this methodical content analysis of student inputs as received in their assignments.

Sampling

Students from the School of Communication who completed a first-year introduction to journalism module and a second-year news writing module participated in the OER textbook creation project through a process of renewable assessment. The first-year module is an introductory course that aims to provide students with a broad overview of journalism. The second-year module is more focussed, with outcomes related to news writing and the layout of printed news material. Students were prescribed a first-draft (unpublished) version of an open textbook, written by the author of this chapter, called *How to be a journalist in the 21st century*, in the second semester of 2021. A total of 97 second-year students provided inputs to one chapter of the textbook related to their outcomes, whereas a total of 145 first-year students provided inputs to three chapters related to their outcomes. Not all students gave informed consent for their contributions to be used in this research or in the final version of the textbook (ethical concerns are discussed in the section 'Ethical issues'). Students were asked (via Google Forms) to provide informed consent for their inputs to be used for this research, and also to give permission (via Google Forms) for their inputs to be used in the textbook. Out of 92 students registered for COMS222, 49 consented. Out of 142 students registered for KCOM121, 67 gave consent. Inputs and comments from students who did not give consent do not form part of this study or the final textbook.

Data collection and analysis

Data were collected from assignments submitted by students. The assignments consisted of inputs from students to the draft version of the textbook provided to them. Students were asked to comment on three chapters (listed in Table 6.1 with a brief explanation of the outcomes of each chapter).

The textbook consists of original material and remixed open-source material. The author of this chapter created a draft version of the textbook by recontextualising and remixing existing OER material and adding new, original material. Students were given assignments where they had to comment on relevant chapters in the book. Students were invited to add their own content, add comments or simply ask questions if the contents were unclear. In this way, the project also became a renewable assignment (see Letseka & Seeletso 2021). Student inputs in this project were added to the final version of the textbook, which will continue to be prescribed at first- and second-year levels. This means that student assignments from 2021 will continue to be useful to future students. Students were asked for informed consent to use their inputs (anonymously) for this research.

TABLE 6.1: Chapter content in *How to be a journalist in the 21st century,* and students who provided inputs.

Chapter	Chapter content	Number of students whose inputs are analysed in this chapter
Five: The work of a journalist	An introduction to what journalists do and how they perform their tasks, with detailed explanations of the importance of sources and the storytelling process, in print, online and in broadcast media	49 second-year students 67 first-year students
Six: Being an ethical journalist	A brief introduction to the ethical quandaries facing journalists, such as accuracy, trustworthiness of sources, personal vs professional interests	67 first-year students
Eight: Becoming a journalism entrepreneur	A very brief explanation of some entrepreneurial opportunities for journalists, including the use of social media to become news influencers. This chapter does not relate directly to the current module outcomes in either KCOM121 or COMS222 but provides some ideas on how to earn an income, which is relevant and important when considering the challenges facing legacy media.	67 first-year students

Students were encouraged to be open-minded and to add *any* comments they wished to add. The assignment instructions on the NWU learning management system read as follows:

> Read the chapter and think about what you are reading. Add AT LEAST FIVE comments (using Microsoft Word track changes) to the chapter, a total of at least 400 words, with suggestions, ideas, clarifications, questions or anything that you think might make the chapter more complete or better. Do not be afraid to even question what is written there. As university students you should critically reflect on texts, there are many different views in the world, and you are entitled to your views. HOWEVER, all suggested changes should be accompanied by sources, academic textbooks are based on sources and not just ideas. That being said, sometimes your own experience does count as a source, if you would like to add a comment about some ideas that you have already tried, or something that you know someone else did, feel free to add that and explain it clearly. (n.p.)

Student inputs were analysed inductively and sorted according to recurring themes to help the author identify the most important topics of interest to students in their learning material.

Trustworthiness

The findings of a qualitative study, such as the findings reported in this chapter, must be reliable to be trustworthy. The author ensured trustworthiness of the data by creating a clear research process (Du Plessis & Abdool-Satar 2020) and documenting the results, as explained in this section. The researcher collected real-world data (Du Plessis & Abdool-Satar 2020), namely student contributions to the textbook. The data evaluation was informed by existing literature in the field of journalism, decolonisation and open SDL, and then systematically analysed according to identified themes.

For a qualitative study to be meaningful, the sample size should be meaningful and the data gathered should be relevant (Fossey et al. 2002). A meaningful number of students participated and provided informed consent for their data to be used in the research. The research data in this study were gathered through student assessments. These assessments were created in such a way that only relevant data would be collected.

Ethical issues

Iphofen and Tolich (2018:3) suggest that the qualitative researcher should ask four important questions when considering ethical issues in research. These questions are about the content of the project, identifying ethical issues, addressing these issues and contingency plans to address ethical issues if the research plan changes. The project described in this chapter is a reflection on student contributions to a textbook to decolonise the curriculum. The ethical questions that arise relate to voluntary participation, harm to participants and anonymity (Babbie 2021:61). The lecturer–student relationship is an important issue, particularly whether students felt compelled to participate and possible disadvantages for students who did not participate (Head 2020), which leads to the question of anonymity (or not), considering that student contributions will be published as part of an open-source textbook, available to all. These ethical questions were addressed through an ethics of care (Head 2020). The question of voluntary participation was addressed by asking students for permission to use their work for this chapter and the textbook only after their assignments had been completed. This ensured that nobody felt compelled to participate. The question of anonymity was addressed in the same way; students were asked for informed consent to add their names as contributing authors to the textbook, but the informed consent form did not allow for individual students to be associated with particular content in the textbook. There is a list of all contributing student authors. The question of the researcher's own biases while reflecting on student contributions was addressed through reflective practise by constantly evaluating results as informed by current literature so as to ensure that research results were informed by the data and not by the researcher's own preconceptions (Fossey et al. 2002). The researcher received ethical clearance for this research from the NWU Faculty of Education Research Ethics Committee (EduREC) as part of a group project entitled 'Open educational practices and self-directed learning'. Approval was granted on 30 September 2021.

Reflection: What students want and how they think

Analysis of the collected data showed that students often added completely new content or new ideas, but they sometimes also added clarifications to

existing content or asked for more clarifications on the content. Questions and requests for clarification showed what students were uncertain about, while new inputs often showed what students would *like* to learn. Many of the examples discussed in this section show that students grabbed the opportunity to decide what they wanted to learn and to direct their own learning – an example of SDL in practice. The strong participation of students in creating their own learning material was one of the most significant insights gained from this project. It was clear to the author that students wanted to have a say in what they were learning and when provided with the opportunity, they would share their own knowledge. This correlates with many of the arguments in the literature in favour of decolonisation, where there are many calls for student voices to be heard. The project showed that when students were empowered, they took charge of their own learning (see Cox et al. 2020; Du Toit-Brits et al. 2021; Letseka & Seeletso 2021; Olivier 2020).

The most important themes that emerged from an analysis of student inputs are illustrated in Table 6.2. The table shows student inputs after an initial sifting process, where the author selected representative inputs from the vast number of inputs provided, as explained in the section 'Methodology: The process of reflection'. The table, therefore, does not illustrate all inputs from all students enrolled for the modules. There were several hundred inputs in total. Inputs and contributions were selected and classified inductively as themes that emerged during the analysis. It is important to clarify that students were not presented with a blank canvas. They were asked to provide inputs or contributions to a first draft of the textbook. Many of the themes listed in Table 6.2 were already covered in the textbook. Student inputs served

TABLE 6.2: Themes identified from an analysis of student inputs to their journalism textbook.

Theme
Being an ethical journalist – the question of what is right and what is wrong
An ethics of care **(new suggestion by students)**
Fake news and accuracy of information
Story structure – inverted pyramid and how to tell news stories
Sources – trustworthiness, how to find sources, how to find information
How to interview people
Consequences of unethical journalism **(new suggestion)**
Suggestions for additional clarification of content or new content **(new suggestion)**
Telling visual stories
How to use technology **(new suggestion)**
Visual explanation of content
Entrepreneurial journalism
Privacy and observing events – including privacy of the journalist and of the source
New types of journalism, telling untold stories
Ordinary citizens as journalists
Numerical literacy
Freedom of speech
Journalistic independence

to highlight the importance of some themes, while students also made some completely new suggestions for additional content. Analysed inputs were provided by the 116 students across the two modules who gave consent for their inputs to be used. Student inputs are discussed anonymously.

Themes that emerged from student inputs to the open textbook *How to be a journalist in the 21st century* are listed in Table 6.2. Students were given the freedom to add inputs anywhere in the three prescribed chapters. Many inputs from different students overlapped while some individual inputs contained many different themes.

It was clear from student participation in the OER textbook project that students seized the opportunity to give their opinions and inputs. This was one of the greatest successes of the project. As has been discussed in the 'Conceptual framework' section, the literature assumes that students would like to take charge of their own learning, which is one of the aims of SDL (Letseka & Seeletso 2021), that there is a need to decolonise the curriculum and that there is a need for the curriculum to be adapted to remain relevant in the 21st century. As suggested by Du Toit-Brits (2021) and Dube (2017), amongst others, it seemed clear from an analysis of student inputs that when students were given the opportunity to take charge of their own learning, they felt empowered to make real changes. In this project, students participated in SDL to diagnose their own learning needs, to formulate their own learning goals and to choose appropriate strategies to reach these goals (Knowles as cited in Du Toit-Brits et al. 2021:3). By offering students the opportunity to diagnose their learning needs and choosing their own strategies (by creating their own content), the textbook creation process was a good example of SDL in practice. Students contributed their own and local knowledge, as is discussed in this section. It is worth noting that the chapter-editing assignments that students had to complete as part of this project carried relatively low weights in terms of final module marks. Students could have quite easily skipped these assignments and could still have passed their modules; yet in all three assignments, student participation was extremely high (more than 80% of the 234 students in both modules completed the assignments). Many students added much more content and comments to their edited chapters than what was required.

The themes identified in Table 6.2 encompass the following six broad topics, which are discussed below:

- Compassion and the importance of doing it right
- Distorted views of journalism
- Sources and finding the correct information
- How to tell news stories
- Technology
- Telling untold stories and new types of journalism
- Practical suggestions
- Decolonisation

Compassion and the importance of doing it right

Ethical issues in journalism attracted many inputs from students. Overall, this theme was the one that seemed to elicit the most questions and concerns. The results show that students see the need for a different type of journalism in Africa, which ties in with the question of decolonisation, *ubuntu* and social cohesion. Students also showed concern for readers, for example 'the people who most suffers from journalists being unethical are the people which are the readers' (student, female, first year). Inputs about journalistic ethics addressed the question of compassion, empathy, an ethics of care, as well as the need to know what is right and what is wrong.

A student made a link between journalism in Africa and *ubuntu*, writing:

> 'The idea that journalists in Africa put others before writing a story is good. The decision they make will be informed by ubuntu. Ubuntu advocates for humanity. Journalists who practice it will not put others in a compromising position.' (Student, male, first year)

Many students appeared to favour a community-centred model of journalism, in line with the principles of *ubuntu* (Olivier 2020) and an African journalism model as suggested by Rodny-Gumede (2018), which is about social cohesion and nation-building. This finding also shows that students *wanted* to add their local knowledge to the curriculum. Whereas the Western view of journalism, driven by the profit motive, is strong in the industry in South Africa, it seems clear that some students felt the need for more socially responsible journalism. The following quote by Mahatma Gandhi, social activist and politician, – added by a student (student, female, first year) to the start of the chapter on journalistic ethics – summarises to a great extent a general theme of care that emerged from all inputs:

> 'The sole aim of journalism should be service. The newspaper is a great power, but just as an unchained torrent of water submerges the whole countryside and devastates crops, even so an uncontrolled pen serves but to destroy.'[4]

Another student added that journalism should care for people and be socially responsible (student, female, first year). Another (student, female, first year) suggested that journalists should be 'empathetic'. This theme of social responsibility and feeling empathy for the community was a recurring one, a further representative example was a student (student, female, first year) who wrote 'community standards that take into account local values should be applied' and another (student, female, first year) said 'different communities have different needs'.

Student inputs about ethics also regularly returned to the question of what is right and what is wrong, for example:

> 'Can it be seen as unethical when a news organisation changes a story to protect people in the story doing something illegal because it is friends or family of the

4. From https://www.mkgandhi.org/indiadreams/chap68.htm.

editor or stakeholders of the organisation and what can journalists do about it?' (Student, male, first year)

Many students (male and female, first-years) asked quite similar questions, including:

- How do journalists know how to do the right thing?
- How do journalists overcome ethical dilemmas?
- Why is it difficult to follow clear ethical guidelines?
- Where do journalists draw the line when making ethical decisions?
- How can journalists protect the privacy of people in pictures?
- Do journalists need to apply ethical principles all the time?

Judging by the comments from students, the question of the consequences of unethical decisions by journalists seemed to be covered insufficiently in the textbook. A number of students asked for clarification on the consequences of unethical journalism, such as who should take responsibility. It seems clear that it matters to students to know what would happen if unethical journalism is practised. Students wanted to know, in particular, whether journalists themselves, sub-editors or chief editors would be held responsible for breaches, and *how* they would be held responsible, for example 'what will happen if the sub-editor checks the story half-heartedly and miss reads information that is not correct?' (student, female, first year).

The textbook did discuss the South African Press Code and the processes defined by the code, but the consequences of breaches were not clear. Students were also concerned about news media that do not subscribe to the Press Code (of which there are quite a number), one student (student, female, first year) asked, 'Are small news organisations independent from the South African Press Code and therefore have their own code of conduct?' The concern appeared to be that some media follow certain rules, while others do not.

The sheer amount of interest in journalistic ethics and questions about the consequences of ethics breaches, which were visible from a large number of inputs from students, show that students have clear and strong views about doing the 'right' kind of journalism. This was a significant realisation for the author. The comments from students correlate with assumptions from the conceptual framework about the need for a new kind of journalism in Africa (Dube 2017; Rodny-Gumede 2018) and show that students feel strongly that journalism should be compassionate and caring. It seems that the textbook chapter on ethics in journalism did not address the question of ethics sufficiently. The chapter is relatively concise, but it seems that, even at an introductory level to the field of journalism, students require more information about ethics. They require practical examples and more specific advice about how to address ethical issues. Upon reflection, it seems as if the Western tradition of journalism education in South Africa does not adequately address the needs and sensibilities of students for journalism that is more compassionate

and caring. Allowing for a more compassionate type of journalism in the curriculum would contribute to decolonising the curriculum. By showing more empathy and concern for unheard voices, journalism would be able to provide a platform for the voices of marginalised people.

Journalism as 'sensationalism'

An interesting theme – almost directly opposed to the discussion in section 'Compassion and the importance of doing it right' – that emerged from some students was a certain understanding of journalism as sensationalist and exposé driven. Some students argued that journalists should secretly observe people or 'go undercover' (student, female, first year) in order to expose wrongdoing or scandals. Another (student, female, second year) wrote: 'Unless the person you are interviewing is the person you want to expose, most of the time journalists go undercover to obtain information'. Some students added inputs related to 'hidden cameras' (student, male, first year) to film sources or gathering information in surreptitious ways or speaking to sources without clearly identifying themselves as journalists, for example a student (student, female, first year) wrote, 'it is important to remain ethical when using hidden cameras. What is going too far to collect a newsworthy story?' One student asked, 'I'm confused a little bit about paparazzi and journalists, is this the same thing?' (student, female, first year). A student (student, male, first year) said, 'I believe that we can sometimes bent[d] rules to keep our readers/listeners/viewers entertained and informed'. These suggestions by students to gather information secretly or 'go undercover' point to an understanding of journalism that is not ethical (see Retief 2002; Wyatt 2014).

These examples show that many students need a clearer explanation of how ethical journalism works, and that secret information gathering is not ethical journalism practice. This question was, therefore, addressed in much more detail, with clear examples in the final textbook. An example of unethical information gathering that was provided in the final textbook is the *News of the World* phone-hacking scandal in the United Kingdom (UK) in 2011. This scandal led to the closure of the newspaper the *News of the World* (Wyatt 2014).

Students who want to gather information secretly to 'expose' people seem to rely on the market-driven model of journalism, to attract more readers (and, therefore, income) by publishing sensationalist stories. However, comparatively speaking, many more students emphasised compassion and empathy for sources (as discussed in the section 'Compassion and the importance of doing it right' about compassion in journalism), which shows that educators could employ concepts of compassion and empathy, together with actual ethical codes and guidelines, to teach the correct and ethical ways of information gathering for news stories.

Sources and finding the correct information

The theme of sources and gathering information is an important one. Information gathering for stories relies mostly on primary and secondary sources. Good journalistic sources include people, for example experts in their field, ordinary people who experienced events in their own lives or personal observations by the journalist, and secondary sources such as other published texts (Ansell 2011). The question of how to find and treat human sources and how to interview them for stories was a recurring theme in student inputs. The vast range of inputs on sources show that sources and information gathering are aspects of journalism that students struggle with. Students appeared to struggle with identifying good sources (who to speak to for stories) and also with interviewing sources (what questions to ask them and what information to use). One student (student, female, second year) called interviews 'nerve-wracking', another (student, female, second year) asked how to distinguish between facts and perceptions when interviewing a source, and whether to use perceptions (or opinions) of sources in stories. This was a good question that needs clarification – opinions of events are the good source material for news stories. Another student (student, male, second year) provided the example of his mother who gets very frustrated when she does not receive replies to emails at work. This is a useful example directly from a student for the textbook to show that emails are not the best way to find information from sources. It has been very insightful to hear from students themselves, through their inputs to the textbook, about the perceived challenges to finding information and there seems to be a need to explain sources in much more detail.

A number of students also mentioned that sources should always be protected, without clarifying when this is really needed. Some inputs questioned how to protect the journalist's identity and safety when interviewing certain sources. One example:

> 'How do you deal with your safety as a journalist because I don't think its ethical to publish a story without mention[ing] that you're the byline [i.e. providing the name of the journalist] but just deciding to stay anonymously?' (Student, male, first year)

When discussing sources, the question of accuracy and fake news also arises. Fake news and disinformation are serious challenges in journalism (Applebaum & Pomerantsev 2021; Corner 2017; Friesem 2019). It was very encouraging to see many student inputs on the importance of accuracy. Students referred to using trustworthy sources, checking facts and the risk of losing the public's trust when publishing falsehoods.

Encouragingly, a few students mentioned that numerical literacy is important. One student (student, female, second year) mentioned that it is important for students to know how to use numbers correctly in stories, while another (student, female, second year) noted the following in the section

about numerical literacy: 'many journalists use too many numbers in an article that the reader gets confused and [the reader] stops reading'. Numerical literacy is often neglected in journalism and needs to be addressed properly in the curriculum.

From student inputs, it seems clear that finding information and interviewing sources are difficult for students. This aspect needed more attention in the final textbook, with more examples of sources and some more details about how to approach sources, as well as suggested interview questions. Good sources also relate to accuracy in the news. Being truthful and using the correct information were aspects that all students agreed on, and it was very encouraging to see that this very important aspect of journalism was unanimously supported by all students. The question of accuracy can, therefore, be used as a tie-in when addressing student concerns about sources. Stories cannot be accurate without good, clearly identified sources.

How to tell news stories

A difficult part of journalism teaching for educators is to teach students the *correct* (author's emphasis) way to tell journalistic stories. There are clear journalistic story-writing and storytelling styles (depending on the platform, whether in print, for broadcast or electronically), but many students questioned prescribed styles in their inputs. This matter relates to assumptions about the need for an African form of journalism and the need to tell African stories (Rodny-Gumede 2018). Student contributions seem to confirm that they feel a need for different ways of storytelling in journalism. A student added the following suggestion:

> 'I think it is very important for journalists to consider their targeted audience when writing a story, for example, in my hometown of Giyani in Limpopo, we use a lot of phrases that some people in other areas of the country may not understand, however these phrases could add more meaning to the story if local journalists were to make use of them in their stories, thus resulting in more people becoming interested in reading their stories.' (Student, male, second year)

It seems as if students do not understand the need for the inverted pyramid form of print news writing (Ansell 2011) or do not believe that it is necessary anymore. Seen in the context of the assumption that journalism is changing, there might be some truth to these views. One student (student, female, second year) asked, 'When do you use the inverted pyramid?', and another suggested:

> 'I think most stories needs to be played around to keep the readers on the story too, yes, it is not a fiction, but you must keep readers on the story but taking a little turn and not being straight to the point [...] when telling a story, I believe that you must keep your audience in mind.' (Student, male, first year)

The inverted pyramid format of news writing relies on the idea that the most important information is placed first and the least important information is

placed at the end, with no real ending that wraps up the story. However, from student inputs, such as the examples in this section, it is clear that students question this concept. A student (student, female, second year) asked for 'other ways write a news story'. Many students want stories to end, one student (student, female, first year) said, 'I don't understand why inverted pyramid is the only story structure that does not have a traditional "ending"?'. Perhaps in an era where students are surrounded by visual and video stories (Bydree, Fietkiewicz & Lins 2019; Head et al. 2018) that begin and end in more traditional storytelling ways, students see the need for printed news to also 'end'. This is a really interesting realisation and something that deserves further exploration. It does concern some of the basic building blocks of journalism, but educators are faced with an interesting challenge here: If students are permitted to diagnose their own needs and direct their own learning through SDL – as was the case with the creation of the textbook discussed here – educators should then listen to student voices and accept that there is a need for change in how journalistic storytelling is taught. It is possible to still teach traditional ways of news writing, while also introducing some new ways, as suggested by students themselves.

☐ Technology

Many students expressed concerns about using technology in journalism and access to technology in general. Employing open pedagogy by using technology means that one should also address the question of access to technology (Cox et al. 2020; Olivier 2020, 2021b). The question of access was a concern for many students in this project. The chapter about entrepreneurial journalism refers to many new career opportunities for journalists by using online platforms such as social media or online newsletter providers such as *Substack*. A number of students mentioned that many people in South Africa still do not have good Internet access, or cannot afford it, therefore they might not be able to use these platforms. Student mentions of access also indicate that educators who use technology as part of their open pedagogy should keep in mind that some students might need support to ensure proper access to learning material and that the question of access to technology is also important in creating new news platforms. For example, a student, said (talking about journalism):

> 'It is therefore vital to note that a person without access to technological devices or the Internet, or someone who cannot afford to make use of such available facilities, may not be able to contribute to citizen journalism. In such cases, many of the events may remain unreported, especially in rural villages where media houses are also rare.' (Student, female, first year)

Interestingly, some students also asked for more detailed explanations of how to use technology. It is often assumed that young people know technology, especially mobile phones, well. This is clearly not always the case; it seems as if students do

still need guidance. One student (student, male, second year) asked for clear explanations of how to use Google Drive and another (student, male, first year) asked for more information on how to use a mobile phone as a journalist – good suggestions. Students might know how to use phones, but they do not know how to re-purpose their phones as journalistic tools. The *How to be a journalist in the 21st century* textbook discussed in this chapter will be accompanied by a website with tutorial videos, where students are shown exactly how to use some of the most popular technology that is useful for journalists. Technology use was, however, not explained in detail in the textbook. From student inputs about technology, it seems clear that there is a need for practical tutorial videos on a website. This could also provide an opportunity for peer learning.

Telling untold stories, entrepreneurship and new types of journalism

In the conceptual framework it has been stated that journalism as a profession and journalism as a field of study have changed significantly in the digital era. Legacy media have lost much influence, and other types of storytelling have emerged, often on social media (see Deuze 2008; Deuze & Witschge 2018; Guo & Volz 2019; Lee 2021). It has become apparent in the digital era that news should be localised (Ezumah 2019) to reach communities where legacy media are no longer well-represented. Students indicated that it is now possible for everyone to distribute news and information. A student (student, female, first year) said, 'new technologies have made it possible to disseminate (distribute) information just as widely as major news organisations'. Many students referred to the importance of telling local stories or the stories of marginalised communities. A student (student, female, first year) said 'nowadays anybody can be a journalist [...] and create a community where you can help people'. Another student (student, male, first year) said,

> 'Community members may find it hard to get news from large mass media outlets and therefore desperate for local news of what goes on in the community, and whether problems are addressed accordingly.'

While another said 'journalism is about giving the voiceless a voice' (student, female, first year), a student (student, female, first year) suggested that this gap can be filled through 'a little newsletter that you can do weekly for your community [...] or you can create a community Facebook or WhatsApp group'.

It is an important finding that students recognise there is a news gap and feel because of this gap, problems in communities are not being addressed. This links with ideas on the representation of marginalised voices and a more socially conscious media (Rodny-Gumede 2018) because legacy media outlets do not represent local voices. A student said:

> 'People who live in smaller communities get their news from the local newspaper, even though that news might not be important for bigger companies to publish.

> People who live in rural areas don't want to hear the news from big cities, they want to know what is going on near them.' (Student, female, first year)

Another representative input from a student:

> 'It is also important as an aspiring journalism student to involve yourself with the local community project in bring[ing] about development, this can help you to gain the respect from people and become popular.' (Student, male, first year)

Yet another example of the importance of giving voice to marginalised groups:

> 'The move from print to the digitalisation of newspapers and magazines disadvantages so many people in South Africa. Many South Africans are poor and uneducated. Data is expensive and as a result, many people cannot participate in the access of information and exchange of it.' (Student, male, first year)

New technology, including social media as news platforms in local communities, came up often. A number of students referred to local news platforms in specific communities, using Facebook, Instagram, YouTube or Twitter. For example, (referring specifically to YouTube) 'This is a very good and effective way to earn money as a journalist' (student, female, first year). Some students also mentioned TikTok influencers in their communities. A student (student, male, second year) suggested that podcasts are another easy way for journalists to tell local stories. He said technology made it 'more than possible for anyone to start a podcast'. All these suggestions show that students see many opportunities to tell stories by using easily available technology. One student (student, female, first year) spoke about citizen journalism to show that ordinary people now also practise journalism: 'the public and local community now also play an important role in sharing news, as they experience it first-hand and have access to sharing platforms'. A student (student, female, second year) mentioned that local news influencers might be perceived as more trustworthy by news users because the influencer is someone who is resident in the community, known by the community and reachable. The student said it is someone that people would trust, while another (student, female, first year) said that influencers 'give their audiences informed opinions on the current events that are happening in the world'. While this is certainly debatable, there is no reason why news influencers with the right skills should not be able to give informed opinions. A student (student, male, first year) said, 'journalists themselves can become their own influencers'.

The examples in this section show the student experience of the changing role of journalism. In South Africa, this means telling more local stories and giving more people a voice, especially in areas where legacy media are no longer well-represented. Students evidently feel strongly about local news and providing a voice to the voiceless. This shows that some students understand that journalism is no longer only commercial (Bromley 2009), while they also understand that there are now other voices in journalism (see Deuze 2019). Many students expressed interest in becoming news entrepreneurs by creating their own local news platforms. As discussed in the conceptual framework, journalistic

entrepreneurs are now a large part of the journalism workforce (Caplan et al. 2020), and from student inputs, it seems clear that students are motivated to create their own news platforms. Student interest in becoming small news entrepreneurs is a significant finding, as the traditional assumption at journalism schools has been that journalism graduates will work for legacy media. This finding also points to the need to broaden the scope of journalism teaching to reach students who do not necessarily plan to become professional journalists, as Kruger (2022) suggests. There seems to be a clear need to empower students to become independent journalists, but one student said a lack of money would be an obstacle. As Deuze (2018) and Mabweazara and Mare (2021) pointed out, there are now many people who practise journalism as ordinary citizens, outside professional structures. Empowering students to become journalism entrepreneurs should also involve teaching technical skills. The textbook section on entrepreneurial journalism addressed some of these needs, but there is a need to expand this section to also address funding more directly and to provide more practical examples of independent journalism opportunities.

☐ Practical suggestions

A large number of students provided practical suggestions to improve the book chapters or add additional content. Some students edited the language (not always correctly, but they tried), and some students suggested that tables and more visual content be added and that more visual explanations of concepts or processes be included. All these inputs were very useful and showed the need for some practical improvements to the textbook. These inputs clearly showed that students saw the OER project as an opportunity to improve their learning by addressing their own learning needs and experiences in a textbook. Some of the new content that students asked for (all these were asked for by several students) are:

- Graphic representations of the interview process and the news reporting process
- A graphic representation of the inverted pyramid, with a clear example of a real story. The textbook did contain a graphic example of the inverted pyramid, but students asked for a depiction of a real news story inside the inverted pyramid – a good idea that was adopted
- The dos and do nots of ethical journalism
- A discussion of the work of infographics journalists
- Additional examples of journalistic ethics codes
- More examples of journalistic entrepreneurship.

☐ Open educational resources and decolonisation

The preceding discussion leads to a reflection on the contribution of SDL within open pedagogy towards the decolonisation of the curriculum, as was

discussed in this chapter. The contextual framework for this chapter shows that access to learning material is problematic in South Africa because of the high costs of textbooks (Cox et al. 2020), but access is not the only problem when discussing decolonisation. It is also about giving students the opportunity to decide what they would like to learn and giving them a chance to create their own learning material by participating in SDL. Students should know they have agency to influence their learning. The simple act of allowing students to contribute to their learning can contribute to decolonising the curriculum by, in fact, listening to students and *integrating* their views and contributions into the curriculum. As many students as possible were included in this project, from previously marginalised students to wealthy students. The OER textbook discussed in this chapter was provided to students for free on the NWU e-learning platform (eFundi). Students did require Internet access to be able to read or download the textbook. The university provided students with free Internet access in 2021 (because of the remote teaching environment brought about by the coronavirus pandemic), which meant that access was not a problem. All students had access to the textbook. Therefore, the provision and subsequent adaptation of the OER textbook in this project serve as an example of a decolonised approach to introducing local knowledge to the curriculum, as suggested by De Beer and Mentz (2019) and Olivier (2020). The project discussed in this chapter helped address the injustice that suppresses students' ability to shape what they learn (Cox et al. 2020). In this project, students were able to shape their learning through the process of SDL. There were many examples (as shown throughout this section) where students adapted the textbook to their needs. Some of these changes are requests for a more socially responsible type of journalism and suggestions to include other types of storytelling in news writing apart from the well-known inverted pyramid formula.

Recommendations and limitations

The following recommendations flow from this study:

- Localising the curriculum (Olivier 2020) is important to make the journalism curriculum more relevant to students in the South African context. This can be done by involving students in the process of creating textbooks through renewable assessments, as has been shown in the textbook creation process discussed in this chapter.
- Students require visual representations of difficult concepts in the journalism curriculum.
- The journalism curriculum can be decolonised by listening to students and incorporating their inputs and local knowledge, such as their experiences of news events in their local communities and how these events should be covered, into texts. Introducing local knowledge and student views to the curriculum contribute to the creation of localised resources.

- The process of creating OERs through student inputs can empower students and provide them with a strong motivation to take part in creating their own learning.
- The provision of an OER textbook ensures that no students are excluded. By using OERs, academics can ensure that all students have equal access to quality resources.
- There are still few studies about the use of OEPs in HE. This study has shown that OEPs can be useful to reach specific goals, such as the integration of local knowledge and the decolonisation of the curriculum. Furthermore, similar studies would contribute to a growing corpus of studies on the use of OEPs.
- An aspect that was not addressed in this project, but that is still important, is the availability of resources in indigenous languages (cf. Chapter 2). To fully decolonise the curriculum, it is necessary to translate textbooks into more indigenous languages (Olivier 2020). Journalism educators should address this.

Students who participated in creating the OER textbook discussed in this study are undergraduate students with little experience in journalism. One should accept that some of the student suggestions might not be practical. For example, the strong desire by students to give voice to the voiceless in the media does not take into account funding issues. Who will pay for the news in this case? It is beyond the scope of this chapter to explore funding issues in journalism, but it is worth noting that there are still many challenges and unanswered questions in this regard, providing possibilities for future studies. Localising the curriculum should also involve translation of learning material into indigenous languages. This was not addressed as part of this study and is a gap that should be addressed in future research.

Conclusion

This chapter attempted to offer an answer to the research question: How can the co-creation process of an OER textbook for journalism assist educators in updating and decolonising the curriculum?

This chapter shows that SDL – defined as the process where individuals take the initiative to diagnose their own learning needs to formulate their own learning goals and to choose appropriate strategies to reach these goals (Knowles as cited in Du Toit-Brits et al. 2021:3) – as part of open pedagogy can be an effective way for students to take charge of their own learning. This, in turn, plays a significant role in decolonising the curriculum by giving students the opportunity to adapt content to their learning needs. The South African journalism curriculum is still Western-orientated, mainly because the curriculum lacks the voices of students and therefore lacks indigenous and contextual knowledge. Students can add this type of knowledge, as has happened in the project described in this chapter.

The project showed that students have a strong need to take charge of their own learning. Students have very strong views about what is right and what is wrong in journalism and a desire for a more compassionate style of journalism. This correlates with some of the assumptions in the conceptual framework about the need for a new kind of journalism in Africa, different from the Western normative model, which does not fit in with the viewpoints of many students. Students expressed the need for more empathy and compassion in journalism, which will result in representing more marginalised voices in the news. By giving marginalised people a voice, journalism will become more representative. Students' need to give voice to the voiceless also relates to the reality that many smaller communities no longer have strong news media representation. Students would like to address this gap in the journalism ecosystem.

Students also have new ideas about telling journalistic stories. This relates to the conceptual assumption that journalism is changing. While journalistic storytelling traditionally follows very specific formats, students expressed interest in doing it differently. It might be necessary to accept that journalistic storytelling should also adapt.

The process of creating a textbook together with students has shown that students are holders of knowledge that they can share with future students by adding their knowledge to an OER textbook. By involving students and listening to them, the demands from students themselves for decolonisation can be addressed (Cox et al. 2020). The knowledge of students comes from their own, individual circumstances; their questions and inputs showed where the textbook needed clarification or more information to make the textbook more relevant to them. Creating a textbook with inputs from students is an example of SDL, where students have been given agency to take charge of their own learning. Not only were students able to direct their learning, but the lecturer gained deep insight into students' thinking processes and their knowledge about the subject. This is useful to create a textbook that is up-to-date and representative of student views and knowledge.

Chapter 7

Stories students tell about their learning experiences creating open educational resources in a music education module

Mignon van Vreden
MASARA (Musical Arts in South Africa: Resources and Applications) Research Entity,
Faculty of Humanities, North-West University,
Potchefstroom, South Africa

Abstract

Research consistently shows that music education benefits the socio-emotional development of young child. Although there are many resources available for childhood music education in general, music teachers continually draw attention to a lack of music teaching resources to nurture young children's socio-emotional learning (SEL). Second-year Bachelor of Music (BMus) students at the North-West University (NWU) are required 'to demonstrate detailed knowledge and a clear understanding of the relationship between child development and music education' (NWU 2022:323). Accordingly, the Singing Feelings project was initiated, where students create open educational music resources (OEMRs) that focus on SEL for an online platform,

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singingfeelings com. This qualitative narrative inquiry aimed to explore the students' learning experiences. The themes derived from a cross-case analysis of the data were (1) challenges, (2) creativity, (3) feelings and emotions, and (4) value. The author proposes that by exploring these themes through the students' personal stories, more meaningful learning experiences could be designed to increase awareness of the value of open educational resources (OERs) and promote more innovative opportunities to create OEMRs.

Introduction

The instruction process consists of four elements: 'learning outcomes, learning resources, teaching and learning activities, and assessments and evaluation' (Paskevicius 2017:125). How the relationships between these elements are managed by tertiary educators 'could be considered the core of their instructional practice' (Paskevicius 2017:125).

Opportunities for innovative practices in education are created by using available digital technologies, but it remains a challenge to apply digital technologies effectively. Paskevicius (2017:125) claims that digital technologies 'enable the creation of digital resources that can be copied and shared with minimal costs or effort'. In addition, the Internet provides a global network that facilitates searches for and access to online resources. The recent emergence in tertiary education of open access to teaching and learning material – including educational content, learning designs and learning activities – provides valuable resources and opportunities 'to move towards a more participatory culture' (Brown & Adler 2008:18; Ehlers & Conole 2010:3). Consequently, models for open licensing support the legal copying, adaptation and re-sharing of digital educational materials (cf. Chapter 1).

Globally, childhood development can be assessed in four main profile areas (UNESCO 2016): 'executive function, social and emotional development, motor development, and early literacy and numeracy'. A growing database of research literature conveys how each of these profile areas can be fostered 'through sustained engagement in musical activity' (Welch et al. 2014:8). Studies on children's social and emotional development (Barrett 2011:410, 2015, 2017; Barrett et al. 2019; Hallam 2010) are amongst the many available resources for early childhood music education (Váradi 2022). However, a lack of teaching resources in music classrooms poses challenges to teaching the subject effectively and consequently contributes to learners' socio-emotional development (Edgar 2013; Montgomery 2021; Strachan 2021). To address this problem, students could create their own teaching resources. Students who manage the materials for their own learning are self-directed learners. (Gharti 2019:62). Self-directed learning (SDL) 'engages students in self-motivation, self-consciousness, self-control, self-dependence and active learning' (cf. Chapter 3). Through SDL, 'individuals take the initiative, with or without the help of others, to identify materials and resources for learning' (Gharti 2019:62).

Problem statement and research question

The rationale for this study is that there are many musical resources available that nurture SEL, but they are often costly. Although research related to OERs has expanded, only a few researchers focus on OERs in music instruction. Affordability and equitable access to tertiary education 'affect students in many disciplines, including music' (Allen 2022:1). Music learners often have to spend much more for their education than learners in other disciplines do; for example, they have to purchase instruments, pay for repairs and buy sheet music. Allen (2022:2) claims that using OERs could reduce the financial burden often associated with music study. However, the literature on music students' experiences in creating open educational music resources (OEMRs) is insufficient in South Africa and internationally (Gullings 2017; Sandoval & Oshukany 2018).

Open educational resources available on the Internet could be incorporated 'into other educational resources to develop online learning materials' (Beaven 2013) serving several purposes, such as sources to inspire (Borthwick & Gallagher-Brett 2014; Weller et al. 2015) or for engagement in creative projects (Tur, Urbina & Moreno 2016). However, 'more theoretical research on the time, effort and associated literacies is needed to conduct these activities and gauge their influence on pedagogy' (Beetham et al. 2012; Jhangiani et al. 2016; Littlejohn & Hood 2016; Paskevicius 2017).

The research question for this study was: What are the learning experiences of music education students creating OEMRs?

The purpose of this qualitative narrative inquiry was therefore focused on addressing this question and establishing how these learning experiences could enhance SDL for students as creators of OEMRs.

Literature

Creating original songs as OERs to nurture SEL through music, using open educational practices (OEPs) (cf. Chapter 1 and Chapter 8), is appropriate in the context of music education. For the purpose of this chapter, I will use the acronyms OEMRs and OEMPs (open educational musical practices). To establish how OEMPs as renewable assignments could enhance SDL for students as creators of OEMRs, creating OEMRs was explored in the context of SDL of music student teachers.

Self-directed learning of music student teachers

The quality of the teacher-student relationship and communication are both critical determinants of successful collaboration. Leahy and Smith (2021:289) claim that although adult music students 'may expect to be more independent

and, therefore more inclined to engage in SDL than younger learners, they may not feel encouraged or supported to self-direct'. Grow (1990, 1994) describes how adults participate in SDL across four distinct stages:

> During the first stage, low self-direction, learners need explicit directions, external motivation, and external reinforcement. In the next step, moderate self-direction, learners are interestable, responsible, and ready to learn. In the following stage, intermediate self-direction, learners are participants in their own education and able to explore a subject with a guide. The final stage, high self-direction, is where learners set their own goals and standards and make use of experts, institutions, and other resources to pursue their goals. (pp. 58–60)

Students' learning needs at each stage differ, which implies that educators 'take different roles and implement various strategies to support students in any particular stage' (Grow 1990:59).

Good teaching occurs when '(1) the teacher matches the learner's level of self-direction, and (2) the teacher prepares students for greater self-direction' (Grow 1990, 1994). According to Leahy and Smith (2021):

> To match a learner's level of self-direction, teachers can assess a student's learning stage by monitoring the student's behaviour and listening to their reported needs, making appropriate accommodations while being mindful that learners may vacillate between stages. (p. 289)

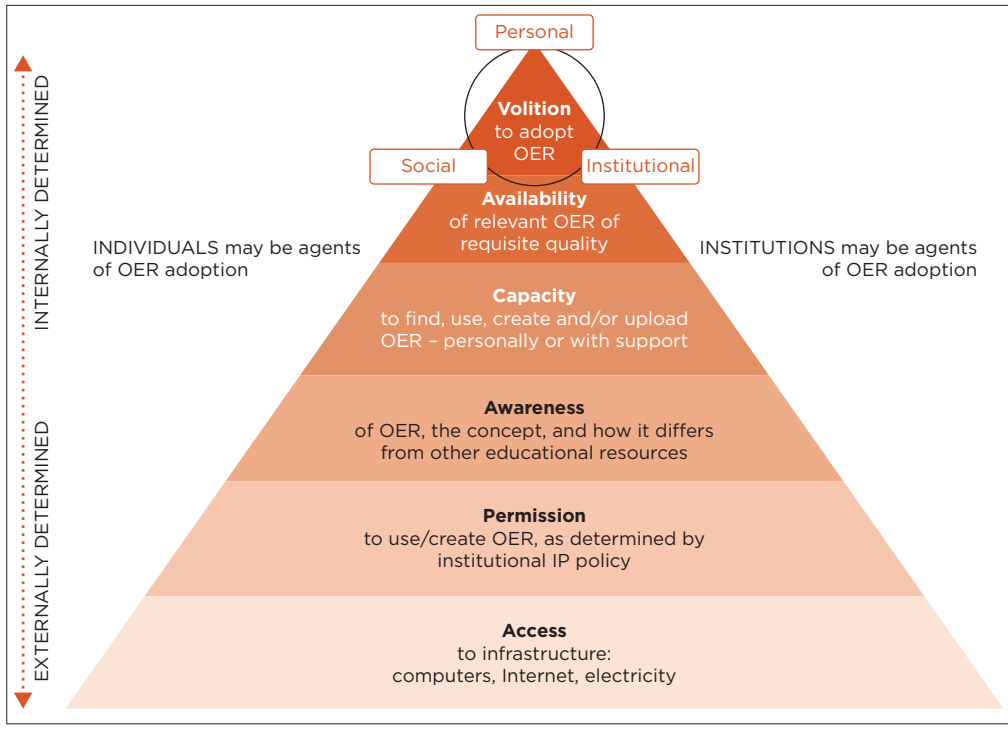
Teachers should create a more relaxed environment by using humour, praise, respect and lightheartedness in lessons (Leahy & Smith 2021:289; Rohwer 2005, 2008). Teachers should 'break things down and move step-by-step without causing students to feel as though they are being treated like children' (Rohwer 2012). Overall, in addition to musical competence, an educator's 'personality and capacity to be compassionate' are critical for being a successful music student teacher educator (Rohwer 2008, 2012; Tsugawa 2009). Tekkol and Demirel (2018:3) have linked SDL 'with upper-level thinking skills such as creativity, problem solution and critical thinking'. When students create OEMR, SDL is enhanced.

Towards open educational music resources and open educational musical practices

The adoption of OER in higher education institutions (HEIs) has a secondary impact on students' 'initial exposure to open education, open licensing and non-commercial sources of knowledge' (Carey et al. 2015:166). Acknowledging and sharing these collaboratively created resources through open education could impact students' knowledge practices (Carey et al. 2015:166). These practices make higher education (HE) activities 'more relevant in modern society' and 'foster the development of valuable literacies for students entering the workforce' (Royle, Stager & Traxler 2014:130). For music student teachers entering the workforce, valuable literacies include, but are not limited

to, applying knowledge to compose original songs that are relevant in an educational context.

As a developing area, specific terms related to OER may be familiar, but an understanding of the premise and purpose of the openly licensed material is still unclear to many. Continued research into OER will better inform all music educators and emphasise how OER can provide free, high-quality teaching materials for music instruction (Allen 2022:10). Many studies have highlighted using OER both in and outside of traditional music classrooms, yet research in the field of OER in music remains limited (Allen 2022:4; Gullings 2017; ISKME 2013; Schmidt-Jones 2012:14, 2017:113). Before OER adoption can occur, 'individuals and/or institutions must have the desire or volition to use or create these resources' (Cox & Trotter 2017a:155). The six factors that comprise the OER adoption pyramid are volition (the most critical factor essential to successful adoption), access, permission, awareness, capacity and availability (Cox & Trotter 2017a:155). These six factors provide 'an analytical framework for inquiry on OER adoption' (Figure 7.1).



Source: Cox and Trotter 2017b:301.[5]

FIGURE 7.1: Open educational resource adoption pyramid.

5. Written permission has been obtained from the authors to include the figure in this chapter.

The OER adoption pyramid is a conceptual framework that has been used primarily in tertiary education, a 'major hub for the creation and consumption of OER' (Baas, Admiraal & Van den Berg 2019:2; Cox & Trotter 2017b:290). While OERs exist for music learning and have been scrutinised for use in formal and informal education, 'future studies examining OER adoption by music educators at all levels are needed' (Allen 2022:5).

An OER can benefit both faculties and students in many ways; hence, 'increasing awareness of these resources is essential to encourage creating and sharing high-quality materials for music education' (Allen 2022:10). In addition, Practical applications of OER and research investigating cost benefits, perceptions, learning outcomes and use (Hilton et al. 2016:12) 'would add relevant data and provide clear evidence for considering OER for music instruction' (Allen 2022:10).

A high degree of openness would involve the joint formulation of the learning outcomes, objectives and methods, allowing for greater personalisation, autonomy, self-regulation and increased student engagement (Ehlers 2011:2; Hipkins 2012; Paskevicius 2017:129; Reeve et al. 2004:151). Self-regulation is an outcome of being self-directed in one's learning. Self-directed learning refers to an individual's ability to take the initiative to identify their own learning needs, determine their learning aims, define the learning sources, 'choose or use appropriate learning strategies and evaluate learning outcomes with or without help from an outsider' (Knowles 1975). In SDL, students 'take primary charge of planning, continuing and assessing their learning experiences' (Merriam, Caffarella & Baumgartner 2007).

In the last decade, scholars have proposed 'that research on OER should focus less on access to digital content and more on the influence of openness to support innovative educational practices' (Kimmons 2016:17; OPAL 2011). By exploring a broader notion of openness in education, 'the focus is shifting from *content* (OER) to OEPs for using that content' (Deimann & Farrow 2013:347). The focus of discourses from OERs moving towards OEPs represents a positive advancement in the field, 'representing a change from developing and releasing OER content to researching their impact' (Weller et al. 2015:352). Friesen (2009:8) and Paskevicius (2017:127) emphasise that educational technology initiatives should support and report not only on products but also on practices and processes (Ehlers 2013):

> OEPs are educational activities where both resources are shared by making them openly available and pedagogical practices are employed which rely on social interaction, knowledge creation, peer learning and shared learning practices. (p. 94)

Stagg's (2014:159) continuum model for OEP ranges 'from awareness of and access to OER, sharing one's works as OER, passive remixing of OER, active remixing of OER, and finally, student engagement' in creating OERs (Paskevicius 2017). In SDL, 'the responsibility to learn shifts from an external

source' (Boyer & Usinger 2015), such as a music teacher educator to the music teacher-student. Self-directed learning includes the conceptualisation, design, implementation and evaluation of learning guided by the student (Brookfield 2009). The student's control and active involvement in the learning process are crucial (Boyer & Usinger 2015; Grover 2015).

Student engagement with openness could promote the competencies, knowledge and skills needed to participate successfully within a more open society's cultural, economic, political and social realms (ed. Geser 2007:17; McAndrew, Scanlon & Clow 2010). However, 'a greater understanding of the issues, challenges and necessary supports' are necessary to develop OEP further when one wants to adopt such practices (Beetham et al. 2012; Borthwick & Gallagher-Brett 2014:166; Camilleri, Ehlers & Pawlowski 2014:36; Littlejohn & Hood 2016:505; Paskevicius 2017:126; Pitt 2015:145).

Socio-emotional learning in music teacher education

Socio-emotional learning is 'the process of understanding and comprehending the socio-emotional aspects of life' (Wijaya, Bunga & Kiling 2022:114). Building SEL skills can enable behaviour to calmly address stressful situations with emotionally regulated responses and enhance critical thinking to allow more informed decision-making and action (Arslan & Demirtas 2016). Critical thinking and reflection, empathy, equity, cultural responsiveness and diversity are guiding values in music teacher education (Allsup 2003, 2015; Allsup & Westerlund 2012; Barrett 2015; Tucker & Powell 2021). These aspects could simultaneously enhance SDL, as specific competencies that SDL requires, according to Knowles (1975), including the ability to evaluate learning processes and outcomes, turning students 'into active participants in the learning process and encouraging them to become deep learners' (Spencer & Jordan 1999). Tucker and Powell (2021) postulate that music teacher education is often viewed 'as a locus for socially just transformation of music education through the development of preservice teacher agency and identity development'. Although values are implicit in agency, values have seldom been directly examined in music teacher preparation programs (Kupana 2015):

> As music and SEL complement each other, further investigation into socio-emotional learning in music education (SELME) is motivated by the properties of music that can be used a) as an emotional stimulus; b) as an aesthetic experience; c) for relaxation and imagination; d) as a form of self-expression, and e) as a form of group experience. (p. 75)

Because of the significant relationship between teaching effectiveness and socio-emotional skills, the knowledge and skills in music teacher training for SEL should be nurtured (Kupana 2015:75). UNESCO (2020) suggests ensuring SEL instruction and practice for teachers by including SEL in pre- and in-service

teacher education and professional development programmes to address stress and boost social and emotional competencies in the classroom. They also emphasise that school administrations should allocate sufficient time and opportunities for student teachers to acquire SEL skills, which have been found effective in promoting well-being, reducing psychological distress and improving classroom interactions (Jennings 2019; Jennings & Greenberg 2009).

Music education benefits the SEL of the young child (Belapurkar 2017; Blasco-Magraner et al. 2021; Boucher et al. 2021). Therefore, second-year music education students at our university are expected to 'demonstrate detailed knowledge and a clear understanding of musical development of the young child and the relationship between knowledge, child development and music education' (NWU 2022:323). To equip these students to understand this relationship, the Singing Feelings project[6] was initiated in 2021.

The 'Singing Feelings Project'

Undergraduate music education students, as future educators, could assist children in developing the socio-emotional skills they need for sensitive musicking – and for life (Jacobi 2012:68). The purpose of this project, which was part of the NWU OER Fellowship (cf. Chapter 1), was to create a platform that makes freely available the musical resources that can impact children's socio-emotional development. At the same time, Music Education students could teach children of diverse contexts and accommodate multilingualism by creating their own songs for children in many languages (Okal 2014):

> Multilingualism practices in education could nurture the creation and appreciation of cultural awareness, contribute to academic and educational value, enhances creativity, improve adjustment in society and appreciation of local languages. (p. 223)

By creating their own multilingual songs, students would need to spend less time finding resources and could spend more time developing their own skills to create resources for early childhood contexts. This relates to Merriam's argument that SDL goals should develop 'the learner capacity to be self-directed, fostering transformational learning and promoting emancipatory learning and social action' (Merriam 2001:9). Gharti (2019:62) postulates that in SDL, students should self-initiate learning, actively participate and learn independently, but also have the boldness to ask for support from others when necessary.

As part of this narrative inquiry, students created OEMR for teachers, children and undergraduate music educators. These resources are available as renewable assignments on an online platform, singingfeelings.com (Figure 7.2).

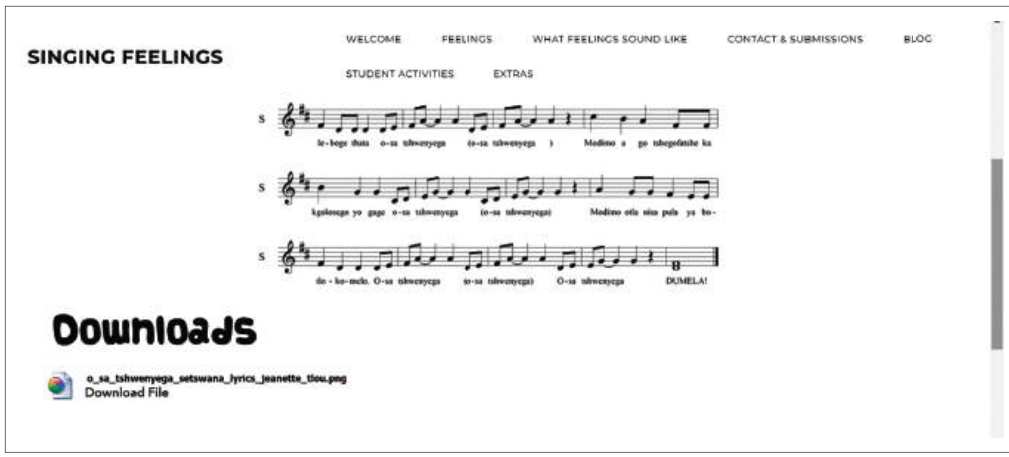
6. Refer to https://www.singingfeelings.com/ for the project website.

Source: This is an original screenshot from openly licensed content published by the chapter author on https://www.singingfeelings.com/

FIGURE 7.2: Screenshot of sheet music and sound clip of an open educational music resource, an original song 'Joy, Joy, Happiness!'

Renewable assignments

Renewable assignments (cf. Chapter 1, Chapter 6 and Chapter 10) are tasks 'students compile and openly publish so that the assignment outcome is inherently valuable and accessible to the community' (Chen 2018; Wiley & Hilton 2018). Categories of assignments, defined by Wiley and Hilton (2018) illustrate the spectrum between disposable and renewable assignments. Regarding their criteria, assignments are categorised as 'disposable, authentic, constructionist and renewable'. The disposable assignment, a student-created artefact that meets the essential criterion, is submitted to the instructor. When the value of that artefact extends beyond the students' own learning, for example, creating tutorial content for future classes, it can be classified as 'an authentic assignment'. Students make an authentic assignment publicly available in the constructionist assignment. The educator invites students to openly license and publicly share their work with the global community to be considered renewable (Wiley & Hilton 2018). In the Singing Feelings project, the students developed original renewable assignments, and remixed or adapted existing OER (Wiley & Hilton 2018). The renewable assignments created by the students were original children's songs. They had to compose a melody, write the lyrics and record the song related to specific feelings. They adapted existing OER when they translated songs I wrote for the project into other languages, as seen in the following examples. Students translated the Afrikaans song 'Moenie worry nie' into Setswana and English (Figure 7.3 and Figure 7.4).



Source: This is an original screenshot from openly licensed content published by the chapter author on https://www.singingfeelings.com/

FIGURE 7.3: Screenshot of sheet music and sound clip of an open educational music resource, a translated song 'O sa tshwenyega'.

Source: This is an original screenshot from openly licensed content published by the chapter author on https://www.singingfeelings.com/

FIGURE 7.4: Screenshot of sheet music and sound clip of an open educational music resource, a translated song 'Don't you worry'.

Learner autonomy is the characteristic of the person who independently exhibits agency in learning activities (Mensch 2008; Ponton 1999; Ponton & Carr 2000:273) 'where independence is the characteristic of the person who controls their actions, handling being a state of mind, as well as of one's environment' (Sheldon & Elliot 1998:546). The students independently created OEMRs as renewable assessments that could enhance SDL, as competencies were developed that are required by SDL. These competencies include taking responsibility for determining one's own learning needs, setting goals and plans, and implementing and evaluating learning activities (Knowles 1975).

The five specific objectives in the Singing Feelings project for creating renewable assignments as OEMR were:

1. To collect, produce and facilitate the creation of OEMR to support children's SEL
2. To equip young learners with musical tools for self-expression
3. To inspire students to apply their musical knowledge in practice
4. To engage young children through music
5. To nurture young children's well-being in creative and fun ways.

The renewable assignments were licensed with a Creative Commons (CC) license. Specifically, a CC-BY-NC-SA license indicating that the songs and music activities on the singingfeelings.com website should 'be attributed to the original author' and cannot be used for commercial purposes. If the resources are adapted, they 'should be shared under the same license as the original' (Lewis 2022).

The duration of the Singing Feelings project stretched over two months, from introducing the project at the end of July, and students submitting the final assignments at the end of September.

Learning experiences

There were six renewable assignments set in the Singing Feelings project. Every renewable assignment commenced with a freewriting exercise, after which the students had to respond to a blog post related to the topic of a specific assignment. Students then had to apply musical resources as preparation for creating original songs. Initially, students added a second verse to their own song choice (available on the singingfeelings.com website under a CC license). Subsequently, students had to notate their second verse using open-source music notation software and record the song they wrote to be freely available as an OEMR. Open-source music notation software allows one to create sheet music in printable form, including portable document format (PDF) and images (Srivastava 2019). This software has open-source license, which allow one to download, copy, analyse and modify the source codes of the software. Open-source music notation software used by the students were MuseScore Notation Software[7] and Finale Notepad.[8]

7. MuseScore is 'a scorewriter for Windows, macOS, and Linux' supporting a wide variety of file formats and input methods. It is released as free and open-source software under the GNU General Public License. (https://en.wikipedia.org/wiki/MuseScore)

8. Finale is 'a proprietary music notation software developed and released by MakeMusic for Microsoft Windows and macOS'. Finale is one of the industry standards for music notation software (Nicholl & Grudzinski 2007:110) MakeMusic offers several less expensive versions of Finale, with limited features. These include the freeware program, Finale Notepad, allowing rudimentary editing and playback.

For the third assignment,[9] students composed a four-line ditty[10] based on the toddler drone[11] to help children discover their singing voice by using nonsense syllables (singingfeelings.com). After that, they notated the melody with the new lyrics and added a CC license before recording the ditty.

The feeling-related topic for the fourth assignment[12] was happiness. Students composed 'a song for children' related 'to happiness or being happy' and recorded the song before making their musical creations available as OEMR (singingfeelings.com).

The feeling-related topic for the fifth assignment[13] was feeling worried. For the first part of the learning experience, students translated an existing song (available on the singingfeelings.com website under a CC license) about not worrying into another language and saved it with a CC license. For the second part of the learning experience, students composed a song for children that related to feeling worried and recorded both songs before making their songs available as OEMR.

The feeling-related topic for the sixth assignment[14] was sadness. For the first part of the assignment, students translated an existing song about sadness (available on the singingfeelings.com website under a CC license) into another language and saved it with a CC license. For the second part of the assignment, students composed a song related to sadness for children. They recorded both songs before making their original songs available as OEMR.

Procedures

A qualitative research approach within a social constructivist paradigm design (Creswell & Creswell 2018:38) was most appropriate for this study, as data were collected 'in a natural setting in the context of the participants' (Creswell & Creswell 2018:230), namely the Conservatory.

Participants

The participants in this narrative inquiry were four female BMus students in their second year of a music education module. The 'Independent recruitment'

9. See https://www.singingfeelings.com/learning-experience-3.html.

10. A ditty is a short, simple song.

11. The most familiar instantiation of the toddler drone is 'on the taunting nonsense string "nyah, nyah, nyah, nyah, nyah"'. 'It has both a fixed melody (the intervals being quite exactly defined' based on the descending so-mi-la-so-mi intervals) and a fixed rhythm (Liberman 1975:32).

12. See https://www.singingfeelings.com/learning-experience-4.html.

13. See https://www.singingfeelings.com/learning-experience-5.html

14. See https://www.singingfeelings.com/learning-experience-6.html.

section briefly explains the ethical measures to mitigate coercion. The participants' identities were kept anonymous, and pseudonyms, which they chose themselves, were used for identification. At the time of data collection, Jasmine was 22-years-old, Pearl was 21-years-old, and both Lilly and Kiara were 20-years-old.

☐ Sampling

The students involved in this research were drawn from university students enrolled in a music education module where appropriate OEPs are utilised, and OERs created as renewable assignments in support of SDL. These research participants consisted of the four music student teachers who created OEMRs as renewable assignments for Singing Feelings' online platform. They were willing to participate and provide informed consent to be included in the research. Convenience sampling was used as a sampling technique (Dörnyei 2007; Etikan, Musa & Alkassim 2015):

> Convenience sampling (also known as Haphazard sampling or Accidental sampling) is a type of nonprobability or non-random sampling where members of the target population meet specific practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate is included for the purpose of the study. (p. 20)

Convenience sampling also refers 'to the researching subjects of the population that are easily accessible to the researcher' (Given 2008). Although the participants met the practical criteria, the purpose of the study was to explore second-year students' learning experiences creating OEMR in a specific music education module.

☐ Independent recruitment

Participation in this research was voluntary and only participants who willingly provided written informed consent participated in the data collection. An independent person obtained written informed consent from the participants. The participants could withdraw from the study without any penalty or disadvantage. As the participants were my own students, any possible power relationships were negotiated through the additional use of an independent person.

■ Research approach

As a social constructivist, I used an interpretative lens to make sense of the participants' experiences (Creswell 2014:8). Subjective interpretations of their experiences were created (Creswell 2014:8), and their personal, distinctive realities influenced their understanding. These interpretations and meanings were diverse and numerous, and I explored the intricacy of their

views (Creswell 2014:9). I was interested in the meaning of the participants' stories and therefore explored their perspectives on the studied phenomenon (Creswell 2014:9), namely their experiences of learning to create OEMR.

A qualitative research approach entails 'exploring and understanding the meaning that individuals or groups ascribe to certain problems' (Creswell 2014:4). This research process involved combining questions, data and procedures to build specific themes based on the raw data (Creswell 2014:4). Then, the four themes that emerged from the cross-case analysis of the data were used 'to interpret and ascribe meaning to the data' (Creswell 2014:4).

I studied and interpreted the phenomenon of the learning experiences of four students creating OEMR. These four participants' stories formed a narrative (Denzin & Lincoln 2011:5).

Narrative inquiry

Clandinin et al. (2016:23) describe narrative inquiry as 'a collaboration between researcher and participants over time, in a place or series of sites, and social interaction with their surroundings'. Narrative inquiry was appropriate for this research, as 'narrative is present at all times, in all places, in all societies; indeed, the narrative starts the very history of mankind [...] Like life itself, it is there, international, trans-historical, transcultural' (Barthes & Duisit 1975:240). The narrative allows the participants and the researcher 'to comprehend, describe, and act within previous experiences, as the story is how they make sense of the world' (Clandinin & Connelly 2000; Singh 2014; Wang 2017:44). The student participants told the stories of creating OER in a music education module by describing their experiences. 'Narratives have considerable significance in teacher education' (Kaasila 2007:206). A narrative view of teacher education emphasises 'the personal process of becoming a teacher and construing one's professional identity. An effective and emotional element is essential to these processes' (Heikkinen et al. 2004). In this study, I strove to understand the experiences as storied phenomena that could be best studied by attending closely 'to the stories we live and tell' (Clandinin et al. 2016:13). There would never be a final story in a narrative inquiry, but pieces of the four participants' stories could influence future research (Clandinin 2016:24–25).

Data collection

To start the process of data collection, I interviewed and engaged in conversations with the participants (Denzin & Lincoln 2011:3) in their natural setting, where contact classes take place at the Conservatory.

Although data collection spanned over four months, the duration of the Singing Feelings project was two months, which entailed introducing the project at the end of July and submitting the final assignments at the end

of September. The final interviews took place at the end of the academic year after the marks had been finalised. In addition, students reflected on their learning experiences by creating OEMR weekly through journaling. The prompts that guided the reflections for each assignment, as stated on the singingfeelings.com website, were:

- Could you tell a story of a peak experience while involved in songwriting?
- Could you tell a story of a challenging moment during this learning experience – if there was such a moment?
- What in this learning experience did you find valuable? This can include skills, knowledge, experiences, insights, etc.
- How do you think others might benefit from the work you put into this assignment?
- Can you tell me more about how you experienced integrating technology with songwriting while working on this assignment?
- Do you think you would use the OEMR on the website in your own teaching or maybe in another context?

I conducted three focus group interviews, one every fortnight and one individual interview with each participant at the end of the semester.

Narrative data analysis

I applied inductive data analysis in this study, using the data from the individual reflections, focus group interviews, and personal interviews to form a narrative for each participant. A back-and-forth working process between themes and the raw data ensured that the best-suited themes were selected for the cross-case analysis. The stories of the participants were interpreted as they were told. The narrative analysis was executed in two phases. First, I manually analysed each participant's account from the reflective journals and interviews to compose a narrative while respecting each individual's original story (Riessman 2007).

After retelling each participant's story, a cross-case analysis was executed to enhance transferability to other contexts and determine the findings' relevance in similar settings. I used Atlas.ti 22 to assist in coding and categorising the raw data from the narratives for the cross-case analysis. Through the cross-case analysis of the data through Atlas.ti 22, four themes related to the participants' learning experiences creating OEMR became evident: challenges, creativity, feelings and value.

Atlas.ti 22 is computer-assisted qualitative data analysis software (CAQDAS) (Yin 2014:192) to assist in searching for connections, patterns or concepts to establish relevant themes (Yin 2014:194) and categories (Creswell 2014:195). The narrative analysis included interpretation and focused on meaning and making sense of the participants' experiences. Trustworthiness of the data

was ensured through member checking, whereby 'the final report or specific description or themes' were returned to the participants (Creswell 2009:191) to offer them 'an opportunity to provide context and an alternative interpretation' (Patton 2002:561). Because they are the ones in the experience studied, Loh (2013:6) postulated that they would have detailed information about the context of the experiences, their personal reasons for the occurrence and their responses to it. Korstjens and Moser (2018:122) indicate that the researcher's responsibility is to provide a 'thick description' of the participants and the research process, 'enabling the reader to assess whether the findings are transferable to their own setting' – the transferability judgement. This implies that the reader, not the researcher, makes the transferability judgement because the researcher does not know the readers' specific settings.

Research ethics

Research ethics was regarded as an essential element of the research activities within this study as part of the project *Open educational practices for self-directed learning*. The NWU Faculty of Education Research Ethics Committee (EduREC) granted ethical clearance for this low-risk study before conducting the research with the ethics application number NWU-01014-21-A2. The relevant research data gatekeeper (NWU RDGC) was also permitted to do the research before recruiting the research participants. The final interviews took place at the end of the academic year after the marks had been finalised.

Findings and discussion

Through the cross-case analysis of the data through Atlas.ti 22, four themes related to the participants' learning experiences creating OEMR were derived: (7.7.1) challenges, (7.7.2) creativity, (7.7.3) feelings and emotions and (7.7.4) value.

Challenges

Common challenges of SDL include 'guidance, time constraints, distractions because of technology, a lack of organisational skills, and difficulty learning complex topics' (Buch, Rathod & Naik 2021). The students experienced emotional challenges, technological challenges and creative challenges.

Emotional challenges

Jasmine was confronted with realisations about herself as a person. She does not view herself as one to speak openly about her sadness:

> 'However, as sadness is the focus of the last assignment [...] having this activity could help people speak out about their sadness. This was tricky because it meant that I also had to dig deep and think about my own sadness as well. I discovered

> that sadness is an essential emotion because we can't experience joy and laughter and happiness without sadness. So sadness is really combined and intertwined with joy, and it is not wrong to feel sad. If you are allowed to talk about this sadness well, it will help you acknowledge it. I've learnt that I have to fix myself first and indulge in my sadness before I can give people advice [...] and I am really grateful for this experience.' (Jasmine, second-year student, female)

A challenging moment during the project for Kiara was connecting her own emotions:

> 'This project made sure that I had to come face-to-face with myself. The most challenging part was trying to understand, as an outsider, what a pre-schooler would be worried about, and understanding that they also have challenges, and that forced me to step out of my comfort zone and put myself in their shoes.' (Kiara, second-year student, female)

Technological challenges

Although none of the participants had ever encountered OER before their involvement in this project, everyone was excited and looked forward to creating OEMR. Geng, Law and Niu (2019:18) found 'that students who are more self-directed and with active attitudes toward technology-based products are more motivated to adopt online learning strategies and achieve their learning goals'.

The only technological difficulty Pearl experienced was converting her notations to a PDF format. Using and applying technology was both challenging and an asset for her during the Singing Feelings project:

> 'It is essential to integrate technology with music, as this can nurture exposure to different musical genres. But one should not only focus on that single aspect. My challenging moments mostly related to the computer.' (Pearl, second-year student, female)

Technology posed many challenges for Lilly – she 'always has bad luck with computers' and found it difficult to add a CC license to her sheet music. However, her peers assisted her with these tasks. This correlates with Gharti (2019:71), who views SDL as 'learning not only in isolation but collaboratively and collectively too'.

Kiara notated her songs on Musescore,[15] while Jasmine, Pearl and Lilly used Finale Notepad.[16]

15. MuseScore is a scorewriter that supports 'a wide variety of file formats and input methods. It is released as free and open-source software under the GNU General Public License' (https://en.wikipedia.org/wiki/MuseScore).

16. Finale is 'a proprietary music notation software developed and released by MakeMusic for Microsoft Windows and macOS'. Finale is one of the industry standards for music notation software (Nicholl & Grudzinski 2007:110) MakeMusic offers several less expensive versions of Finale, with limited features. These include the freeware program, Finale Notepad, allowing rudimentary editing and playback.

Jasmine's struggles with the notation software were evident in her final submission, portraying an incomplete score with no lyrics. In her experience, musicians are not always comfortable with technology. Therefore, it was 'an amazing idea to combine these two aspects':

> 'Integrating technology was quite a task when it came to these assignments. I have never been fond of technology, as I like to do things the old-fashioned way, but hearing the song that I composed without playing in real life is a gift. I guess it's part of the new norm, integrating technology into music-making, a norm reinforced by the COVID-19 pandemic.' (Kiara, second-year student, female)

Creative challenges

As an avid songwriter who has been writing songs since the age of 11, Pearl and Jasmine found writing a song for children challenging:

> 'The main difference between writing a song for children and for adults is that writing songs for children made me revert to being a child again. A peak experience at the end of the project was realising that there are similarities between myself and the children I am writing the music for. We all have the same emotions, and it's okay – regardless of my age and how much life experience I have.' (Jasmine, second-year student, female)

> 'Writing songs brings me intense joy. However, it was challenging having to write a song for children. How you teach children can influence their love for music. I had to change The way that I think and humble myself. It was essential to think about what a child's thoughts would be on the song's content.' (Pearl, second-year student, female)

Lilly experienced similar challenges, and writing lyrics was just as challenging, especially when working on second verses of existing songs. She struggled to think of good lyrics that correlate with the rhythms. Composing a song according to the toddler drone and accompanying it with lyrics for children was difficult for her:

> 'The difference between writing a song for adults and writing a song for children lies in perspective. It is easier to understand what an adult should be thinking, but writing songs for children entails that I have to consider how children think and think like them!' (Lily, second-year student, female)

Creativity

In a study by Riley and College (2020:31), he found five ways in which the concepts of creativity and SDL overlap. These connections were identified as 'the connection between life and learning, the role of play and experimentation, increased personal autonomy, a strong sense of personal initiative, and an egalitarian social structure'.

Creating songs was the creative task of the Singing Feelings project. These innovative learning experiences gave Jasmine a platform to express her

creativity, and she felt a sense of belonging as her creativity 'took control and just burst out'. However, her creativity was often constrained 'due to inner conflicts'. Pearl emphasised the benefits of putting herself in a child's shoes to think like them to write songs for them.

According to Sternberg (2006) and Torrance (1965), the connection between learning and life encourages creativity. This is evident in research by Sternberg (2006) and Torrance (1965) that emphasises the importance 'for those working on creative ideas or creations to have the ability to make connections between disciplines and to think in unconventional ways' – core principles of SDL.

Although Kiara was confident with songwriting and enjoyed it, it became easier to write songs for children as the project progressed because critical feedback was not the main objective of the process. According to Gharti (2019:63), SDL aims to assist learners in developing autonomy in the learning process – being able to work independently without others' direction. An SD learner (Gharti 2019):

> [*T*]akes the initiative and the responsibility for what occurs. The individual learner selects, manages, and assesses their own learning activities, which can be pursued at any time, in any place, and through any means. (p. 63)

> Although SDL has developed into an important educational research area that has garnered many researchers' interest worldwide, the role of assessment and feedback in supporting SDL has been the subject of relatively more minor attention in most SDL models. Furthermore, a review of the research literature related to assessment and feedback in an SDL context has revealed that research focusing on investigating the role of the evaluation and feedback in SDL other than self-assessment has been limited. (Mohamad Nasri et al. 2022, p. 195)

Kiara felt that she was mostly 'on it' in terms of creativity during the course of the project, but especially while working on the third assignment when writing the ditty and creating the artwork. She loved writing original songs and translating existing songs:

> 'I experienced my creativity increasing during the project and experienced creativity at a new level in songwriting. This assignment forced me to be more creative and broaden my own knowledge. It helped me improve my creative side when writing lyrics and thinking of ways to help children express their feelings.' (Pearl, second-year student, Female)

Lilly experienced creativity at a new level during songwriting. She felt a sense of accomplishment as she published her song with a CC license, 'making it more official' (Pearl, second-year student, female). Williams and Werth (2021:1) investigated 'students acting as content creators as an emergent trend in the field of open educational practice'. The results showed that students are open to sharing their work with credit and value helping others. Kiara was excited to create original songs and hoped that making them freely available 'could make it possible for them to be used by many, and possibly help many too'.

She said that others might benefit from using her song to cheer children up, and it could broaden everyone's perspective.

Jasmine viewed 'creating original songs' and 'making them freely available' as two contradictory notions:

> 'I don't know exactly how I feel about this because (1) I love to write songs; it kind of comes easily to me, but on the same note; (2) giving it freely kind of puts me in a dark place. It reminds me of how I always do things, and other people take credit for it, and I'm pretty tired of that. So with that said, I think I would write songs but then make them freely available through companies like Creative Commons to make sure no one else takes credit for them.' (Jasmine, second-year student, female)

Kiara disagreed with creating original songs and making them freely available. She would instead prefer to 'copyright the material'. Nevertheless, she planned on using the resources on the website in her own teaching to help introduce music to young children. To achieve higher SDL skills amongst university students, Tekkol and Demirel (2018:12) stress that 'they should be allowed to identify their own learning needs; and their opinions may be considered when identifying learning objectives'. They suggest 'various learning strategies to be addressed in classes and that students should be encouraged to monitor and evaluate their own learning processes'.

While most of the students were open to sharing their work, survey responses in a study on open licensing by Abri and Dabbagh (2019) indicated that a few students were reticent. Their reticence was based on their lack of knowledge regarding OER, mainly related to licensing that allowed others to change their work. Other barriers to publishing under a CC license included 'lack of confidence about the quality of their work and the fact that a peer did not review their work'.

Jasmine has previously written songs. She has always had 'a creative streak', but for the duration of this project, she felt 'something else, a sense of belonging':

> 'Instead of limiting my creativity with my self-doubts, it takes control and just bursts out. I loved experiencing my own creativity during the project. Being involved in this project reminded me why I wanted to study music once again. Nevertheless, creativity kind of stopped in some parts due to inner conflict, trying to convince me of some lies, for example, that I am not my biggest bully. However, these assignments gave a massive platform to my creativity, allowing me to write and tell my story in the way I feel most comfortable.' (Jasmine, second-year student, female)

Feelings and emotions

'The emotional component of SDL is seldom discussed explicitly in the literature' (Rager 2009:22). However, Zull (2006:7) views emotion as 'the foundation of learning', where 'the chemicals of emotion act by modifying

the strength and contribution of each part of the learning cycle'. Wolfe (2006:35) adds that the brain 'seeks to create meaning through establishing or refining existing neural networks' that accumulate in learning. He claims that 'emotion affects what is learnt and what is retained'.

For Kiara, it was easy to think about emotions, but the project emphasised the importance of expressing one's feelings healthily:

> 'I enjoyed writing songs about feelings, as it is easy to think about emotions. I think others would benefit from the work I put into this assignment by reminding them how important it is to express one's feelings and emotions. I had to determine what I had to do to make something sound happy for one of the songs. Initially, I refrained from using the word "happy" but eventually decided to use it. I started with a melody for the song and added lyrics.' (Kiara, second-year student, female)

Lilly enjoyed learning about how children could learn to express their feelings best through singing and how valuable it is for them to sing:

> 'It is not easy to express feelings. Writing songs made it easier to express sadness and more complex to express anger. However, I think it is easier to express anger for the general population. During the Singing Feelings project, I became more aware of how to express feelings. I developed a new focus, namely, not being shy about feelings. I hope that after this project, I will be able to assist children in expressing their emotions better. A peak experience while being involved in this learning experience was definitely reading more about SEL and music.' (Lilly, second-year student, female)

Jasmine emphasised how she became subconsciously more aware of her feelings because of her learning experiences while creating OEMR related to feelings. She enjoyed seeing her classmates express themselves emotionally through song. Her emotions became 'more connected', and her life became 'less complicated while participating in the project'. She realised that it is okay to feel other emotions, especially emotions that are 'classified as bad'.

Her highlight during the project was seeing how she portrayed her own emotions:

> 'I was okay with being connected. A new skill I acquired during this project was to nurture my connectedness with others' emotions. During this project, I became aware of the happy side of emotions: joy is joyful. I experienced intense joy when sharing in the expressions of my classmates. It felt as if I was doubling up on my own songs. I had an honest feeling. I have learnt how to let people in and tell them about my feelings, whereas before, I would just hide my feelings, and I have also learnt to be more considerate about other people's feelings. The peak for me halfway through the project was the realisation that – even though I had known this for a long time but actually to understand it – it's okay to feel other emotions, especially emotions that we classify as deviant. Dealing with feelings is something you can never say you mastered, no matter your age. The older you get, the more you filter your emotions and experiences; we work hard to justify many things. I am subconsciously more aware of my feelings because of the Singing Feelings project.' (Jasmine, second-year student, female)

Rager (2009) generated an interactive model of SDL:

> The essential premise of this model is that context, content, learning, and process each carry an inherent emotional load that is mediated by the characteristics of the individual learner. Failure to recognise the complexity of the role of emotion in SDL leaves us with an incomplete understanding of this critical form of adult learning. (p. 28)

Value

Value was categorised according to six components that the students found valuable while creating OEMR in a music education module: growth, others, skills and resources, adaptation, songwriting and joy. These aspects could all contribute to lifelong learning related to unique learning experiences that could improve an individual's SDL skills (Tekkol & Demirel 2018:12).

O'Shea (2003) and Gharti (2019:63) indicate that 'SDL enables individuals to improve their self-confidence, autonomy, motivation and lifelong learning skills'. Autonomous learning refers to the students' ability to do work independently without others' direction, 'to take charge of one's learning or to take the initiative and the responsibility for what occurs' (Little 1991:1). Ponton and Carr (2000:281) propose that an educator's skills 'are not complete until they understand and can promote autonomy in SDL, thereby enhancing the students' capability to engage in lifelong learning as individual desires evolve'. A value of SDL that was also apparent during the students' learning experiences creating OEMR is the development of student autonomy that promotes lifelong learning. Candy (1991) views SDL:

> As a vehicle toward knowledge mastery that successfully transforms one's understanding through social and psychological constructs. Therefore, SDL can be viewed both as a process and a product of lifelong learning. (Mohamad Nasri et al. 2022:190)

Growth

Jasmine said that the learning experiences during the Singing Feelings project 'had a big impact' on her life and helped her grow into a more self-directed student: 'As a person, I was enriched by the learning experiences and enjoyed growing in different aspects with my peers'. Zhoc, Chung and King (2018) claim that SDL 'entails three vital elements: autonomy, responsibility, and growth'. Boyatzis (2002) argues that emotional commitment plays a crucial role in accumulating these three SDL elements. Jasmine described how she had to 'reinvent' her identity through the lockdown during the coronavirus disease 2019 (COVID-19) pandemic, re-evaluating who she was – as she was isolated and unable to participate in activities constantly:

> 'I've found it valuable that it's good to say you're good at something…it's not a bad thing to praise yourself – even though, personally, I haven't tried it yet, it still

> lingers in my mind. Still, the other thing that remains is if I were to change and seek another's approval, am I still going to be me?' (Jasmine, second-year student, female)

Pearl realised that she 'might actually enjoy teaching as a possible career option'.

☐ Others

Jasmine felt like others might benefit from the work she put in by seeing another angle. She believed that others would benefit from the skill of 'being at one with your emotions, especially those that are classified as bad, such as worry and sadness':

> 'We are all very different in my current class, like the sun and the moon, but we all have one thing in common: we respect how different we all are, which makes it easier for us to learn from one another instead of judging each other. Others will benefit from encountering a new point of view when they look at my work. I have noticed that I don't think like most people. At first, I thought it was a bad thing, but I am starting to see it as an essential element that makes me who I am.' (Jasmine, second-year student, female)

The highlight of this project for Kiara was the social aspects: their collaboration as a group and making and recording a video for the early childhood development (ECD) Comber Festival[17] about the Singing Feelings project and their encounters creating OEMR.

Pearl found it exciting to share her songs with others: 'It was a positive experience to build each other up, and a sense of community was created during the Singing Feelings project'.

☐ Skills and resources

The skills Jasmine acquired during the Singing Feelings project would benefit her in the future as it opened her eyes to writing songs that accommodate everyone, for example, happy and sad songs:

> 'I would most definitely use the resources in my teaching. It changed me, and as a teacher, one wants your pupil also to be able to handle emotions… and if it worked for me, why not share it? I think this project should be compulsory for all music students, as it completely changed my perspective on dealing with stuff. After being involved in this project, my life was suddenly so much simpler.' (Jasmine, second-year student, female)

Lilly and Jasmine emphasised the value of the Singing Feelings project for their future careers as music educators, being able to assist children in expressing their feelings and writing songs for children:

17. The first NWU virtual ECD-COMBER Learning Festival in collaboration with PanSALB was held from 13 to 15 September 2021.

> 'New skills that I acquired during this project were computer skills, patience and stretching my coping mechanisms. Integrating technology with music education taught me many things. However, the most positive part was that I had the confidence to utilise the software effectively. I think one term is enough to acquire the skills to create OEMR. The expansion will depend on the exposure if one wants to expand. The skills I have developed to create OEMR would benefit me as an educator, conductor, songwriter, and teacher.' (Jasmine, second-year student, female)

Kiara added that music educators could learn to work with students based on SEL skills. She viewed the integration of technology with music education as a good idea, as one could use it for one's own benefit. Using technology was easy for her, as her mom assisted. She really liked integrating technology into her work on the assignments to create OEMR by writing and notating songs:

> 'This project made me aware that it is essential that we work with care when engaging with children and that there are specific ground rules that apply when working with children. I feel more relaxed when writing a song for children, as adults can quickly feel intimidated, while most children will simply enjoy the process. Adults want to listen. When writing for children, the pressure from critics increases over time. Although I did not work directly with children during this project, it gave me a lot of ideas.' (Kiara, second-year student, female)

> 'The new skills I acquired during the project included notating the song on the computer and seeing the song's rhythm in my head. Although I have never encountered OER before, I have now become aware of the possibilities of OER and the importance of handling it correctly.' (Pearl, second-year student, female)

☐ Adaptation

Kiara realised the importance of acknowledging emotions and how their songs could bring communities together. She referred to people in a foreign country who would be able to access the songs through the Internet. One of the aims of the Singing Feelings project is to make the songs available for anyone to adapt to another language. Therefore, Kiara postulated that cultural responsiveness could be enhanced:

> 'If there were more music education resources, cultures would be shared more easily. When music is sung only in the mother tongue, it might inhibit the expansion of cultures, especially on the African continent. I found it valuable to work on my translation skills.' (Kiara, second-year student, female)

Tucker and Powell (2021:24) urge 'music teacher educators to develop preservice music teachers' agency so that they may push boundaries for greater inclusivity of underserved student populations through access, innovative forms of music education, and collaboration':

> 'It would help a lot if there were more OEMRs available for children in their mother tongue. Children learn easier when learning experiences are facilitated in their mother tongue. They would be more comfortable and not struggle to understand.' (Jasmine, second-year student, female)

Pearl thinks that the world would be different by making more music education resources available for children in their mother tongue, as more children will be able to develop their musical skills. The Singing Feelings project opened Jasmine's eyes to writing songs that accommodate everyone.

☐ Songwriting

Kiara 'found everything valuable in this learning experience – from learning about SEL and writing a ditty for children'. Kiara liked writing songs and had written her own songs before, but with less effort – she did not really know how to approach the process. After the project, it is different. She has had more practice and has worked with a specific goal in mind, which means she will systematically reach it. She found it valuable to work on her songwriting skills when writing her own song. In her opinion, music students must write songs! These songs could bring communities together. She could easily relate her previous experiences with the characteristics of a children's song. She became more confident about writing songs throughout the process, especially in combining the lyrics and the melody. The initial assignment provided a way to refresh her memory and overcome writer's block:

> 'Songwriting was fun, and I could include my own views on specific lyrics. I think one term is enough to acquire the necessary skills to create OEMR, primarily when related to emotions and aspects thereof. Others might benefit from the work I put in for most of the assignments; for example, music educators could learn how to work with students according to the SEL skills. I found learning how to express emotions correctly valuable.' (Kiara, second-year student, female)

Writing songs was the highlight of this project for Jasmine:

> 'I especially enjoyed that the songs had to be written for young children. The experiences took me back in time to my own childhood. I experienced intense joy when writing and finishing songs – after completing every song; I felt as if I was successful.' (Jasmine, second-year student, female)

☐ Joy

The stories of Kiara's engagement with OER and songwriting during this project reflect an enjoyable experience overall, with minimal challenges.

The Singing Feelings project was valuable for all four participants, as they had fun. By having fun together, they could motivate each other throughout the project. This correlates with Breed's study (2016). This study investigated

> [*T*]he influence of incorporating five elements (positive interdependence, individual accountability, promotive face-to-face interaction, appropriate social skills, group processing) regarded as essential for effective cooperative learning on students' self-reported levels of SDL, and their views on the influence of collaborative learning on their self-directedness in education. (p. 1)

The researcher found that structuring group work activities to include the five elements influenced the SDL area of evaluation, 'needed to monitor own

learning, and interpersonal skills, which are prerequisites for becoming self-directed learners'.

Recommendations

Future recommendations for research include investigating how to create a better-informed awareness of OER in music students to understand the benefits of creating OEMR. Providing affordable access to culturally relevant education is a core concept and central intention of the OER movement (Hodgkinson-Williams & Trotter 2018). Therefore, exploring how an improved consciousness of and exposure to OEMRs could promote culturally responsive teachers, caregivers, students and learners.

Sharing the music education, students' OEMRs will make other students, teachers and stakeholders aware of the benefits of OER, and this could, in turn, foster a willingness to engage with OER and specifically OEMR in different musical contexts. Consequently, more meaningful learning experiences could be designed to increase awareness of the value of OER and promote more innovative opportunities to create OEMR.

Conclusion

This chapter explored the learning experiences of four BMus students creating OEMR to nurture SEL in children's development. None of the participants had encountered OER before being involved in the Seeing Feelings project. Consequently, there were mixed feelings about making their original songs freely available to anyone. Taking my own ignorance into account when I encountered OER for the first time, I can identify with the students' limited perspective on the possibilities and value of OER, especially in a musical context. However, the more I engaged with OER as an OER Research Fellow (cf. Chapter 1), the more I realised the potential of OER to improve the accessibility of musical resources and original songs to nurture SEL, especially across different contexts and cultures.

The main research question for this research is related to the nature of the learning experiences of music education students creating OEMRs.

The four themes derived from the data analysis indicated that:

1. The students' experiences included a variety of challenges, including emotional challenges, technological challenges and creative challenges.
2. Their creativity was nurtured.
3. They had different perspectives on feelings and emotions.
4. The value of the learning experiences that could contribute to lifelong learning included growth, others, skills and resources, adaptation, songwriting and joy.

The students benefited from creating the songs and engaging with the concepts of SEL, which contributed to their personal growth and their development as music educators. This contribution had mutual benefits, as students nurtured their own SEL while becoming more confident in creating OEMR to nurture SEL in children.

Chapter 8

Second-year health students' perspectives on developing open educational resources

Yolande Heymans
Centre for Health Professions Education (CHPE),
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa

Jessica Pool
Centre for Health Professions Education (CHPE),
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa

Christo Bisschoff
School of Human Movement Sciences,
Focus Area: Sport and Recreation Research,
Faculty of Health Sciences, North-West University,
Mahikeng, South Africa

Christmal Christmals
Centre for Health Professions Education (CHPE),
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa

Baaqira Ebrahim
School of Psychosocial Health,
Focus Area: Community Psychosocial Research (COMPRES),
Faculty of Health Sciences, North-West University,
Vanderbijlpark, South Africa

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Rhea Koch
Centre for Health Professions Education (CHPE),
Faculty of Health Sciences, North-West University,
Potchefstroom, South Africa

Jako Olivier
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Mahikeng, South Africa

Abstract

The rapid web expansion and development of information and communication technologies (ICTs) brought about opportunities in higher education (HE) to develop a culture of cooperative and collaborative learning and co-creation of knowledge using open educational resources (OERs) as part of open education practice (OEP). Several studies have pointed out the gap in the body of knowledge regarding how OEP can be implemented in HE for teaching purposes. This chapter examines second-year health and social-care students' perceptions of engaging with and developing an OER as part of an interprofessional collaborative learning opportunity. The study aimed to establish a deeper understanding of the use of OEP within a collaborative learning environment. Furthermore, the study aimed to explore students' perceptions of using OEP in undergraduate, interprofessional education (IPE) OEP into a second-year module. The study population comprised all students registered for the module (1734), with 1145 students giving written consent. This qualitative study is positioned in a constructivist-interpretivist paradigm. Findings confirm that OEP provides an opportunity to apply knowledge and active cooperation and collaboration in group settings as a way of learning. Respondents valued the opportunity to actively engage in the co-creation of knowledge and apply this knowledge to empower themselves and others. Learning gains included the development of transferable skills, self-directedness and higher-order thinking skills. Challenges reported by students include not understanding the rationale to include an OEP, and insufficient information and support during the development of an OER.

Introduction

The chapter starts by discussing the rationale for using an OEP in teaching undergraduate health and social-care students. Thereafter, the OEP development process is discussed, highlighting valuable lessons learned when guiding undergraduate students in a cooperative and collaborative learning opportunity. Based on the analysis of written student reflections, the chapter concludes by sharing students' perspectives on using OEPs to enhance student learning.

The rapid development of the World Wide Web and ICTs provides new opportunities for the sharing, reusing and disseminating of knowledge in HE. Education pivots around the sharing of knowledge and ICT integration, therefore, has enhanced the notion of 'openness' (Chiappe & Adame 2018:214; Cronin 2017:16). Cronin (2017:16) explains that the term 'open' is used to describe resources (including artefacts and how they are used), learning, teaching and institutional processes, as well as the use of educational technologies and the guiding principles for educational endeavours. Chiappe and Adame (2018:218) concur that in the 21st century, ensuring educational access, effectiveness and equality is essential. Therefore, HE needs to adopt a sense of 'openness'. Openness provides the context for open education (OE), and according to Cronin (2017:16), OE initiatives are often understood, perceived and prioritised differently within different contexts. According to the *Cape Town Open Education Declaration* (2007), 'open education encompasses resources, tools, and practices that employ a framework of open sharing to improve educational access and effectiveness worldwide'. The authors of this chapter also share this view.

The *Cape Town Open Education Declaration* (2007) states that OE is not limited to just OERs but also includes OEPs. This implies using open technologies and teaching practices to facilitate cooperative, collaborative and flexible learning. It can also expand into new learning, teaching and assessment approaches. In this study, the authors draw from the work of Cronin to define OEP. Drawing from various scholars, Cronin (2017) describes OEP as:

> [*A*] broad description of collaborative practices that include the creation, use, and reuse of OER, as well as pedagogical practices employing participatory technologies and social networks for interaction, peer learning, knowledge creation, and empowerment of learners. (p. 18)

An OEP fosters student engagement and agency through 'active, constructive engagement with content, tools and services in the learning process, and promoting learners' self-management, creativity and working in teams' (Geser 2007:37). Additionally, Evans, Muijs and Tomlinson (2015:9) stipulate that student agency, autonomy and self-regulation can be enhanced through flexible pedagogies and open technologies. It involves active participation and engagement with the content, peers and the lecturer during the learning process. Furthermore, OEP allows students to be more self-directed by allowing them to source learning content, identify suitable open technologies and actively engage in the co-creation of knowledge within collaborative spaces of learning (Lasfeto & Ulfa 2020:35, 39; Olivier 2020:22). It is essential that an OEP should promote self-directed learning (SDL) to enhance student agency and lifelong learning (Olivier 2020:25).

Aligned with the purpose of the North-West University (NWU) 'to excel in innovative learning and teaching and cutting-edge research, thereby benefiting

society through knowledge' (NWU), teaching and learning at the NWU promotes students' self-directedness, student agency and lifelong learning. The Senate approved the *NWU Open Educational Resources Declaration* in 2018 to further promote the dream, purpose, values and brand attributes of NWU (2018). The Declaration echoes the NWU's commitment to using and promoting OER, and ultimately, also OEP. Attempting to promote OE at the NWU, the NWU OER Fellowship programme was initiated (cf. Chapter 1). The fellowship aimed to support lecturers in their OE teaching, learning and research endeavours. It involved a financial grant, several workshops by experts in the field and mentoring for 18 months. This fellowship aligns with the NWU's Open Educational Resources Policy which was in the process whilst writing this chapter (North-West University 2022a).

This study was carried out as a part of the NWU OER Fellowship at a unitary, integrated, multi-campus university in South Africa during a second-year, compulsory module in the Faculty of Health Sciences. Demonstrating its commitment to IPE by delivering graduates that can work effectively, cooperatively and collaboratively in the rapidly evolving health care landscape, the Faculty of Health Sciences introduced a compulsory, philosophy-based module to all second-year students registered as health students[18] in 2010. The compulsory module is presented at all three campuses of the university and forms part of 22 academic programmes in the Faculty of Health Sciences. Approximately 1730 students from fourteen diverse health care and social-care disciplines enrolled annually for the second semester (June–November) module.

The module aims to develop a critical mindset concerning the world of health by exposing students to diverse individual and disciplinary ways of knowing, being and doing. Within the faculty's emphasis on IPE, students also get the opportunity to work in an interprofessional team and, during purposefully designed learning events, get the opportunity to learn from, with and about each other (Van Diggele et al. 2020:1; World Health Organization 2010). In addition, the module aims to foster interprofessional competencies, active, interprofessional collaborative and cooperative learning (CL), mutual respect and appreciation, student agency, self-directedness, autonomy and creativity.

The module is facilitated online using the learning management system (LMS) (Sakai) and other purposefully selected technologies to curb the spread of coronavirus disease 2019 (COVID-19) in this large module. As part of the OER fellowship programme at the university, the lecturers responsible for teaching the module introduced OEP into the module. In addition, they

18. In this study, health students refer to students from the disciplines: Nursing, Pharmacy, Nutrition, Dietetics, Social Work, Psychology, Physiology, Consumer Sciences, Occupational Hygiene, Human Movement Science, Biokinetics, Recreation, Sports Science and Coaching Science.

conducted a Scholarship of Teaching and Learning (SoTL) research study, investigating students' perceptions of using an OEP as part of an interprofessional collaborative learning opportunity.

The lecturers scrutinised the curriculum to identify a suitable topic to introduce OEP. The learning outcome *Design of a health promotion community intervention*, which contains Dimensions of Wellness, was identified as a suitable topic for introducing OEP into the curriculum. Applying the 5R principle (reuse, retain, revise, remix and redistribute) (Zhang et al. 2020:2), the lecturers worked through a wide range of materials to identify suitable OERs on the topic. Given the unique context, the lecturers could not find OER learning activities on the topic that could be used as is. However, they found an OER assessment rubric that could be used after some revision. Therefore, the lecturers designed a learning activity on the topic to address the contextual needs. The lecturers also adapted the assessment rubric to suit the interprofessional nature of the module. The newly designed and adapted resources (the electronic wellness wheel, the learning activity and the assessment rubric) will be shared as an OER for reuse in the open domain.

The learning activity was divided into three steps and constructively aligned with the outcomes and assessment criteria. In Step 1, each group member used the wellness wheel to collect data from an individual who volunteered to participate. Before the group discussion, students anonymised the data to protect the identity of their volunteers. Thereafter, the interprofessional group members met, discussed the anonymised profiles, and selected one profile for the group to use in the next step. In Step 2, group members discussed each of the wellness dimensions in the selected and anonymised profile to determine the individual's overall wellness and identify areas of strengths and improvement. Step 3 entailed selecting the wellness dimension with the lowest score. After conducting research and using an open technology of choice, students collaboratively designed an infographic that can be used to enhance the dimension with the lowest score. All learning objects (infographics) were assessed as part of the module mark using the revised OER assessment rubric. Giving consent that the infographic could be shared at the end of the module on a purposively designed OER website, was optional.

The lecturers responsible for introducing OEP in the module conducted research as part of the fellowship (cf. Chapter 1) thereby contributing to the body of knowledge on the use of OEP in HE. Despite much research on group work in IPE, the literature review revealed limited empirical evidence regarding OEP in IPE. Within the evolving OEP domain, the purpose of this study was to explore the use of OEP in an undergraduate, interprofessional module in the Faculty of Health Sciences at a comprehensive university in South Africa. The study aims to establish a deeper understanding of the use of OEP within a collaborative learning environment. Furthermore, the study aims to provide specific direction for the use of OEP to enhance undergraduate, IPE in

Health Sciences. The research question that framed this qualitative research was how students from fifteen health care and social-care disciplines perceive the use of OEP as part of an interprofessional cooperative and collaborative learning opportunity. The usage of OEP for education is the focus of this study; other facets of OEP, such as open research and open publishing, are not included. Using a narrow 'OEP' lens in this study enabled a deep exploration into the use of OEP for teaching and learning in HE.

Theoretical and conceptual frameworks underpinning this research

The theoretical framework forms the basis from which research knowledge is constructed. This framework also supports the study's justification, the approach to the problem, the purpose, and the importance of investigating the phenomena. A conceptual framework is a representation of an expected relationship between variables. Variables refer to the characteristics drawn from existing literature and theories that underpin the phenomena (Collins & Stockton 2018:2).

Theoretical framework

Higher education institutions (HEIs) are expected to transform teaching and learning using a more 'open' approach. Open educational approaches include educational practices inclusive of interactive cooperative and collaborative learning within a social environment (Chiappe & Adame 2018:223). The main outcomes is the co-construction of knowledge by students. According to a social constructivist framework, knowledge develops because of social interaction and is a shared, rather than an individual, experience. In addition, in social constructivist learning, learning and the acquisition of new knowledge are equally important (Chiappe & Adame 2018:223). In this study, the researchers viewed social constructivism as an applicable framework as a result of cooperative and collaborative nature of learning when engaging in interprofessional group work.

Conceptual framework for this research

The authors provide a conceptual overview of the concepts 'openness', OE, OER, OEP and open education pedagogy in the 'Introduction'. Unfortunately, the overlapping similarities and interchangeable use of the concepts mentioned often lead to misunderstanding of these concepts and can subsequently confuse them (Cronin & MacLaren 2018:128).

Over the last few years, there has been a fast-growing trend in using open learning materials and associated platforms and practices in HE. These open platforms and practices include using OERs, massive open online courses

(MOOCs) and open courses such as Coursera (Chiappe & Adame 2018:216). However, despite recent developments in the field of openness, the 'meaning' and precisely what openness entails remains unclear. 'Open' in education is currently mostly debated in ICT development in the 21st century.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines OERs as 'the open provision of educational resources, enabled by ICTs, for consultation, use, and adaptation by a community of users for non-commercial purposes' as cited by Ehlers (2011:2). Initially, OERs included the use and development of free, open textbooks to counteract the notion of formerly expensive textbooks (Colvard, Watson & Park 2018:263). However, over time OER in higher education institutions (HEIs) has expanded in using a variety of OERs such as assessments, articles, lesson plans, open technologies and interactive software platforms (Griffiths et al. 2020:16). This movement has set the scene for using open educational pedagogies and OEPs in HE. However, the way OERs are utilised as OEPs is still in the early stages of development (Ehlers 2011:3, 7).

From the literature, it is evident that the development of OERs as part of OEP is crucial as it holds a variety of advantages. These advantages include using OEP as a vehicle for transformation as it fosters student agency, lifelong learning and self-directedness (Chiappe & Adame 2018:223). In addition, including OEP into teaching, learning and assessment practices enhances self-confidence and a sense of achievement as students acts as co-constructors of knowledge which can contribute to developing their own learning experience (Zhang et al. 2020:9). Moreover, student involvement in the learning process encourages students to become change agents within their spheres of influence (Chiappe & Adame 2018:223).

As above stated, actively engaging students in the knowledge generation process improves student engagement with peers and the subject matter, knowledge creation, CL, collaborative learning, increased satisfaction, empowerment and the development of knowledge, skills and attributes (Chiappe & Adame 2018:223; Cronin 2017:18; Ehlers & Conole 2010:4, 6; OPAL Report 2011:11). Furthermore, including OE technologies in teaching and learning supports the development of 21st-century digital literacy skills (Zhang et al. 2020:2). Lastly, OEP scaffolds learning through the process of understanding, applying, synthesising, evaluating and creating (Cronin & MacLaren 2018:129).

Despite the numerous advantages of OEP, it is noteworthy that moving into the open domain poses challenges such as the evolving institutional policy development on OEP, lack of clarity regarding concepts, as well as the availability of context-specific and appropriate OERs. Additionally, it also included the lack of knowledge and experience in using open education pedagogy as the underpinning belief about using OEP in teaching, learning

and assessment in higher learning (Chiappe & Adame 2018:219; Ehlers 2011:2; Knox 2013:825; Nascimbeni & Ehlers 2020:2).

Open educational practices to enhance self-directed learning

Self-regulation describes how engaged learners are in the learning process on a metacognitive, motivational and behavioural level in collaborative learning contexts (Shea & Bidjerano 2010:1727). This approach to education where students take responsibility for their own learning process is called SDL (Bosch 2016:2; Knowles 1975:18).

Three key principles, namely self-management, self-control and a willingness to learn, can be used to categorise SDL. Self-management refers to aspects of time management, organisation, methodical learning and problem-solving abilities. The capacity to create learning objectives, accept responsibility for one's own learning, and have a strong desire to comprehend the material at hand are all examples of self-control (Fisher & King 2010:44).

There are a number of teaching strategies that promote students to become more self-directed. Cooperative learning is one of the teaching strategies that empowers students to develop SDL skills (Mentz & Van Zyl 2018:484). Additionally, CL allows for students to work collaboratively as part of a team to solve a problem, complete a task or accomplish a common goal (Fisher & King 2010:45).

To develop and enhance SDL skills, it is important to create a CL environment that is student-centred, allowing students to set their learning goals and identify learning resources, which Mentz and Van Zyl (2018:485) describe as typical SDL activities. The OEP practices applied in this module were underpinned by SDL principles. Students had the opportunity to develop and enhance their self-directedness by working cooperatively and collaborative to design a learning artefact that could be used as an OER, a strategy typically associated with SDL (cf. Chapter 3). To this end, this study proposed that OEP be supportive of SDL. In the research design and methodology, the authors discuss the research design and methodology followed in this research study.

Research design and methodology

Research design

This study is anchored in a constructivist-interpretivist paradigm. Students perceive cooperative and collaborative learning differently. Students also have different perceptions of OE and OEPs within the learning environment. Working online in interprofessional teams, students get the opportunity to interact with other students and within this social environment many constructed realities

(McMillan & Schumacher 2006:12). This paradigm is relevant as students have constructed their own reality from lived experiences. The authors seek to capture and interpret second-year health and social-care students' perceptions, feelings and behaviours regarding the use of OEP as part of their teaching, learning and assessment from their subjective frames of reference.

The researchers conducted a scoping review using specific keywords to establish a sound theoretical foundation. Empirical data were collected using a qualitative approach. Adopting a qualitative approach allowed the researchers to explore and gain insight into students' perceptions of using OEP in teaching. The researchers used interpretive description as a suitable method for finding practical solutions to the problems health educators face in health professions education (Teodoro et al. 2018:2). Teodoro et al. (2018:2) add that interpretive description enables researchers to investigate and learn more about participants' individual views, subjective beliefs, viewpoints and lived experiences related to health-related concerns.

☐ Population and sampling

The study population comprised all students registered for a compulsory, second-year, interprofessional module in the Faculty of Health Sciences at a comprehensive, multi-campus university in South Africa. The 1734 students were representative of the university's three campuses, and the sample size was calculated from the group as a whole and not per campus. The researchers used non-probability sampling and voluntary sampling as the primary method. Using voluntary sampling allowed for an equal opportunity to choose to participate, and for this reason, participants did not need to be a representative sample of any given campus, gender, age, ethnic background and profession. The purpose was not to investigate the perceptions on OEP of specific health professions but the students in general. Participation in this study was voluntary, and 1145 students gave their willing consent by signing the informed consent form. The vulnerability of the students as a captive and vulnerable audience was reduced by research information sessions, the informed consent process and the data collection process conducted by an independent, neutral person who had no involvement with the teaching, learning and assessment of students in the module.

☐ Data collection

Data collection commenced after approval by the Health Research Ethics Committee in the faculty (NWU-00187-21-A1) and the Institutional Research Data Gatekeepers Committee (NWU-GK-21-026). Data were collected using an open-ended, online reflection questionnaire on OEP teaching and learning practices in the module. QuestionPro, a web-based software programme for administering online surveys, captured the students' responses.

Data analysis and trustworthiness of the data[19]

After the data collection period ended, the independent research administrator removed the data of students who did not give informed consent or withdrew from the research during the semester. The independent research administrator anonymised and cleaned the data set by removing identifiable information to ensure anonymity and confidentiality. The research administrator assigned a unique code to each participant; however, this unique code cannot be linked to any participant's identity. Data analysis was done using ATLAS.ti, a qualitative data analysis software. Co-coding was used to enhance the validity and trustworthiness of the research. The coder and co-coder coded the data separately following the same coding process. They discussed the coding and, where needed, made amendments to the initial coding list and recorded the data.

The steps of Creswell and Clark (2018:193–195) and the principles of Tesch (1990:120–124) guided the data analysis process. First, the researcher prepared the data by organising, sorting and arranging the data. After that, the researchers explored the data by reading through the data to develop a general sense of the data. The researchers also noted their initial and general thoughts on the data. Understanding the data, the researchers started the coding process using a deductive and inductive approach. Mindfully reading, examining and scrutinising the participants' reflections, the researchers linked the related text to a code that would later be linked to a sub-theme, theme and pattern. Where text segments emerged that could not be linked to an initial code, a new code (with possible sub-theme, theme and pattern) was created (Tesch 1990:124). Next, repetitive codes, sub-themes, themes and patterns were merged, and using the networking functionality in ATLAS.ti, codes, sub-themes, themes and patterns were connected to show interrelationships. Finally, the researchers interpreted and discussed the findings to make meaning of the data. Findings were presented in themes, and quotations served as evidence of the findings. The researchers summarised the main findings and interpreted the results to understand how they address the research question and relate to existing literature. The research team also identified the study's limitations and implications for further studies.

To ensure the validity and reliability of the results, the researchers used a variety of data validation strategies. A clear research question guided the research by adopting a rigorous approach to the research process. Data were collected using an online, open-ended questionnaire and analysed until data saturation was reached. Although the purpose of qualitative research is

19. This section of the chapter is based on a substantial reworking of Heymans 2021.

not to generalise, transferability (the ability to apply the findings in a similar environment) was ensured by providing a rich description of the participants, the data collection method and instrument as well as the data analysis and findings (Poggenpoel & Myburgh 2004:309; Shenton 2004:66). The context, target population and participants were described without compromising anonymity and confidentiality. The research methods and data analysis process was well described to provide enough information to duplicate the study.

Dependability was ensured by having a clear and appropriate research process (Shenton 2004:70). The researchers have a clear audit trail. They used a co-coder during the data analysis process and analysed the data until saturation and crystallisation were reached (Creswell & Clark 2018:186). Confirmability when doing SoTL research with students is of special concern as the lecturers were also the researchers in this study. The dual role may influence objectivity (Shenton 2004:72; Toblin & Begley 2004:392). The researchers used an independent research team for all the research-related activities to mitigate risks associated with the dual roles. The researchers used rigorous scientific methods during the data collection, analysis, and interpretation phases to adhere to confirmability (Creswell & Clark 2018:202). Lastly, the independent research administrator will share the research results with the participants via a personalised email.

Findings and discussion

In this study, a research question guided the data analysis process to identify the themes and sub-themes. The research question posed was: How do students from fifteen health care and social-care disciplines perceive the use of OEP as part of an interprofessional collaborative learning opportunity? During the inductive and deductive analysis of the qualitative data, two distinct themes emerged, namely: (1) OEP as a way of learning and (2) learning gains through the use of OEP. Within Theme 2, three sub-themes emerged, namely, (1) knowledge to empower others and self; (2) development of transferable skills and (3) learning can be enjoyable. Supporting quotations have been included to elucidate the findings. Although identifiers were used as a prerequisite by the publishers, none of these can be directly linked to any participant. In the discussion to follow, the identifiers refer to P = user identity and D = date of completion and time of completion.

Theme 1: Open educational practice as a way of learning

The first theme considers the use of OEP as a way of learning in HE. Health care and social-care students indicated that researching the selected

topic allowed for deeper engagement with the content and their peers. Students also felt that the approach allowed for the application of knowledge and active collaboration as students from different backgrounds and disciplines brought different perspectives to the learning environment. Furthermore, as confirmed in the literature, respondents valued the opportunity to apply knowledge and be actively engaged in the co-creation of knowledge to help others. Based on the responses, the self-directedness of students is evident. Using real-life scenarios as well as using the wellness wheel created a desire for learning. Conducting research to gain more knowledge stimulates the development and enhancement of SDL skills such as taking self-control. Additionally, students showed motivation as they were curious to learn and explore even further on their own. These actions support the findings of Fisher and King (2010:44). The fact that they were actively involved in the teaching-learning process encouraged critical thinking and promoted deeper learning.

Students took ownership of their learning when collecting, analysing, synthesising and ultimately creating their OERs. These learning practices mentioned above have also been confirmed in the literature (Cronin & MacLaren 2018:133; Zhang et al. 2020:2, 9). This is illustrated in the following excerpts from the data set:

> 'The research that you had to do, and the fact that you can take one dimension of the wellness wheel and apply your discipline to create an OER, and that each student had a different perspective on the dimension.' (P130 503 550, D11/03/2021, 01:03)

> 'The dimension my group and I chose was environmental wellness. I enjoyed doing my research on this topic because I got to learn the importance and how to improve environmental wellness and putting ideas together as a group to create a learning resource for others.' (P130 795 053, D11/06/2021, 02:15)

It is obvious that students' comprehension of their subject field was improved by exposure to various disciplinary information and views. Students were able to see how various health-related fields are connected to one another and how they may collaborate and learn from one another to solve challenges and accomplish a common objective. These actions can be linked to self-management an essential concept of SDL (Fisher & King 2010).

> 'When creating the wellness wheel and the infographic I have realised that we, as a team with all different disciplinary inputs, can actually give a valid input on how to improve a person's wellness. We all had an input in the answers we wrote and the ideas were very creative and unique. This is where I have realised that our work can help others that don't have the necessary information to improve their wellness.' (P130 406 391, D11/02/2021, 00:11) (p. 44)

In addition, the data suggested that OEP as part of interprofessional learning activities can enhance interprofessional collaboration, communication and peer learning. The majority of participants felt strongly that working in assigned and predetermined interprofessional teams to create an OER provided the ideal opportunity for students from different disciplines to learn

about, from and with each other in cooperative and collaborative learning environment. The following excerpts reveal how they felt learning about, from, and with each other. Excerpts include:

> 'Because in tertiary different students from different faculties gather their input in order to come up with an OER. Therefore, different ideas are incorporated.' (P130 366 808, D11/01/2021, 10:01)

> 'It helped me realise how different people from different disciplines can work together and combine their work, to create a more successful and open solution, thus giving me the ability to one day elicit better group performance skills in the workplace.' (P131 096 052, D11/09/2021, 11:48)

> 'The most fascinating part was gathering information according to my discipline.' (P130 883 879, D11/07/2021, 23:03)

> 'I also enjoyed and felt proud to use my knowledge from my study discipline to add my point to the infographic that my group and I made.' (P130 688 388, D11/04/2021, 22:57)

Theme 2: Learning gains through the use of open educational practice

Theme 2 explores the learning gains obtained by creating an OER as part of OEP. A sense of acknowledgement dominates this theme that creating an OER as part of a learning activity serves a bigger purpose than just obtaining a mark to pass the module.

Sub-theme 1: Knowledge to empower others and self

The transformational power of OEP and OERs to foster student agency, lifelong learning and self-directedness are highlighted by Zhang et al. (2020:9) and Chiappe and Adame (2018:223). From the data analysis, it is evident that participants valued the development of a learning object (the infographic) can be used to promote education equality. Participants also noted that knowledge is power and felt empowered by creating an OER that can make a difference beyond the classroom context. This confirms the notion of becoming agents of change within their own community (Chiappe & Adame 2018:223). Some reflections include:

> 'Getting to create something that will benefit others was more beneficial than receiving marks that will only benefit me and not others.' (P130 343 036, D11/01/2021, 06:46)

> 'The work we put into the infographic can now be used to educate others.' (P129 526 501, D10/22/2021, 00:31)

> 'I now see how many people around me need help and need to be educated about life decisions and caring for the environment. I realised that we as students can make a huge difference in our community as long as we stick together.' (P130 245 316, D10/30/2021, 04:17)

> 'This is where I have realized that our work can help others that don't have the necessary information to improve their wellness.' (P130 406 391, D11/02/2021 00:11)

> 'The gathering of information and realising how much power comes from being knowledgeable.' (P130 756 601, D11/05/2021, 12:56)

Students felt that they would be able to apply the knowledge they gained through developing their OER to better their own well-being. Respondents also indicated that the OER stimulated an awareness of self by discovering new things about themselves, their strengths, weaknesses, growth opportunities and how they can make an impact as emerging health professionals. In addition, respondents indicated that the learning activity, and ultimately the development of the OER, required them to reflect on their own well-being. Some of these reflections include:

> 'The wellness wheel made me realise where my wellness score within life is at and what I should focus on in order to improve my wellness wheel. I think that the purpose of these activities was not only to receive marks but also to make one realise where one's wellness is at, where improvements should be made and also to create awareness of the different wellness domains within one's life.' (P129 727 196, D10/25/2021, 03:10)

> 'It made me realise that we don't just learn for the sake of learning, but we improve our knowledge, discover new things about ourselves.' (P130 332 262, D11/01/2021, 04:01)

> 'I had to teach myself how to design :) before the assignment I didn't know I could design something that beautiful.' (P130 886 047, D11/08/2021, 00:19)

☐ Sub-theme 2: Development of transferable skills

Based on the responses, it is clear that including OEP in undergraduate teaching by asking students to develop an OER using open technology assists in developing new skills. Additionally, respondents highlighted the transferability of the skills they developed during the learning process. Finally, respondents expressed positive views that they will be able to apply the skills to their daily life, to other contexts and in the future when entering the workplace as a health professional. These findings confirm the work of Brandt (2020) who highlights SDL as one of the four critical 21st-century skills. In agreement, Zhang et al. (2020:9) argue that teaching in the 21st-century should include the use of OE technologies as it supports the development of 21st-century digital literacy skills:

> 'I loved doing the infographic. I love that I now have this new skill that I know I definitely will use in the future.' (P130 407 573, D11/02/2021, 01:06)

> 'I learned a lot from creating the OER and will be able to use programs such as Canva and Piktochart in the future to create more.' (P130 407 573, D11/02/2021, 01:06)

> 'I enjoyed using a new platform like Piktochart to present information to others. It is a new technical and graphic skill that I learned, and it is a platform I will use again in the future.' (P130 267 511, D10/30/2021, 11:55)

> 'The skill to create or work with this type of design can also be use in everyday life or any job. It gives students the opportunity to learn new things and be creative.' (P129 526 501, D10/22/2021, 00:31)

Open educational technologies were also mentioned as a skill that respondents feel can benefit them when entering the workforce. Technology is an integral part of the 21st-century learner. Including open technologies in teaching, learning and assessment speaks to students' needs and strengths and allows them to use the knowledge and skills gained about open technologies in their everyday lives. Respondents noting the skills they developed through OEPs in this module supported the findings from the literature (Chiappe & Adame 2018:223; Cronin 2017:18; Ehlers & Conole 2010:4, 6; OPAL Report 2011:11). It is noteworthy to mention that respondents could see the use of these skills in their personal lives and in the workplace in the future:

> 'We are the future working class, and we grew up with another world of advanced technology than our parents did (who wrote the learning material).' (P130 405 725, D11/01/2021, 23:46)

> 'This activity gives me the ability to one day elicit better group performance skills in the workplace.' (P131 096 052, D11/09/2021, 11:48)

☐ Sub-theme 3: Learning and enjoyment using open educational resource

In line with the findings by Olivier (2020:22, 25) and Lasfeto and Ulfa (2020:35, 39) that the use of OEP provides students with an opportunity to actively engage in the co-creation of knowledge within collaborative spaces of learning, respondents highlighted that learning through researching and collaborating with others to design their OER, was enjoyable. In addition, students noted that the development of an OER stimulates creativity and makes learning interesting and fun. The literature has also confirmed the stimulation of creativity when using OEP as part of teaching, learning and assessment (Geser 2007:37). Furthermore, students valued having the creative freedom to internalise knowledge and share their knowledge with others during the learning process. This confirms the findings of Fisher and King (2010:45) which state that self-control as a component of SDL provides students the opportunity to gain a deeper understanding through sharing of knowledge during the cooperative and collaborative learning process. Excerpts in this regard include:

> 'I think OER's should be included because they allow creativity and make learning interesting and fun.' (P130 433 490, D11/02/2021, 08:03)

> 'The creative freedom we had when creating the infographic. It was fun, and we got to share our knowledge with others. The work we put into the infographic can now be used to educate others.' (P129 526 501, D10/22/2021, 00:31)

> 'I enjoyed researching the information knowing our infographic could help others. I enjoyed creating an attention-grabbing infographic knowing someone will see it and feel better informed. I had fun playing around with visuals and fonts and colours.' (P130 645 742, D11/04/2021, 10:46)

Sub-theme 4: Challenges in open educational resource

Despite the positive feedback on using an OER as a learning activity, a small number of students stated that even though they enjoyed participating in the design of the learning object, they felt engaged in the development of the OER. In addition, some students did not enjoy participating in the collaborative learning opportunities and did not view the development of the learning object as an important skill to master as part of their learning. The data analysis indicated that the challenges associated with group work can hinder the enjoyment in cooperative and collaborative learning opportunities. Additionally, it was also clear, lecturers need to be transparent in the use of OEP, OER, open technologies and the inclusion of SDL in their teaching practices. Excerpts include:

> 'Though it is fun to do. It is not an important skill, and I think it would we wasting time for learning things that will matter in our field of study.' (P129 144 529, D10/18/2021, 09:42)

> 'I was ignorant regarding certain dimensions, I felt like they are not important. I did not see the impact they had in our lives as students.' (P130 378 290, D11/01/2021, 12:43)

Additionally, a small number of students reported that they found the assignment challenging but managed to complete it successfully through hard work and interaction with team members:

> 'It was a bit difficult but we managed to work together.' (P130 343 184, D11/01/2021, 06:47)

> 'It was difficult but we managed.' (P129 092 224, D10/17/2021, 22:43)

Regarding the introduction of OEP and OER as part of the teaching, learning and assessment practices in the module, students highlighted the need for more comprehensive and detailed information regarding the use and development of OERs and what is expected of them. As indicated by various scholars (Chiappe & Adame 2018:223; Knox 2013:825; Nascimbeni & Ehlers 2020:2), the researchers strongly believe that the lecturers' lack of knowledge and experience in using an OEP may have contributed to students needing more support and guidance in the development of OER as part of the teaching and learning methodology in this module. Some excerpts include:

> 'I would maybe suggest that there could be a video made where they explain the do's and don'ts of creating an OER. Many students are unsure of this method of teaching and would need direction.' (P130 747 493, D11/05/2021, 11:20)

Limitations and recommendations

The lecturer-researcher dual role implied a power differential between the lecturers and the students. Students are regarded as a vulnerable population as they are a captive audience because they are registered for the module

and there is a power relation between them and the lecturer. As a result of possible coercion, bias, undue influence and the conflict of interest because of the dual role, the researchers could not engage with students on any research-related activities or the students as research participants. Participation was voluntary, and there was no incentive for participating in the research. As a result, a small number of students did not participate in the research. Only hearing the voices of students who volunteered might create a bias as it may be the voices of the more positive and motivated students on using an OEP in teaching, learning and assessment. The researchers recommend using an all-inclusive sampling process to partially address this bias. Introducing OEP into the module was a new experience for many students. As a result, students needed more comprehensive and detailed information regarding the use and development of OERs, open technologies and what is expected of them.

The authors recommend that lecturers who want to introduce OEP into their modules should empower themselves in the use of OE pedagogy to ensure optimal learning. Additionally, lecturers should clearly understand what OEP entails, be transparent in the reason for including OEP as pedagogy and how including OEP enhances knowledge, skills and attributes. Lastly, the researchers recommend that lecturers provide sufficient support to students during the module as the novelty of this approach can be overwhelming.

Conclusion

In this chapter, the authors aimed to establish a deeper understanding of the use of OEP in HE teaching within a collaborative learning environment. Furthermore, the study aims to provide specific direction for the use of OEP to enhance undergraduate, IPE in Health Sciences. Several studies have pointed out the gap in the body of knowledge regarding how OEP can be implemented in HE for teaching purposes. Using a narrow ‘OEP’ lens in this study enabled a deep exploration into the use of OEP for teaching and learning in HE. This chapter affirmed the hpotential of using OEP as a vehicle for transformation to foster student agency, lifelong learning and self-directedness. This study provides an empirical foundation for changing the advocacy narrative supporting OEP in undergraduate, interprofessional teaching. In addition, this study highlights the benefits of actively engaging students in the knowledge generation process. These benefits include the development and enhancement of SDL, student engagement with peers and the subject matter, knowledge creation, collaborative learning, increased satisfaction, empowerment and the development of knowledge, skills and attributes. This study confirms the benefits of the literature and that OEP could act as a catalyst for transformation in HE.

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Chapter 9

An open educational resource as a tool to create awareness around infectious diseases

Chandré Liebenberg
Focus Area: Human Metabolomics,
Faculty of Natural and Agricultural Sciences, North-West University,
Potchefstroom, South Africa

Mario Chauque
Student Counselling and Development,
North-West University,
Potchefstroom, South Africa

Byron J. Bunt
Research Unit Self-Directed Learning,
Faculty of Education, North-West University,
Vanderbijlpark, South Africa

Rohan Claassen
Research Focus Area Technology Enhanced Learning and Innovative Education and Training in South Africa (TELIT-SA),
Centre for Teaching and Learning,
North-West University,
Potchefstroom, South Africa

Alrike Claassen
Research Focus Area Technology Enhanced Learning and Innovative Education and Training in South Africa (TELIT-SA),
Centre for Teaching and Learning,
North-West University,
Potchefstroom, South Africa

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Aurelia A. Williams
Focus Area: Human Metabolomics Faculty of Natural and Agricultural Sciences,
North-West University,
Potchefstroom, South Africa

Abstract

Despite advances in improving awareness, reducing stigma and improving the accessibility of credible health information in recent years, many people still do not understand the concepts relating to infection, disease and treatment. The gap between information and understanding is particularly evident with the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) and tuberculosis (TB), and now the ongoing coronavirus disease 2019 (COVID-19) pandemic. An open educational resource (OER) in the form of a game was created to allow participants to educate themselves on the subject matter. Development of the OER involved video production with associated audio, the creation of various animations or infographics, an online information centre and an interactive question-and-answer game with levels of increasing difficulty. An assessment of the OER was made via a short survey (which also collected consented demographic information) that was built into the game. Statistics relating to each player's experience and success as per their survey responses in the game informed on knowledge acquisition. The game was tested within the North-West University's (NWU) context and will subsequently be improved and finally be made available as an OER. This chapter therefore briefly discusses infectious diseases and the tools previously used to create awareness around the subject matter. The concept of and the role that OERs, specifically open education games (OEGs), could play in creating awareness is also dissected. We finally report on the creation, application and success of the pilot version of the developed OER.

Introduction

Open educational practices (OEPs) have been defined over the years through the findings of several projects to include a broad view of scholarship, the creation, use and repurposing of OERs (cf. ch. 1). These projects have also reworked the definition to recognise that OEPs extend beyond OERs. While OERs may be a component of OEPs, they can also be decoupled from OEPs. Contributions to the definition stemmed mainly from the Global North, but researchers from the South have highlighted, as part of their work, the lack of diverse perspectives as it pertains to academic knowledge. Of interest is that the practices employed need to align with the context and or culture of where the learning process needs to happen. For a summary of some of the most frequently cited definitions of OEPs and how the definitions evolved, the reader is directed to the review of Cronin and Maclaren (2018).

In recognising the benefit of OEPs, one has to consider previous and current educational practices to effectively incorporate the shift to 'open'.

Teaching and learning practices in the past have mainly focused on the teacher as the 'encyclopaedia of information and knowledge'. There has, however, been a shift to more learner-centred teaching and learning approaches (Blaschke 2018:176), as well as self-directed learning, where an individual, with or without the assistance of others, starts and continues to work towards their goals (Knowles 1975:130). An agent, according to the Merriam-Webster dictionary, is 'one that acts or exerts power'. This is in line with the learner agency definitions quoted by Blaschke (2018:172), which centres around intentionally making things happen through one's actions. In taking on the learner agency role, the student is placed at the centre of their education process. They know and understand that the primary motivation for success stems from within them; there is a choice to learn, and with choice comes responsibility but also acceptance of the consequences linked to such choices. The learner takes responsibility for the education process, measuring their abilities that ultimately influence their learning behaviour (Blaschke 2018:176). Facilitating the learning process is the increased use of technologies that enables openness. Although the learner controls their learning process, instructors may still offer guidance. The shift in how teaching and learning are envisioned speaks to the realisation that acquiring knowledge in this era is very different from earlier times.

Implementation of contextualised OEPs serves as platforms that help drive learners to become agents of their own learning process and destiny. Not only are they encouraged to create, share and repurpose educational material in all forms, but collaboration and networking further drive openness and accessibility. As part of the OER fellowship, we contribute to the development of an OER focused on infectious diseases, drawing from the South African context while still keeping global relevance and accessibility in mind. This was motivated by the COVID-19 pandemic, which highlighted the gaps regarding key health and infectious diseases concepts. We recognise that learning needs to be fun and opted for a game-based OER in the hope that it would start a conversation not only about the subject matter covered but also about how this mode of teaching facilitated learners' learning (changing practices). Their learning was encouraged through material and testing of this knowledge via interactive games. As reported later, time (learning at one's own pace) is essential to the learning process as opposed to being restricted to a specific time window. The presentation and order in which information is presented are also key.

That the world is ill-prepared for disease outbreaks has been previously reported (Smith et al. 2020:1) and is also evident in the management of the current COVID-19 pandemic. Failing policies and guidelines as it pertains to disease outbreaks are recognised, yet little is done concerning future preparedness

and response measures (Smith et al. 2020:1). During disease outbreaks, as witnessed during the COVID-19 era, media coverage is prominent, although not always accurate. Caught up in fear and uncertainty, sources of misinformation originate amongst family, friends, public figures, the media, social media influencers and even primary health care officials or providers (Galvão 2021:e114; Nelson et al. 2020:510). In addition, the infectious disease field is vast, inundated with concepts and information which are complex and not always understood by all, nor are they easily retained (Castro-Sánchez et al. 2016:103; Parkes et al. 2005:259). Consequently, a knowledge gap exists as it relates to infection, the immune system, disease treatment and prevention. Addressing the knowledge gap through the dissemination of accurate, easy-to-understand health and infectious disease information is thus a continuous public aspect that needs to be addressed. In this regard, international public health agencies such as the World Health Organization (WHO) and the United States of America's (USA's) Centers for Disease Control and Prevention (CDC) serve as primary sources to consult on outbreak news, epidemiology and health (Barber & Stark 2015:1).

Universities are often in the middle of such agencies and the media, bridging how information is shared. The University of Minnesota's Center for Infectious Disease Research and Policy (CIDRAP) website (University of Minnesota 2022), for example, hosts an online newspaper that focuses on emerging diseases and outbreaks. Besides news, supplemental resources and time-stamped literature are also provided (Barber & Stark 2015:2). The open-access, open-source website 'Our World in Data' (Global Data Change Lab 2022) aims to address global problems such as poverty and climate change by making research and data freely accessible so that existing data can be used to its full potential. This site addresses various socio-economic issues related to health and disease and hosts a sustainable development goals (SDGs) tracker. Major media corporations (such as the *New York Times*, the British Broadcasting Corporation [BBC] and the *Wall Street Journal*) and universities (such as Harvard, Stanford and Oxford) endorse 'Our World in Data', reassuring one of its credibility. Many sources exist from which to retrieve health information, but not all are as credible as the aforementioned. While some online platforms, websites and games have been developed to serve as trustworthy sources from which to acquire health-related information and facilitate the retention thereof, these are not distinctly characterised as OERs and are more than likely accessed via paid platforms. Therefore, an OEG was created, which combined the accessibility and adaptability of an OER, with the advantages of game-based learning and credible resources.

Infectious diseases and the problems they pose

Infectious diseases have always been part of human existence. When referring to an organism as having an 'infectious disease', it is implied that a disposition

towards one or more disorders exists as a result of the invasion of the tissue of the organism by a separate, pathogenic organism (Babcock et al. 2021:3). Pathogens include viruses, bacteria and fungi, which are often referred to as 'microorganisms' because of their typically microscopic size. The mechanisms and manifestations of disease differ amongst the different classes of pathogens as well as between members of a class and, as such, the factors that influence their emergence as threats to public health care differ (Church 2004:562). Pathogen transmission may be human-to-human (as in the case of COVID-19), vector-to-human (as in the case of malaria, where the mosquito acts as a vector, transmitting the pathogen without developing the disease) (Barber & Stark 2015:1) or animal-to-human (such as rabies). The term 'epidemic' is used to refer to an outbreak of the disease in a specific region or community at a frequency higher than the typically observed incidence (O'Brien 2013:166). When such an outbreak spreads to affect various areas worldwide, it is referred to as a 'pandemic' (Porta 2014:209).

Factors that typically can contribute to the emergence of certain infectious diseases include ecological changes, travel, economic condition, microbial adaptation and change, technology and industry, the breakdown of certain public health measures, as well as human demographic changes and behaviour (Lashley 2003:258; Morse 1995:10). Even though advancement in technology and industrialisation has made significant contributions to the fight against infectious diseases – for instance, the recognition of new infectious agents and the discovery of effective treatments (Church 2004:573; Lashley 2003:259; Morse 1995:9) – human behaviour has been found to play a pivotal role in the distribution or transmission of disease. For example, changes in behaviour such as those resulting from the sexual revolution and intravenous drug use have contributed to the emergence of HIV infection (Lashley 2003:259; Morse 1995:8). Another factor becoming increasingly pertinent is the evolution of microorganisms leading, for instance, to the emergence of antibiotic-resistant bacteria (Church 2004:575; Morse 1995:8), which limits treatment options for some diseases.

In the last few decades, TB and HIV and AIDS have emerged as serious threats to public health in sub-Saharan Africa Africa and other developing countries such as India (Roth et al. 2018:1772; WHO 2021). Tuberculosis is caused by *Mycobacterium tuberculosis* (*Mtb*), while AIDS is caused by HIV. Tuberculosis has been the number one cause of death because of a single pathogen since 2007, but it is now expected that COVID-19 will outrank it as of 2020 (WHO 2021). During this period, amongst HIV-negative people, TB still caused 1.3 million deaths, with a further 214 000 amongst people living with HIV and AIDS (PLWHA), accounting for a significant global HIV and TB co-infection burden (WHO 2021). In 2019, South Africa had the second highest mortality rate in terms of co-infections, only outranked by Lesotho, which highlights the need to employ all possible measures to curb the spread of these diseases (WHO 2020a). Although TB can be cured by rigorous antibiotic

courses, antibiotic resistance and the interaction of HIV and *Mtb* in the co-infected host complicate this (Letang et al. 2020:447). In addition, various factors cause non-adherence on the part of the patient (WHO 2003). No widely applicable cure has yet been found for HIV, and although antiretroviral therapy decreases viral load, and thereby minimises spread, it places a lifelong burden of therapy on patients (Hokello et al. 2019:2).

The difficulty of controlling infectious diseases, particularly in developing countries, is to a great extent influenced by the available infrastructure, resources and socio-economic conditions (Tosam, Ambe & Chi 2019:246). However, even when these are in place for diagnosis and management, a key factor determining the success of such investments is the perceptions and resulting behaviour of the community. As such, it has been established that knowledge, or health literacy (the ability to access and use information) (Castro-Sánchez et al. 2016:103), in the hands of the public might be one of the most effective tools to better prevent and manage infectious diseases. Time would however be essential to allow for the intake and assimilation of such information. Developing user-friendly, open resources which the public can access in their own time may further encourage self-learning.

Tools that have been used to address the information-knowledge gap: Successes and shortfalls

A vast array of strategies has been employed to educate students and the public about infectious diseases. Awareness campaigns typically include handing out brochures, verbal explanations, posters, radio and television programmes, and more recently, the distribution of virtual posters or infographics via social media (Alvarez et al. 2016:2; Madhumathi et al. 2021:15; Yadav & Rawal 2016:2). This also sometimes includes community engagement sessions through which information is explained during gatherings such as at feasts, schools, churches and sports team gatherings (Alvarez et al. 2016:3; Spruijt et al. 2020:2). This is done by local governments or non-profit organisations, as well as at the international level by public health organisations, such as the WHO, which organise massive campaigns such as the Stop TB partnership. The Stop TB project aims to eliminate TB as a public health threat while striving to make diagnosis, treatment and care available to all until that can be achieved (Stop TB 2019). The establishment of dedicated commemorative days such as World TB Day (24 March), International Microorganism Day (17 September) and World AIDS Day (01 December) also provides opportunities to create worldwide awareness about pathogens and diseases and leads to the production of freely available educational resources. Unfortunately, the periods in between these annual events are often sparsely populated in terms of events aimed at raising awareness or improving

knowledge, allowing essential concepts around the prevention and management of potentially deadly or life-altering diseases to fade into the background of the public mind (Yadav & Rawal 2016:2).

The accessibility of the Internet has made a plethora of information available to nearly every individual. A natural consequence of this is that it has become increasingly difficult, even for experts in a field, to distinguish credible information from misinformation and to avoid logical fallacies resulting from the non-systematic way that information is shared and consumed via social media (Escandón et al. 2021:2). Thus, the problem today lies less in the availability or accessibility of information but rather in the ability, firstly, to identify credible information, secondly, to truly understand and assimilate it, and lastly, to be bold enough to act on this understanding in environments or cultures where stigma and myths are deeply ingrained (Chowdhury, Khalid & Turin 2021:2). In short, there is what the WHO has termed an 'infodemic' (WHO 2020b), resulting in an information-knowledge gap, which is particularly evident with HIV and AIDS and TB, and now the ongoing COVID-19 pandemic.

Various factors contributing to this gap have come to light through the performance assessments of previously employed awareness tools. People typically obtain disease-related information from family, friends and co-workers (Bashorun et al. 2020:115; Pengpid & Peltzer 2019:115). As such, many researchers have employed, and based on their results, advised, community-based strategies. However, a factor precluding the success of any knowledge-based intervention is the educational level of those receiving the information (Abebe et al. 2010; Adane et al. 2017:5; Bashorun et al. 2020:7; Luba et al. 2019:3; Tolossa, Medhin & Legesse 2014:5; Wang et al. 2018:4), as this affects the ability to understand and assimilate diverse and complex information. Unfortunately, the areas of highest burden and spread (especially in the case of TB and HIV infection) are often resource-limited, rural communities with limited educational and primary health care services (Glaziou et al. 2014; WHO 2020a). This implies that an intervention should have an inherent and active educational aspect in the sense that participants use information during the intervention instead of passively hearing or reading information. In this regard, it has also been shown that presenting information in a tailored, culturally appropriate manner improves the uptake and implementation of the information (Alvarez et al. 2016:3). This entails that triggers and barriers need to be identified. Thereafter, sensitive, specific and tailored messaging must be developed that overcomes cultural and language barriers, while still considering the heterogeneity in the audience (Madhumathi et al. 2021:20). Alvarez et al. (2016) were able to tailor their awareness programme to be culturally appropriate to Inuit youth. They saw success even when their developed interventions were implemented in the absence of researchers. While this is achievable in areas where cultures are still isolated – such as the Canadian Inuit, where there is a significant burden of TB – this may be difficult in a

culturally diverse country such as South Africa (Matthews & Van Wyk 2018:1). However, as such countries develop, a new, integrated culture emerges that is built around diversity, which could be leveraged to bring across concepts in a relatable manner.

People need to be able to access and self-learn the material so that they understand the information to such an extent as to recognise the disease in themselves and others when it is there. They also need to recognise when it is not there to avoid an unnecessary burden on the health care system. In this way, they help themselves and do not shy away from helping others because of stigma. As long as stigma prevails, which becomes ingrained in the culture, this would be difficult to overcome. This is also reflected in people's responses when asked about how they would expect to feel if they tested positive for TB (Bashorun et al. 2020:7). Even those who scored high on TB knowledge and positive attitude identified feelings of shame, anger, avoidance, surprise and sadness. For example, a prevailing myth is that TB spreads through sharing cutlery and crockery. This leads to extreme isolation, even within a household, as those with TB are given separate utensils for fear of spread (Bashorun et al. 2020:9).

The prevalence highlights the fact that infectious diseases, especially at the epidemic or pandemic levels, are a social, as well as a medical and public health problem, and they should be addressed as such (Yadav & Rawal 2016:1). Although some attempts were made to address this social aspect during the COVID-19 pandemic, a significant amount of stigma developed, even in areas where outbreaks were well-controlled (Yuan et al. 2021:2). Although HIV infection and TB largely affect certain demographic groups, the COVID-19 pandemic so painfully demonstrated that no segment of society is exempt from infection and, as such, every segment must be involved to achieve true disease awareness.

Subsequently, every link in the disease management chain needs to be strong to truly establish a knowledge base amongst the public. Another weak spot that has been identified is the level and quality of knowledge amongst health workers (including doctors, nurses and aides). Even if people's health-seeking behaviours improve, the information they obtain from health workers during testing, upon diagnosis and during management and monitoring of disease may influence their behaviour and the information spread to others (Bashorun et al. 2020:11). As such, the training and re-training of primary health care workers have also been suggested as a necessary addition to awareness programmes (Bashorun et al. 2020:11; Madhumathi et al. 2021:22). Therefore, the development of tools that may be used and adapted to any scenario (be it spreading understanding amongst the general public, or training health workers in a more rigorous manner) would be ideal.

Another consideration is the credibility of the information that is spread. Credibility is typically high in awareness programmes organised by primary

health care facilities and public health organisations. However, social media is finding increased application as an awareness tool, and with this, the consideration of misinformation is imperative. The problem may not always lie in the quality of the information itself but rather in the interpretation and response of people to the information (Du et al. 2021:2). Thus, it is necessary to teach people how to distinguish misinformation and myths from credible information in a generally applicable manner. For this, effective educational programmes and high-quality information must be combined such that people can appropriately and effectively use and respond to infectious disease information.

The advantage of online tools, such as social media, is that the limitation that applies to physical campaigns is significantly reduced. Tools and educational materials that are created often fail because of resources that are inadequate, limitations on the availability of trainers, time, and the costs of training sessions and related media campaigns. Social media circumvents some of these issues and provides the flexibility necessary in creating and spreading tailored information. As it can cater to those with very basic literacy through audio-visuals and infographics, it has great potential in this regard (Madhumathi et al. 2021:20) and has been found to have a positive impact on awareness during the COVID-19 pandemic (Al-Dmour et al. 2020:1). However, the effect that social media has on health behaviours and perceptions are not fully understood as yet (Du et al. 2021:2), and the authors advise caution and recognise that more research is necessary to validate the existing results (Al-Dmour et al. 2020:1). In the case of a pandemic such as COVID-19, for instance, there are different phases in the social media response, starting with an initial influx of credible information from public health organisations; but after a latent state, misinformation starts to spread and is intermingled with credible information (Madhumathi et al. 2021:27). Hence, the public must be educated on how to make judgements regarding the credibility of information.

Thus, the development of tools that are just as freely accessible as social media, tools that are educational, interactive and engaging without feeling tedious and overly complex, and that are adaptable to the cultural circumstances while originating from recognisably credible sources are needed to bridge the information-knowledge gap regarding infectious diseases. Open educational resources, and specifically OEGs, may serve such a purpose.

Open educational resources as an approach to addressing the infectious diseases knowledge gap: A focus on open education games

Open educational resources are materials, in any format, used in teaching or learning that are available within the public domain or that have been released under a license that would allow free use, changes or sharing (De Vries 2013:56).

This model of sharing educational material is transparent and allows academic freedom and unrestricted access to information and knowledge. Several repositories exist, comprising materials such as videos, lectures, textbooks and various others in different languages in the infectious disease, health and medical fields (Perifanou & Economides 2022:5).

In addition to these repositories, there are also independent and often dedicated online-based platforms where OERs may be accessed. The International Society for Infectious Diseases shared its infection control guide as an open resource to help prevent the acquisition and transmission of infectious diseases. While many respondents have access to mobile technology, allowing for revised and updated guides to be viewed and shared (Desai et al. 2019:56), the materials shared must still be adapted for under-resourced settings. While such guides are useful, they contain a lot of text, requiring time to read and process the information. Websites such as the 'Microbe World' (American Society for Microbiology 2013) typically contain more condensed, relatable graphic information which is often more easily retained and recalled (Guo et al. 2020:1). The Marian Koshland Science Museum of the National Academy of Sciences hosts an online exhibition called 'Infectious Disease: Evolving Challenge to Human Health' (National Academy of Sciences 2021). This resource provides introductory material on epidemiology, disease biology, pathogen evolution and educator resources. The History of Vaccines (The College of Physicians of Philadelphia 2022) is a website that contains interactive material relating to how vaccines work, the types of vaccines found, and how vaccines are created, while the CDC's 'BAM! Body and Mind' primarily covers information on pathogens, the immune system, and vaccines. The resources discussed provide credible and accessible information; however, websites and other online platforms are not always as fun, interactive, engaging and competitive as games are. Although OEGs that relate to the life sciences have been created, this concept has not been adequately explored in general, nor with specific relation to infectious diseases.

Games and game-based learning

Games have formed part of society and childhood development since ancient times. Individuals play for fun and to pass the time, but very rarely do they voluntarily play for educational purposes. Games generally comprise media elements guided by a narrative, organised under a set of rules and game mechanics (Silveira 2016:3). They also present different levels of structure and complexity. Matrix games, for example, are semi-structured in that a scenario plays out and multiple role players provide an action plan which is reviewed by other participants. The facilitator or 'gamemaster' calculates the feasibility of all actions proposed and finally decides on the outcome (Smith et al. 2020:3).

Games are often used in the teaching and learning process (Silveira & Villalba-Condori 2018:19). When developed for education purposes – that is to

promote understanding, critical thinking and decision-making, and self-directed leaning (Smith et al. 2020:2; Toh & Kirschner 2020:2) – a game is classified as a subtype of 'serious games'. The attractive elements and graphics associated with games naturally spark an interest to play. Games are engaging and allow for retention, active learning, communication and interaction (De Ondarza 2018:16; Silveira & Villalba-Condori 2018:19). These simulated environments often mirror how decisions or biases influence policy-making, implementation and outcome (Silveira & Villalba-Condori 2018:19; Smith et al. 2020:2). The ludic setting of games serves as a 'safe' space; therefore, games are a useful learning tool that affords innovation, experiential learning, and can inform and guide health policies, practice, and improved responses. Participants learn at their own pace, obtain immediate feedback and transfer scenarios to the real-world environment. This is exemplified in the use of war games by militaries for training and analytical purposes. The use of games has since expanded to other domains (Smith et al. 2020:2), although it remains under-utilised in the teaching, learning and policymaking of global health crises. This is in line with the limited literature on serious games and the application of these to infectious diseases.

Table 9.1 provides a summary of exemplary game-based learning approaches that relate to biology and infectious diseases. Board games were presented as a common format where infectious diseases or other health concepts were covered. While 'Survivor' was developed to assist the teaching process in a medical microbiology class, games such as 'Pandemic' (and its variations) are commercially available for recreational play. 'Pangea 2030' reflects real interactions, decision-making, thinking on your feet, priority setting and, as such, reflects the real-world scenario. Given that authorities generally disregard the social determinants of health during crises, this game considered some social aspects of health, specifically a gender-based analysis of disease preparedness and response (Smith et al. 2020:3). Physical board games, however, have an inherent associated cost, as the game elements must be purchased or at least be printed. As there is a continual change in the role of games and the advancement of technology, there has been a shift to more online-based resources and games in the last few decades (Silveira 2016:7).

The CDC's 'Solve the Outbreak' provides links to learning material, and badges are awarded to those who perform well. 'Disease Defenders' and 'Animal Alert' mirror the CDC's game and these games are storyline-based and incorporate educational gameplay focused on disease outbreaks but also highlight career possibilities (Barber & Stark 2015:3). Although not an online game, an 'Escape Room'-based activity developed by Cotner et al. (2018) highlights some important aspects regarding educational game development. 'Escape Room' was developed as a learning activity within a pharmacy elective course on infectious diseases, and while the educational game was preferred by participants, only 57.9% reported improved learning from gameplay (Cotner et al. 2018:S401). This highlights that the effectiveness of a game must also be

assessed for retaining and understanding information, besides gauging whether or not it improved the learning experience. India had one of the highest infection rates in the world during the COVID-19 pandemic (Singh, Anvikar & Sinha 2022:2), with vulnerable populations such as migrant workers and domestic aids grossly affected. An Indian non-governmental organisation subsequently assisted with the development of 'Survive COVID' – a game disseminated via smartphone to portray the realities faced by the aforementioned vulnerable populations during a lockdown. While playing games during the pandemic may seem more light-hearted, this game brings the reality of life and death, science and politics, and hope and despair of others during the pandemic to the minds of those who may be in more fortunate situations (Balakrishnan 2020:792). However, this evokes so much emotion that many quit for fear of losing their peace and sanity (Balakrishnan 2020:792). Hosted on the History of Vaccines site, 'Illsville' combines concepts relating to epidemiology, quarantine, vaccination and herd immunity with the history of medicine. There is also literature on the challenges of vaccine design as well as resources for educators (Barber & Stark 2015:4).

Whether board-based or online, it is evident from Table 9.1 that each game addresses a specific issue(s) or concept(s) linked to the field. The recent COVID-19 pandemic has brought the need for health education to the forefront, and its influence is strikingly reflected in the pool of available resources. Most of the board games cited require payment to play, which limits the number of people that these resources reach. However, all the online games are open, although some are not available for play anymore. Thus, it is not enough to simply develop educational games. Rather, the availability and adaptability of the resource (using credible sources) as well as implementing fun, engaging and interactive activities should be an integral part of the development process so that as many people as possible can benefit from it. In this regard, OEGs may serve as a much more powerful alternative.

Why open education games for bridging the knowledge gap?

Educational games should be developed as OERs (Silveira 2016:1; Silveira & Villalba-Condori 2018:18) where various stakeholders come together to develop games in an open way to allow adaptability and optimisation of specific needs; one can adapt the activity for another context (Silveira 2016:7). This academic freedom to tailor and customise information so that it is relevant to one's context is very useful, not to mention the cost-savings associated with repurposing such materials. This is especially powerful when a modular design is used because this allows only as many parts of the resource as is necessary to be tailored to a new context when the resource is reused or repurposed (Tseng & Wang 2014:769). Because the Internet is rich in infectious disease material, although dispersed and not always 'open', it serves as a

TABLE 9.1: Previous approaches to game-based learning concerning biology or disease.

Game(s)	Application	Availability
Board games		
'Survivor' (De Ondarza 2018)	A game about microbes, the diseases they cause and the associated treatments for these	Open Materials can be recreated from the published article
'Pandemic' and 'Pandemic Legacy' (Z-man games 2022)	Players represent CDC employees, each with a different job description. These individuals work together to stop disease outbreaks and develop or implement control measures. The game encourages role play with implications for subsequent decisions made. 'Pandemic Legacy' represents a cooperative game where one's actions change the state of the in-game world.	Paid (https://www.zmangames.com/en/games/pandemic/)
'Corona Battle against COVID-19' and 'Pathogenesis'	These games are aimed at encouraging the use of logic or strategy to fight the coronavirus while maintaining a functional world.	Paid (https://boardgamboard.com/boardgboa/199309/pathpathogen) (https://www.kickstarter.com/projects/3dartlab/corona-battle-against-covid-19-the-board-game)
'Clinic: COVID-19 Pandemic' (Balakrishnan 2020)	This is an extension of 'Clinic Deluxe' which aims to train individuals to think as clinicians – to decide who to test and treat with the hope of saving as many lives as possible	Paid (https://boardgamegeek.com/boardgame/307384/clinic-deluxe-edition-covid-19)
'Pangea 2030' (created by Global Affairs Canada [GAC], the Department of National Defence [DND] and several academics)	A matrix game to measure preparedness for infectious disease outbreaks	Available upon request from Smith et al. (2020)
Online games		
'Solve the Outbreak' (created by the CDC)	Story-based levels and clues are used to guide question–answer responses centred around the roles of epidemiologists or 'disease detectives'	Open (https://www.cdc.gov/mobile/applications/sto/web-app.html)
'Disease Defenders' and 'Animal Alert'	Disease outbreaks are investigated through science processing skills, as well as the different roles of microbiologists, epidemiologists and veterinarians in responding to these are highlighted	Open (created by MedMyst) (https://webadventures.games/stu/Games/MedMyst-Reloaded/_401/Game-Overview.html)
'L'oca in quarantena'	A game aimed at children teaching them measures to incorporate against coronavirus while still having fun	Open ('The goose in quarantine') (https://view.genial.ly/5fd22f1190e91a0d05f00a1a/game-loca-in-quarantena)
'Fold-it'	Simulates protein folding and represents a puzzle aimed at solving the structure of viral proteins	Open (https://fold.it/portal/info/about)
'Survive COVID'	Survival game confronting players with the realistic plight of those affected by the COVID-19 pandemic in India	Open (http://covid.xrlabs.cloud/que?no=22)
'Illsville'	Disease outbreaks are investigated and responded to using the concept of quarantine, and the roles of doctors and educators are highlighted	Open (not active anymore) (https://www.vaccinestoday.eu/stories/welcome-to-illsville/)

Key: CDC, Centers for Disease Control and Prevention; COVID-19, coronavirus disease 2019.

useful tool with which to increase awareness, reduce stigma and improve the accessibility of information relating to infectious diseases. To develop effective OEGs, openness principles must be regarded in all phases of game development – that is the sourcing of information and content (graphics and sound), the creation of the source code and the collection of data for assessment of the effectivity of the resource. Game design should also incorporate clear learning objectives, content and the associated assessment.

Given their advantages, one would think that educational games would be highly impactful. Instead, the opposite holds, mainly because of failure to adapt the design for different educational, language, cultural and social contexts. The game, therefore, has limited use in other settings, especially where source codes or other necessary components are unavailable or not translatable. Many students also perceive educational games as boring as compared to games developed for entertainment (Silveira 2016:1; Silveira & Villalba-Condori 2018:19).

Developing educational games, and OEGs at that, has many challenges, from conception to development. Most of the challenges are technical, linked to the inherent complexity of educational games (Silveira 2016:3). Other factors that hinder the development and implementation of educational games include curricula with limited flexibility, curricula that favour textbooks over games, logistical drawbacks associated with implementing games in the class, time, the ban of mobile devices, negative perceptions associated with incorporating games and teachers who are not well-prepared to implement educational games in the class (Silveira 2016:3; Silveira & Villalba-Condori 2018:19) when they can actually serve as key agents to promote and support self-learning (Du Toit-Brits 2019:1). There is also a lack in the availability of games that suit a specific learning requirement, and when they do, they are difficult to sustain, as learning requirements are limited to a specific time. In addition, game-related assessments are not standardised. Some games are expensive to develop and require high-end expertise, whereas others can be easily implemented (Smith et al. 2020:7). The development of games requires the time and effort of a multidisciplinary team. Technological changes also make the platforms on which these games are hosted obsolete, impacting the openness thereof. While there are advantages and disadvantages associated with the use of OEGs, limited data on the subject hinders a true assessment of its impact.

The rationale for the development of an open education game for the promotion of knowledge regarding infectious diseases

The infectious disease and health fields are inundated with information and misinformation. There is a need to develop credible and engaging sources which educate on basic principles linked to infectious diseases. The platforms

(board games, online sites or games), which offer semi-open or paid access to material linked to infectious diseases, usually tend to address a specific issue(s) or concept(s) linked to the field. The information is thus disjointed, requiring individuals to collect the needed information in bits and pieces from various source sites. Unlike the resources cited in Table 9.1, the created OER addresses a wider variety of concepts in the infectious disease field, arranged in a logical order (from the cause of disease to post-care and responsibility). Its online nature allows for wide dissemination, as most people today either own or have access to devices that can connect to the Internet. Its interactive activities were also formulated to spark interest and encourage continued participation while allowing for retention and learning which is primarily self-owned.

☐ Objective

It was our objective to develop an educational game that places key concepts, not just one, in a context that would facilitate an understanding of any infectious agent, its infection cycle and associated concepts (despite us highlighting three conditions that are of importance to sub-Saharan Africa). We introduce first those agents which cause disease, their basic morphology and characteristics, how transmission happens, the interaction of the pathogen and its target cell, and the immune response elicited to understand why we get sick. Then, symptoms are shown, which prompts testing and subsequent management of the disease. Lastly, future responsibility (taking care to prevent infection) is addressed through the example of vaccines. The learning centre iterates the role of key role players in ensuring infection control. Responses to scenarios are also highlighted in the learning material so that participants can recognise the consequence of their actions or action plan through gameplay – this game is thus more encompassing. Making this available as an open resource would ensure the reach of a large target audience. Through this, it is envisioned that individuals would make informed health decisions following critical thinking of key concepts covered and, in this way, we develop a society better prepared for future outbreaks and its associated management, translating to saving lives and guiding policy change. If anything, hopefully, it alerts individuals to keep thinking about the importance of maintaining good hygiene, too.

☐ Materials and methods

This study was approved by the Research Ethics Committee of the Faculty of Education of the North-West University (NWU-01014-21-A2). The NWU OER researchers sourced instructional designers, multimedia designers and developers and a programmer who could aid in the design and construction of the game and related virtual constructs. Meetings were held every second

week, during which the concept, design, content, video and audio production, and preliminary dissemination plans were discussed and implemented. The version of the game reported here is a pilot version. Several features have already been built into the game and are therefore discussed here, but not all were active during data collection.

The game was created using Articulate 360 software, while the review of the elements and content was done in Review 360. Other graphics were created using Adobe Illustrator and Adobe Photoshop. While we could have opted for open-source software we chose that which was freely available to us. We also considered the scalability, security, technical support and maintenance of the software to be used and opted for the stated one as the designers who formed part of the study helped build it and are trained and skilled in the licensed software. The use of free software had an additional steep learning curve with support challenges and because of the time limit on development, it was not a viable alternative.

The game was hosted on the NWU's learning management system (eFundi). This was to allow for the collection of feedback in the form of survey responses for the pilot game within a closed cluster of respondents. Future hosting will be done on a Linux-based server through Afrihost to ensure wider open-access in future.

The link to the game and its associated surveys were distributed electronically to NWU students and staff via institutional platforms. Three approved Google Forms surveys were embedded into the game at the start (surveys 1 and 2) and end of the game (survey 3). The questions were structured using a Likert scale to allow quantitative assessment of the participants' responses, with one additional question that a participant could answer in paragraph format in survey 1 to allow the conveyance of any additional or specific information not covered in the surveys (this allowed for a qualitative assessment as well). Survey 1 served to gain information regarding the knowledge gap within society for application to future iterations of this game, while surveys 2 and 3 provided the means by which informed consent was obtained (for the collection of personal and demographical data) and subjective user experience assessed, respectively.

For future iterations of the game, which incorporate a story-based element, some video and associated audio were also recorded. An invitation was sent via e-mail to students of the biochemistry and student counselling and development departments of the NWU to voluntarily participate in the production of the video and audio. These students from the named departments were chosen because of their background in infectious diseases, immunology and community health science. As such, they would more easily convey the needed information. In exchange for their time, these students

received mobile data. Informed consent was obtained to use this material as part of an OER.

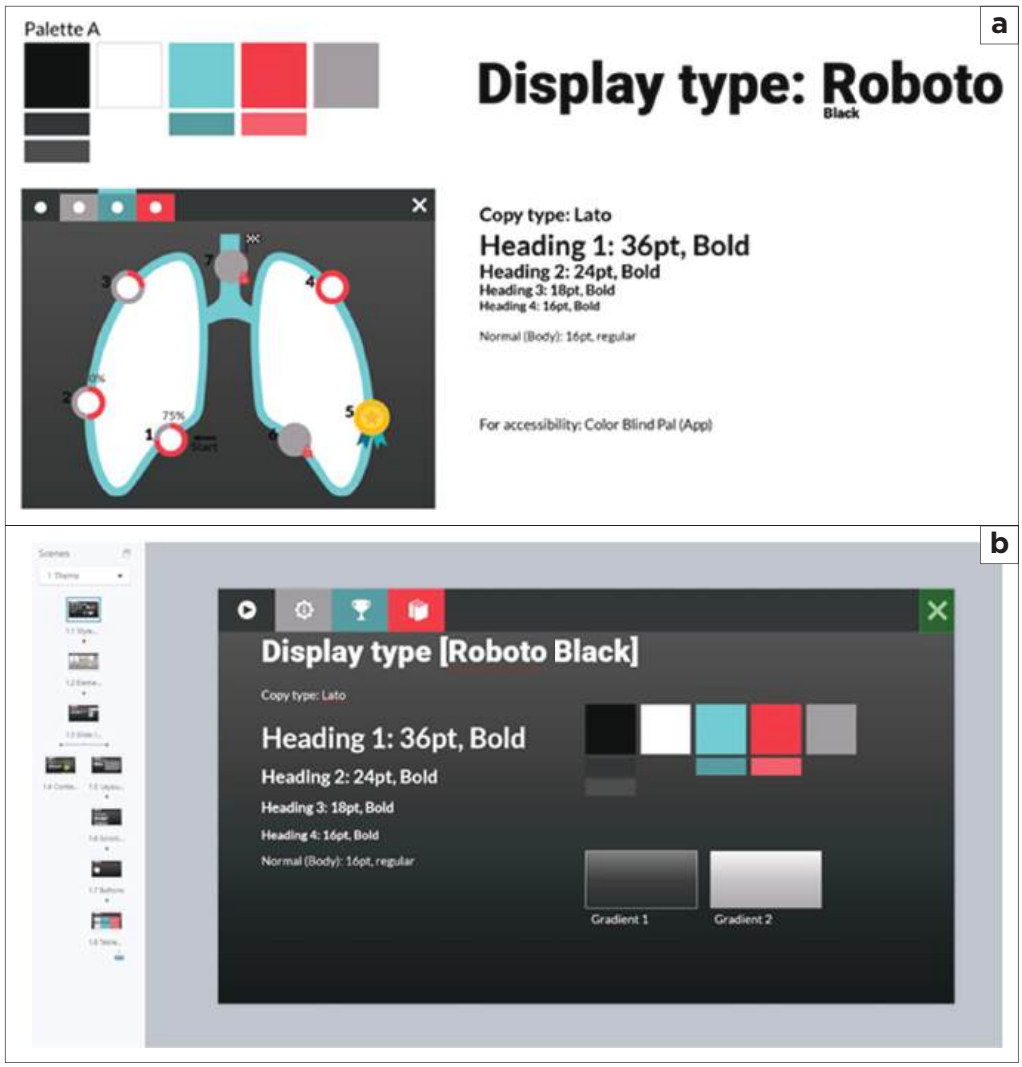
The development process

The complexity and variety of elements needed for the creation of a game, and specifically an OEG, meant that all elements would not be obtainable in a pre-existing form. A story-based game would be more relatable, although more difficult to execute. The story element conveyed through videos will be incorporated in a future iteration of the game. The layout, graphics and flow of information presented are based on the principles and guidelines from various authors (Alessi & Trollip 2001; Clark & Lyons 2010; Gagné, Briggs & Wager 1992; Lohr 2008; Mayer 2014). The theory developed by Mayer (2014), 'Cognitive Load for Multimedia Learning', is still the gold standard in instruction where more than one media is combined in the presentation of learning material. The theory of Gagné et al. (1992) includes nine instructional events as well as corresponding cognitive processes that determine the relevant conditions for learning and would serve as the foundation for designing instruction and selection of relevant media. These nine events were included in the design of this OEG: reception or gaining attention; expectancy or informing learners of the objective; retrieval or also called stimulating recall of prior learning; selective perception through presenting the stimulus; semantic encoding in providing learning guidance; responding as eliciting performance; reinforcement by providing feedback; retrieval by means of assessing performance; and generalisation by enhancing retention and transfer.

The front-end coding of the game elements consists of a combination of HTML, CSS and JavaScript. The data capture section comprises a combination of front-end and back-end coding consisting of HTML, CSS, JavaScript, PhP and SQL. The programmer created the coding from scratch and did not make use of open-source code.

Aesthetics

The multimedia designer created the 'look and feel' of the game (Figure 9.1), and all the developers made use of the same style sheet. Images sourced from the creative commons (Wikimedia, Flickr and Creative Commons) were adjusted to fit the aesthetics of the game and 'bind' images from various sources into a cohesive whole. Free fonts from Google Fonts with an open license were used. The colours were chosen to be similar to the TB campaign colours in South Africa, which is red and black. Red is the international ribbon colour of TB. The colour scheme was also selected to suit an audience of aged 18–50 and to appear in line with the current design trends seen on websites and social media platforms.



Source: This is an original screenshot from openly licensed content published by the chapter authors on the university's learning management system eFundi (http://efundi.nwu.ac.za/). Published with appropriate permission from the authors and NWU.

FIGURE 9.1: Screenshots of the 'look and feel' of the game:
(a) The level navigation or 'home page' and
(b) the template for sections within the game.

Levels

The game comprises seven levels (Figure 9.1a), each representing a specific infectious disease or health-related concept. The difficulty level progresses from easy to hard. The story also plays out in seven scenes.

The story

The story interlinked the various gaming elements and helped convey difficult concepts with the intent to help the user master the content easier.

The game is set in South Africa and follows the story of a young male who contracts TB, and the player follows his journey to recovery. Although set in South Africa, where there is great cultural diversity, the concepts highlighted are applicable globally. Within the story, there is a special focus on disease agents of relevance to sub-Saharan Africa, particularly TB (given the minimal media and public health attention directed to it) compared to COVID-19 and HIV and AIDS. This allowed the opportunity for comparisons to be made between bacteria and viruses as well as between viruses. The central theme of the story was that there is hope after contracting TB, provided one is armed with the necessary information. The story model followed the 'Hero's Journey' by Vogler (1998). The player of the game assists the main character through his journey to overcome the myths and fears surrounding TB. The player of the game is also on a path of discovery to dismantle their preconceptions surrounding TB and other infectious diseases. Because the target audience (in this pilot study) was mainly university students, the hero (also the protagonist) character was a student, while the bacterium or disease was the antagonist. There was also a grandfather as a mentor and a girlfriend as an ally, both supporting the hero on his journey to recovery. Main sites were selected to be familiar to a student and included a taxi next to the road, social or family gathering, and a clinic.

Play

Players could choose to read the learning materials and then play the activity, or directly play the activities to challenge themselves. Afterwards, they could return to the learning centre to improve their score the next time they play the activity. There were a variety of activities throughout the game based on the information in the learning material, some of which included working against time. In most instances, feedback was provided to the player regarding their achievement in the activity.

Data collection, processing and statistical analyses

The pilot version of the game was open for play for 10 days on the NWU's learning management system (eFundi). Responses were collected using Google Forms and then exported as a comma-separated values file. The statistical analyses were done using IBM® Statistical Package for the Social Sciences (SPSS®) Version 24 software. Descriptive statistics were used to summarise the collected data and determine the specific knowledge needs and gains of different demographic groups. These statistics included frequencies and means. All reported percentages represent valid percentages (percentages calculated when missing responses were excluded).

Results and discussion

Surveys 1 and 2 were filled in before gameplay and received 57 responses each, while survey 3, which was filled in after gameplay, received only 19 responses. This discrepancy may be explained by how survey 3 was built into the game. It could be accessed from the landing page of the game but could only be filled in after the game had been played, as it was designed to assess the player's experience of the game. Although the player would receive a prompt to complete survey 3 by clicking on the 'quit' button, this was not the only way the game could be exited. As the game is web-based, the player could also exit by closing the Internet browser tab or the browser itself. As such, this aspect of the game and its assessment will be reassessed for the next iteration. The focus of this discussion is on survey 3, as its results allow for an assessment of the reception of the OEG, while the results of survey 1 are used to place respondents' perceived need for knowledge into context with their experience of the game as per survey 3. Survey 2 only served to obtain informed consent for gameplay and the collection of data after gameplay and, as such, only allowed for the collection of the following optional information: name, surname, student number and e-mail address.

Surveys 2 and 3: Assessment of the experience with and efficacy of the open educational game

Of the nineteen respondents, the majority (*n* = 10; 52.6%) fell in between the 18–25 years age group, whereas people between the age group 35–50 years represented the second largest proportion of respondents (*n* = 5; 26.3%) (Figure 9.2). The percentages displayed here are based on the responses of seventeen of the nineteen participants. This corresponds to the intended target groups, which were university students and staff. When asked what the main 'take-home message' of the game was, the answer that 'early responses are advantageous to the management of diseases' was most frequently selected (26.3%), followed by 'vaccines are a safe and worthwhile option' (15.8%) (Figure 9.2). The rest of the responses were spread across other options (each having one to two responses). One of the main intentions during content creation was to communicate that it is in the best interest of each individual and for society as a whole to attend to symptoms early so that they can be managed in a timely and effective manner. The above-mentioned responses indicate that this was conveyed to players. This was considered a key concept as the realisation that early diagnosis is imperative for the outcome and would likely encourage the seeking of health care or the prompting of others to do so. The realisation that vaccines are a safe and worthwhile option speaks to an improved understanding of how vaccines works and that diseases are caused by distinct and varying pathogens also suggests that the content of the game addressed issues that lie at the core of

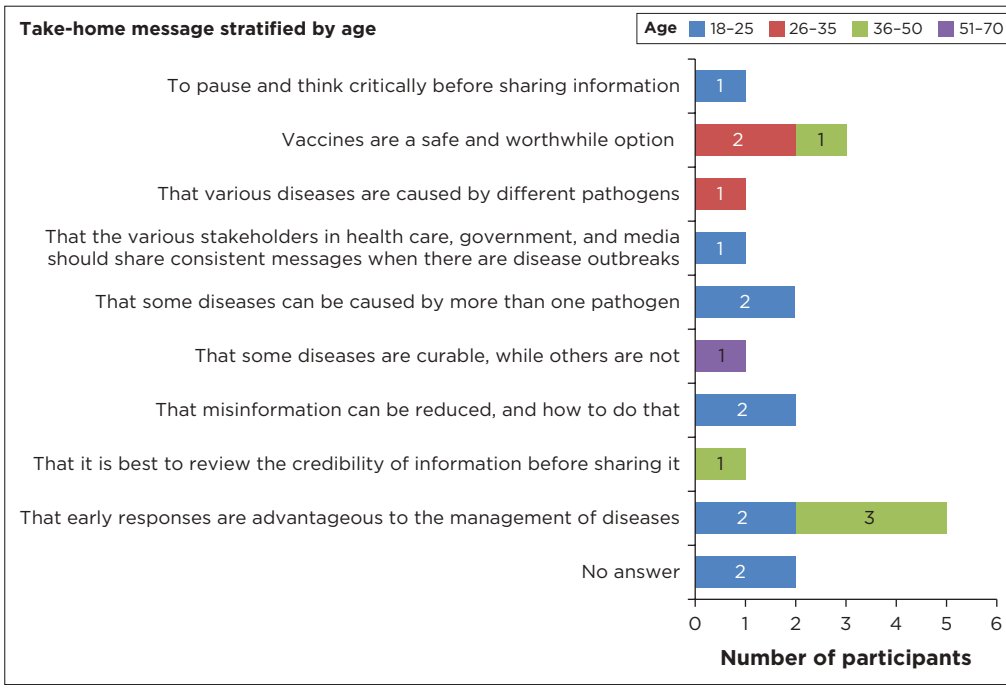


FIGURE 9.2: Responses of participants when asked what their 'take-home' message was after playing the game. The responses are stratified by age and the numbers correspond to the number of participants.

issues such as the misuse of antibiotics (i.e. using antibiotics for the treatment of viral disease or indiscriminately for any infection). Being able to make the distinction between pathogens would allow people to better understand the health information they consume, which may contribute to better decision-making. How these responses relate to behaviour requires more investigation, which is outside the scope of this study.

The gaming and perceived educational value of the game were assessed using the previously mentioned Likert scale. The term 'absolute positive' (AP) is used to indicate the 'I agree' option on the Likert scale as opposed to the less positive 'I partially agree'. The percentages stated are based on the total number of respondents who answered for each particular question. In terms of the gaming aspects, 82.4% of respondents were positive (Figure 9.3a) about the idea that the game was easy to understand and play (with 47.1%, Figure 9.3A), while 88.2% indicated that it was interesting (64.7%, Figure 9.3b) 81.3% that it was fun (35.3%, Figure 9.3c) and 75% that it was interactive (43.8%). While most respondents were positive regarding the enjoyment of the game, the answers were not all absolutely positive. This indicates that some aspects of the game took away from the experience. This may be explained by some remaining issues in the mechanics of navigation in the game and that in some activities, the number of allowed attempts was not made clear, which meant that players had to move on without being able to

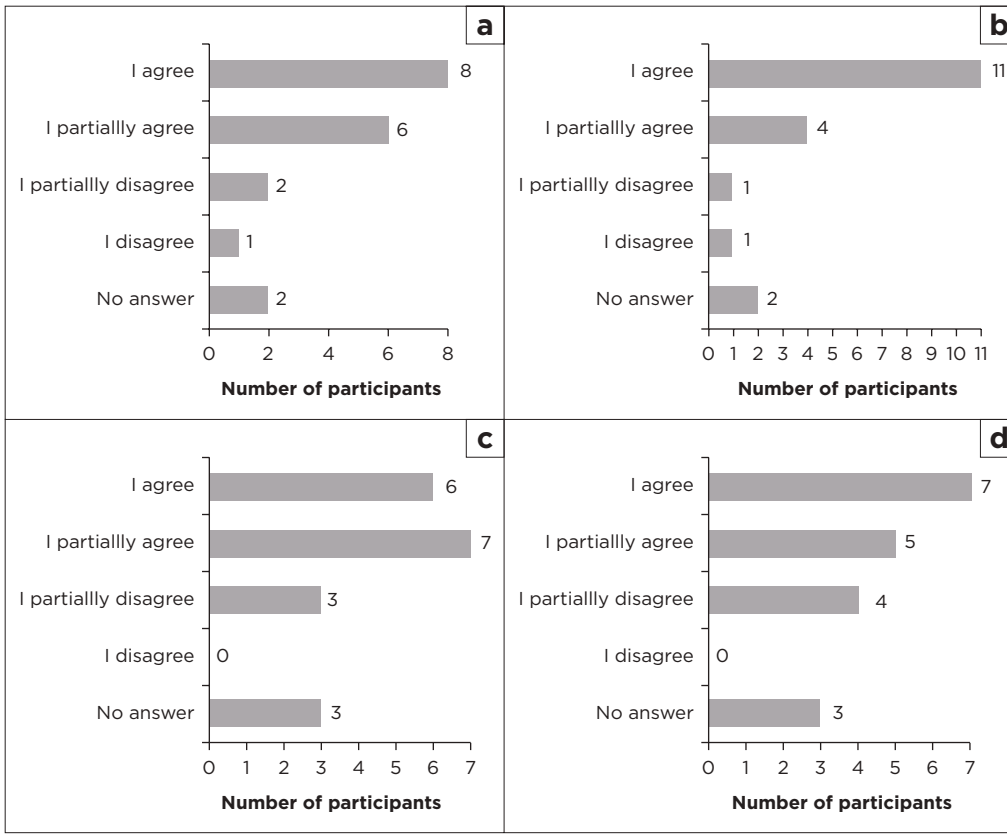


FIGURE 9.3: Responses of participants regarding basic gaming aspects on a Likert scale, as recorded in Survey 3. Participants were asked to what extent they agreed that the game was (a) easy to understand, (b) interesting, (c) fun and (d) interactive. Numbers correspond to the number of participants.

improve their score. During development, it was decided to make the pilot game nonlinear such that players could attempt an activity before working through the related learning content. This was intended to provide a challenge to the player, but in combination with the problems in navigation may have detracted from the experience.

All respondents (100%) felt that the game was educational to some extent (76.3% AP, Figure 9.4a) and 94.1% (64.7% AP, Figure 9.4b) felt that they acquired new or built on existing knowledge. When the answers relating to whether the game was educational were stratified by age, older participants (36–50 years, representing staff) all answered in the AP, while in the groups representing younger staff or older students (26–35 years) and students (18–25 years), two participants (Figure 9.4c) only agreed to some extent (33% and 10% of participants in those groups, respectively). Only 13 (81.2%, 6; 37.4% AP, Figure 4C) respondents felt that the game helped them to

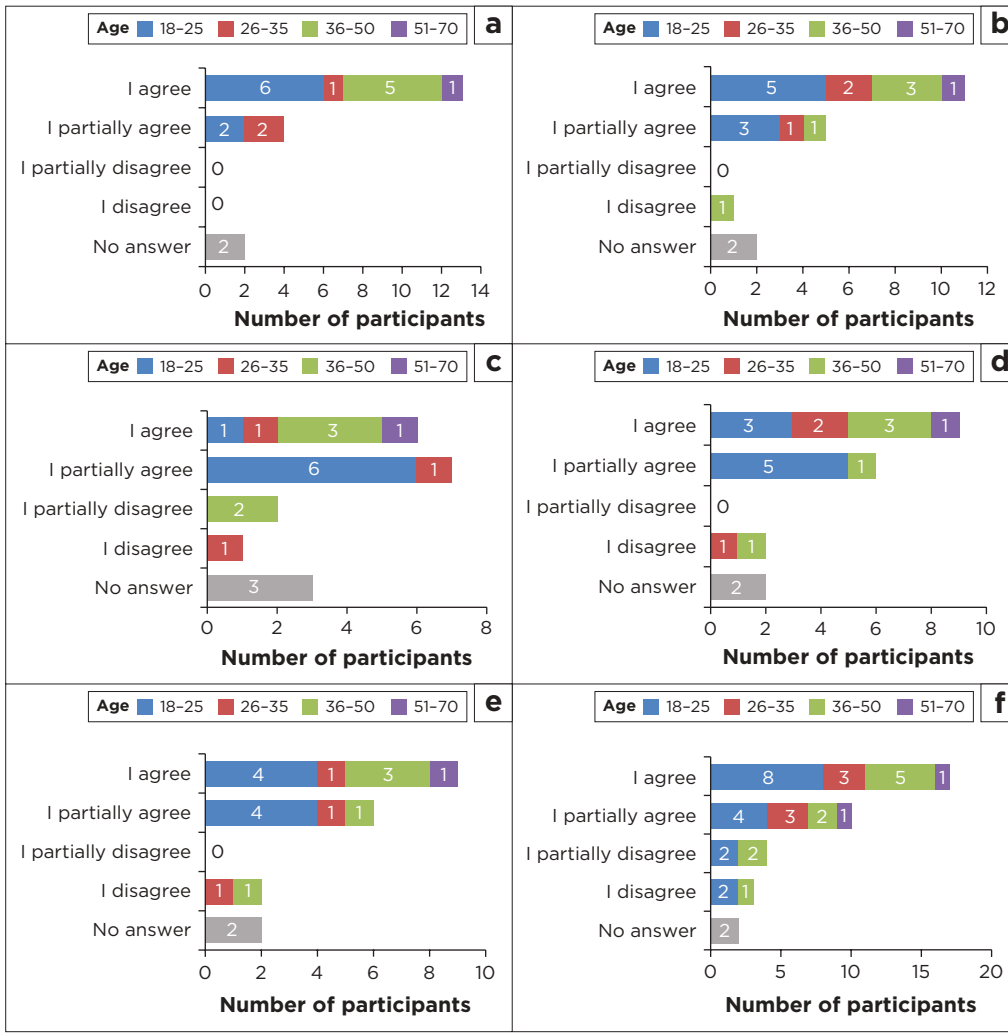


FIGURE 9.4: Responses of participants regarding the educational value of the game, on a Likert scale, as recorded in Survey 3. Participants were asked to what extent they agreed with the following statements: (a) the game was educational, (b) I have acquired new or built on existing knowledge, (c) the game helped me to understand concepts, (d) the learning centre was useful in the learning process, (e) the game helped me to reflect and think critically about myths and misinformation and (f) I will be able to better review health information obtained from social media. Numbers correspond to the number of participants.

understand concepts better. This may be related to the use of the word 'educational' rather than to the respondents' actual perceived learning in that they may see the game more as learning material (i.e. boring, Silveira [2016:1]) and less as a game. The mechanical problems (i.e. problems in navigating between levels and activities) in the game may also have contributed to the feeling that the understanding of concepts did not

improve, as this improvement could not be clearly seen in the repeated play of an activity. This may have been more pertinent in older players, who are less familiar with navigating video games than younger players may be. The mechanical problems may also be improved in future iterations of the game by decreasing the technicality and text-heaviness of content where possible, without compromising the depth of learning. This concept could also be applied to the learning centre in future (88.2% found it helpful to some extent; Figure 9.4d) in that the more accessible the learning content is, the quicker a player can return to the game and improve their score. Despite some issues remaining in the mechanics of the game, the resource encouraged participants to reflect on concepts such as myths and misinformation (52.9% responded in the AP that it prompted thought, Figure 9.4e) and 82.3% (58.8% AP) felt that they would be able to better review health information obtained from social media. As discussed distinguishing misinformation in the information age is becoming increasingly difficult, and the ability to stop and question information before assimilating it is an essential skill.

To get a more practical indication of whether participants felt that their knowledge had improved after gameplay, players were asked to rate their knowledge before and after the game. Before the game, only 29.4% (n = 5) of respondents felt that they knew the information to such an extent as to teach it to others (Figure 9.5a), while after the game, 47.1% (n = 8) of participants felt that level of confidence in their knowledge (Figure 9.5b). Another 47.1% (n = 8) of respondents felt that they knew the information to such an extent as to make informed decisions themselves, but not necessarily enough to convey it to others (Figure 9.5b). Furthermore, 76.5% (41.2% AP) indicated that they would be better prepared for future pandemics (Figure 9.5c). This may indicate that players either did not fully grasp how to apply the knowledge gained in the game or did not perceive the game as giving practically applicable information.

Despite the remaining mechanical problems in this pilot version of the game, the content of the game can be improved, as indicated by the data discussed here: 82.4% (47.1% AP, Figure 9.6a) of respondents reported that they would recommend the game to others and all participants felt that educational games are an effective learning tool (82.4% AP, Figure 9.6b).

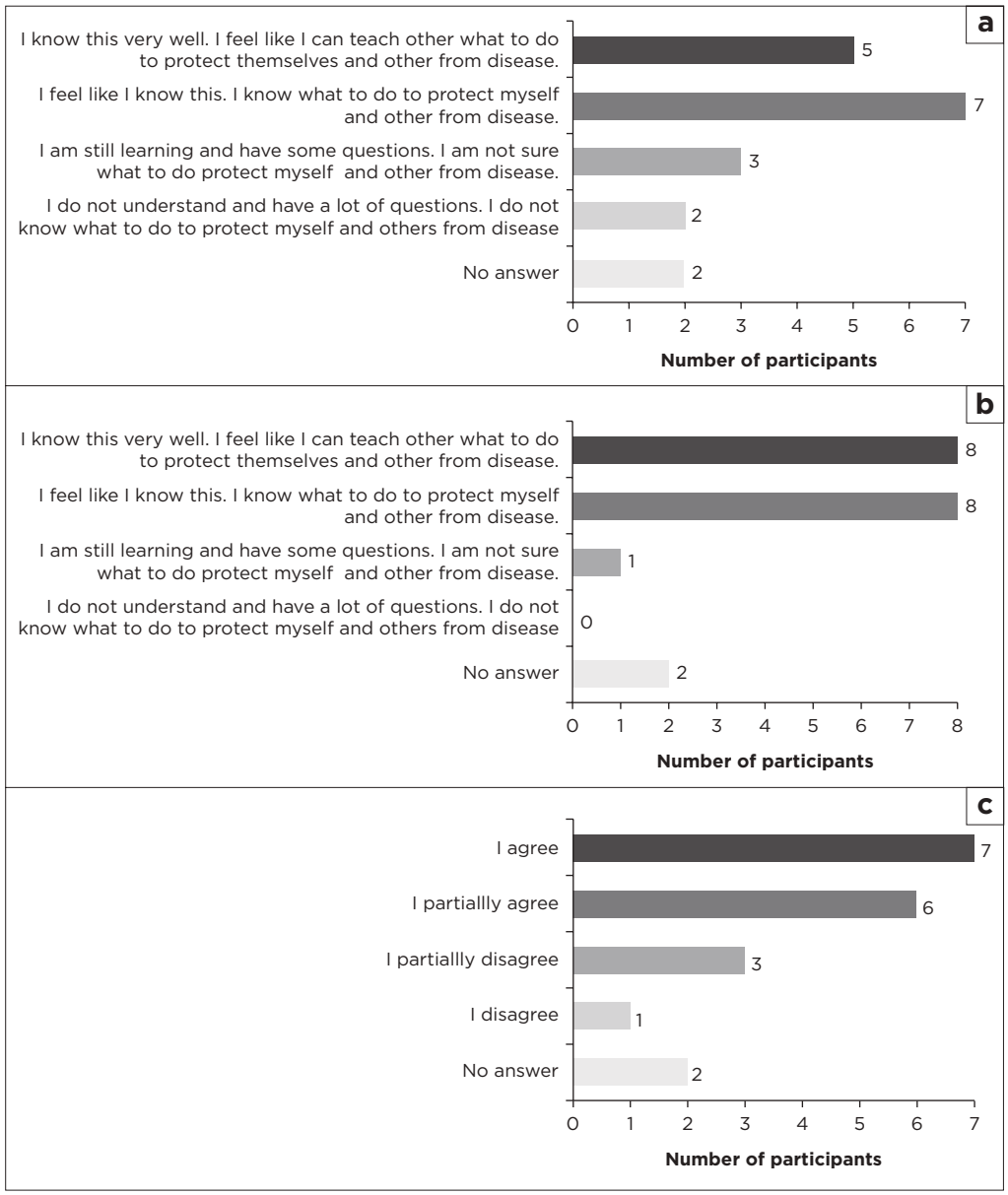


FIGURE 9.5: Responses of participants to questions intended to provide a more practical indication of whether the game aided learning, on a Likert scale, as recorded in Survey 3. Participants were asked to rate their knowledge before (a) and after (b) of the game. (c) The game has better prepared me to understand potential future pandemics. Numbers correspond to the number of participants.

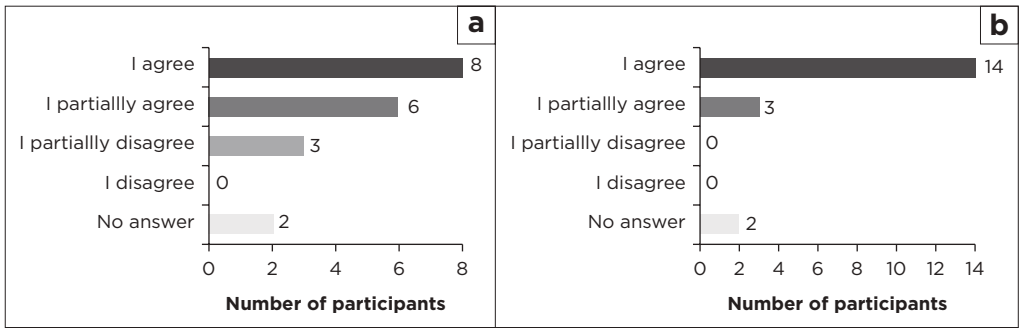


FIGURE 9.6: Responses of participants to questions intended to gauge their overall impression of the game and educational games in general, on a Likert scale, as recorded in Survey 3. Participants were asked to what extent they agreed with the following statements: (a) I would recommend this game to others and (b) educational games are an effective learning tool. Numbers correspond to the number of participants.

Survey 1: Collection of data for improvement of future iterations of the open educational game

Survey 1, which consisted of 23 questions, was used to assess in which areas participants felt the greatest need for knowledge before engaging in the game so that these may be addressed in future iterations. At first, the survey (consisting of 18 questions) asked participants to what extent they would like to learn more about general concepts regarding infectious diseases, such as how the immune system works, what false positive and negative results mean, what antibiotic resistance is, etc. More than 80% (46–54) of respondents were positive about learning these concepts for all the questions in this section. For all these questions, more than 80% of respondents were positive about learning these concepts. When specifically asked (three questions)whether they felt they needed more knowledge about TB, HIV and AIDS and COVID-19 specifically, to which only 60%–70% of respondents answered positively. This may indicate that participants do not feel that this specific knowledge is necessary or relevant to them, which possibly relates to the stereotypes associated with people who are susceptible to or at risk for HIV and AIDS or TB. Thus, the concept of susceptibility and responsibility (in the sense of helping others to recognise disease) must be stressed in the content of the game going forward. Participants were also asked how likely they were to familiarise themselves with disease management and post-infection care practices, to which 47 (82.5%, 21; 36.8% AP) participants answered positively.

When asked what other concepts participants would like to learn more about and which were not specifically covered in the survey, the following were highlighted: origins of disease; the lifespan of various organisms on surfaces; specifics regarding the prognosis of HIV (viral loads and CD4 counts and their cut-offs) and the reasons why some diseases are incurable. One respondent also indicated that the terminology used in the survey was

unknown to them. Most of these concepts were covered in the pilot game, but this also stresses the importance of using language that is accessible to people from all backgrounds. The nonlinear form of the game may also have led to participants missing crucial background information. This will be especially important to address in the next iteration, which will be available to the public and not only to university students as the pilot game was.

As regards the experience of the researchers in the creation of this OEG, the main limiting factor was the time within which the game had to be created, disseminated and assessed. The natural complexity of game development, combined with the creation or sourcing of open content within a multidisciplinary team resulted in some delays. Because the game developers and the biochemistry researchers have radically different academic backgrounds, many iterations of content revision were necessary, and some miscommunications occurred. Some decisions, such as that the game could be played in a nonlinear manner, also confused players. Going forward, these issues should be less prominent, as adjustments can be made to the manner of communication amongst contributors from different backgrounds, and more time will be available to work out issues in presentation and navigation as well as implement what was learned in the pilot study. Overall, the communication skills of all parties were improved, in the sense that they are now better able to anticipate and correct potential miscommunications with people from different backgrounds. Furthermore, the ability to present complex and specialised information to a non-scientific audience was also improved.

Conclusion

The surveys indicated that the OEG was generally well-received and enjoyed, despite some problems in navigation and feedback within the pilot game. The majority of respondents also indicated that the game improved their knowledge and induced thought about their interaction with health information. Most questions received some negative feedback, and approximately half of the positive answers were only partially positive, indicating that there is room for improvement. Although the problems with the mechanics may have detracted from the experience of the game, the overall positive response is encouraging for the efficacy that could be achieved with a more polished product in future. In the process of developing the next version of the OEG, attention will specifically be paid to improving the presentation and flow of information, user-friendliness of the game interface and allowing a longer period for the collection of responses. This should encourage the self-directedness of the process, as learners will be able to engage with the information with fewer impediments and be able to learn at their own pace. Although the time allowed for responses was short, fewer

mature people (representing staff, including lecturers) responded. This may also indicate a need to promote the concepts of OEP and self-directed learning amongst lecturers in general, which may increase their interest in supporting or participating in the creation of OERs.

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Chapter 10

How open educational resources can assist in developing open legal pedagogies

Kabelo Mutubi
School of Undergraduate Programmes,
Faculty of Law, North-West University,
Mahikeng, South Africa

Abstract

Since 2015 South African universities have been grappling with ideas of decolonising the knowledge they produce. Students argued that their curricula do not reflect their lived experiences as African students. This chapter will deal with epistemic injustice as central to the idea of decolonising the curriculum. Epistemic justice, access to open legal education will be discussed, among other themes. The main aim of the chapter is to advance a framework for an inclusive educational learning environment using a decolonial approach. In the first part of the chapter, epistemic injustice is defined and discussed with a view of using epistemic justice as an enabler of curriculum development. The second part of the chapter concerns teaching and student agency in the South African university. The third and final part of the chapter

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discusses open educational resources (OERs) as tools for social justice and how they can be used to develop open legal resources and pedagogy.

Introduction

There are many questions that are central to the decolonial theory, chief among them is the question: is it possible to decolonise a body of knowledge that is inextricably linked to the colonial project? The term evokes (Modiri 2020):

> Struggles to overcome colonial power and violence; seeking fundamental change through dismantling white supremacy; critically interrogating, provincialising and de-privileging Western epistemologies and concepts; seeking out alternative and new African and Global South knowledges and ways of being; excavating lost and silenced histories and centring African culture and experience; exposing neocolonial continuities; refusing assimilation into alien and oppressive orders and reclaiming liberation, dignity and sovereignty – and more. (p. 156)

Taking Modiri's definition of decolonisation as a guide, there may be instances where we specify our own definition of decolonisation that is more in line with our disciplines. Thus, as a legal scholar, I must define law from a 'non-colonial' position whilst being cognisant of alternative legal epistemologies (Himonga & Diallo 2017:5). When dealing with decolonisation, we must not fall into the trap of creating a utopia out of pre-colonial Africa. It is evident that three elements seemed to be essential for the decolonisation of law and legal education. This pertains to the inclusion of living customary law within legal education, shifting the theoretical paradigm through which law is taught, as well as the study of law in an interdisciplinary manner (Himonga & Diallo 2017). When looking to decolonise law, legal scholars usually prefer an approach which neglects the role of student agency. Student agency is a prominent feature of open pedagogy. The use of open pedagogy in conjunction with OERs within legal education will broaden access to alternative methods of knowledge creation and dissemination.

Self-directed learning (SDL) (cf. Chapter 3) can be described as an approach to learning through which learners would assume the responsibility for their own learning and are then involved actively in their learning whilst taking control of the learning process (Bosch, Mentz & Goede 2019:2). This enables students to choose their learning strategies, resources and outcomes to reach their desired learning goals (Bosch et al. 2019). A combination of the self-directed approach to learning and decolonial practices has the potential to deliver a transformed decolonised curriculum, especially in the South African context.

Although decolonisation will be discussed, this chapter does not intend to be the sole authority on the subject, as there are many definitions of the term and contentions about its effectiveness.

What is epistemic injustice?

In recent years, the knowledge produced in South African universities has been interrogated for its lack of representation of African and South African thought. The argument is that African knowledge systems must be treated fairly and thought of on the same footing as knowledge systems from the global north. According to Byskov (2021), epistemic injustice is regarded as:

> [...] the idea that we can be unfairly discriminated against in our capacity as a knower based on prejudices about the speaker, such as gender, social background, ethnicity, race, sexuality, tone of voice, accent, and so on. (p. 117)

In seeking to clarify and apply it to practical cases, many writers have grappled with the concept of epistemic injustice (Byskov 2021:117). However, these writers have focused on making an epistemic injustice an *injustice* (Byskov 2021:117). Adding on to the two conditions that Fricker (2007:1) argues make an epistemic injustice an injustice, Byskov (2021:117) argues that there are five of these conditions.

In this context, Fricker is of the opinion that two distinct forms of epistemic injustice can be identified: testimonial injustice and hermeneutical injustice. Testimonial injustice occurs when credibility is attributed to a statement based on preconceptions about the person making the statement, such as gender, ethnicity, race, social background, accent, etc. (Fricker 2007). Importantly, hermeneutical injustice might result from testimonial injustice (Fricker 2007). That is, when testimonial injustices have a structural impact on what is included in a communal pool of knowledge, the marginalised individuals and groups' experiences are underrepresented, impairing their ability to make sense of their experiences (Table 10.1: Byskov 2021:118).

TABLE 10.1: Overview of the five conditions of epistemic injustice.

Condition	Description	Aspect of (in)justice
The disadvantage condition	In order for someone to be unjustifiably discriminated against as a knower, they must suffer epistemic or socio-economic disadvantages and inequalities as a result of the discrimination	Unfair outcome
The prejudice condition	In order for someone to be unjustifiably discriminated against as a knower, the discrimination must involve prejudiced (i.e. unfair) sentiments about the speaker	Unfair judgement about epistemic capacity
The stakeholder condition	In order for someone to be unjustifiably discriminated against as a knower, they must be somehow affected by the decisions that they are excluded from influencing	Unfair denial of stakeholder rights
The epistemic condition	In order for someone to be unjustifiably discriminated against as a knower, they must possess knowledge that is relevant to the decision that they are excluded from	Unfair denial of knowledge
The social justice condition	In order for someone to be unjustifiably discriminated against as a knower, they must at the same time also suffer from other social injustices	Unfair existing vulnerability

Source: Byskov 2021:118.

According to Fricker (2007:162), being deprived of making sense of our own experiences is an injustice.

It is necessary to recognise the conditions for epistemic injustice because the concept of epistemic injustice can explain some aspects of socio-economic injustice. It is essential in our understanding of the design of public institutions, such as universities, schools, courts and primary health care, amongst others. Through identifying conditions for epistemic injustice, it would then be possible to identify and evaluate claims of possible harm against knowledge bearers, which could have been committed by individuals or institutions, and also show how individuals and institutions can avoid producing epistemic (dis)advantages and duplicating prevailing socio-economic inequalities (Byskov 2021:118). Now that we know a little about epistemic injustice, we move to how epistemic justice can be used as a tool for curriculum change.

Epistemic justice as a tool for curriculum change

The #RhodesMustFall movement which was spun from the #FeesMustFall movement has inspired debate around the content of the curriculum in South African universities. At the time, students were dissatisfied with the promises of post-1994 South Africa. They believed that higher education (HE) was meant to be free and reflect the realities of everyday South Africans. Through the movement, students and academics advocated for free and decolonised higher education. To the leaders of the '#RhodesMustFall' movement, decoloniality was the practice that would enable the South African university to reflect a much clearer African reality as opposed to the Western ideas that South African universities were promoting. Students were advocating for an Afrocentric curriculum. According to Kessi (2017:506), 'a decolonial stance advocates for epistemic justice as foundational to the activities of higher education'.

It must be kept in mind that universities are centres of knowledge production that inevitably shape the societies that we live in. Kessi (2017:507) argues that epistemic justice develops through praxis; praxis in this context 'is the interface between theory and practice'. Through praxis, the university becomes a vital instrument in the conception of a decolonised society where academics can participate in the type of critical knowledge that is essential for achieving social justice (Kessi 2017:507). From a communal perspective, praxis encourages participation in research projects by those people who are outside the academy, but are nevertheless, affected by the fact that the knowledge that is produced does not engage with their lived experiences or contexts (Kessi 2017:508).

The historical context of South Africa remains important in our understanding of epistemic injustice. This means that history inevitably informs our approaches to epistemic justice and any methods used to dismantle the

stronghold of Western thought in South African curricula (Kessi 2017:509). In our quest to enact social change, we should not neglect theory. Because theory guides and legitimises social systems, 'in order to dismantle the social systems we live in, which are characterised by inequality and oppression, we need to advance our theories' (Kessi 2017:509). These theories should develop from the relationship between our lived experiences and knowledge production. Those from marginalised communities can inform research that is undertaken to better their and our social contexts. Thus, any discourse relating to the decolonisation of universities is considered in relation to society's lived realities as well as the different institutional contexts from which they might emerge (Kessi 2017:509). By treating people as research subjects and valuing their experiences as central to the process of knowledge production, researchers can develop theories that combat epistemic injustice. It is imperative that universities, as centres of knowledge production, become vessels of social change to enable the realities that decolonial scholars posit (Kessi 2017:509).

South Africa's educational apartheid legacy continues to haunt. From an educational perspective, it left us with different types of universities, which could be historically labelled as white-English (or liberal), historically white-Afrikaans, as well as historically black universities. Although the racial divisions have disappeared, historically black universities continue to suffer from the perception that because they serve majority black students, the quality of the education they offer is of an inferior quality to that of the historically white universities. The decolonial project then must focus on dismantling these prejudices as they are mainly based on Western-oriented curricula.

When a person is marginalised or excluded as a knowledge bearer, their dignity is affected. To enable students to gain a sense of dignity in their studies, Walker (2020) suggests that students should make epistemic contributions to aid in their learning. These contributions must be in line with the five-R (5R) permissions characteristic of OERs and will relate to the course the student is currently studying. These contributions would then be licensed with appropriate copyright licenses that would provide permission to anyone to participate in the 5R activities, which include: retain, reuse, revise, remix, as well as redistribute (cf. ch. 1). Being allowed to contribute to a shared common resource has always been central to human well-being (Walker 2020:270). Universities must allow students to be able to make these epistemic contributions as this would not only enable students to take in information, but to make interpretive contributions to the knowledge that currently exists. This will enable the knowledge to have a deeper social character as it will encompass the student's lived reality. Students must not be deprived of an opportunity of being agents for epistemic change (Walker 2020:271).

Although many socio-economic injustices continue to be felt by black people, Walker (2020:274) cautions against essentialising race in our pursuits

for equality in South African universities. The diversity in South Africa, of language, ethnicity, social class, and so on produces its own epistemic marginalisations. Thus, a rural university would be dealt with differently from those in urban areas as the realities at these universities may be *sui generis* and require more than just a general solution to epistemic injustice.

There can be no epistemic justice without changing the curriculum (Walker 2019:2). According to Walker (2019:2), there are four core dimensions of the curriculum 'knowledge (what we know and understand); skills (how we exercise that knowledge); character (how we behave and interact with others); and meta-learning (how we reflect and adapt)'. Furthermore, '[a] university should enable the education of students who have acquired the Six C's: think critically, communicate clearly, use connectivity, develop creativity, work collaboratively and embrace culture' (Tawana Kupe quoted in Walker 2019:2).

To fully utilise the four dimensions Walker mentions, we must develop epistemic justice capabilities. Epistemic justice capabilities involve the knowledge bearer receiving and giving knowledge, gaining recognition as a capable contributor to the shared knowledge pool. This entails developing an open framework like working with OERs and using decolonial practices to inform curriculum design (Walker 2019). Thus, adapting the curriculum as an enabler of epistemic contributions ensures that justice is done to each knowledge bearer and group of those seeking education.

A transformed curriculum practice begins with acknowledgement by teachers that they, too, are responsible for perpetuating epistemic injustices. This is because epistemic wrongs do not take place without perpetrators (Walker 2019:9). Curricula must be grounded in an ecology of knowledge, which will differ depending on the subject, but social justice remains foundational in these ecologies (Walker 2019:9). In addition to building and enabling a transformed curriculum, pedagogies must also construct transformative knowledge (Walker 2019:9).

Towards a decolonised curriculum: Thoughts and ideas for the enactment of change

Having dealt with why epistemic justice is an important element of justice, and how injustice could adversely affect those who may be subject to it and taking Walker's quote as a foundation: 'to be marginalized or excluded as a knower affects dignity' (Walker 2020:269), we will trace the role of student movements in the curriculum transformation debate focusing on three universities: the University of the Witwatersrand (Wits), Rhodes University and the University of Cape town (UCT). The discussion then moves to how decolonial practices can aid in transforming the law school, broadly and the law curriculum, specifically.

Tracing the role of student movements in influencing legal pedagogy

Although protests about the high cost of education had been happening prior, 2015 was the year they reached historically white universities. The University of the Witwatersrand is where the #FeesMustFall began before morphing into #RhodesMustFall (#RMF), which began a few months later at another historically white university, UCT. The #FeesMustFall movement represented the climax of years-long dissatisfaction with excessive HE tuition fees and insufficient state funding of HE. The Fallists were of the idea that the time had come to deal with the race-based inequality that is characteristic of the universities in South Africa (Malabela 2020). As part of the structural changes, the Fallists demanded the hiring of more black academics as well as a more Afrocentric curriculum. As part of their transformation push, the Fallists collaborated with outsourced workers so that they, too, could air out their grievances and contribute to the vision of the new university that would emerge after their transformation demands were met. This collaboration emerged because of the alienation that was felt by black lecturers, students and outsourced workers (Malabela 2020:105).

The 'cosmopolitan' vision of Wits that was promoted by the then-vice-chancellor of the University of Wits, Adam Habib, was contested as being too idealistic and unclear (Malabela 2020:103). To emphasise their stance, the Fallists brought forth their own definition of decolonisation (Chinguno et al. 2017):

> The rejection of white supremacy and hetero-patriarchal order along with other forms of prejudice that characterise the colonial project, as well as the quest to redress the socio-economic, political, and spiritual depredations of colonial history. (p. 18)

Following a senate meeting where the Fallists' grievances were disregarded, the leadership decided that protest was the only way to go. The protests lead to the peaceful disruption of university activities. The university responded with violence and portrayed the Fallist movement as irrational and un-South African.

Free decolonised education

The transition to a democratic South Africa is seen by some to have left a few issues unresolved (Malabela 2020). The content of the post-1994 curriculum was never discussed; this lacuna meant reinforcing Eurocentric ideas rather than being characteristic of the African experience. To fight the feeling of alienation felt by the African student, African ideas need to be central to their education. Centring African thought does not mean disregarding other forms of knowledge but placing African knowledge systems on the same footing as those of the Global North. This then led to having an African university, instead

of having a university in Africa (Ndlovu-Gatsheni 2013:11). The renaming of the Wits administrative building 'Senate House' to 'Solomon Mahlangu House' was a start in remaking the university space to reflect a so-called South African flavour. Symbolism does have its limits, as the case of the removal of the Cecil John Rhodes statue at UCT illustrates.

Writing on the impact of student protests from a Rhodes University perspective, Knowles states one of the ways to understand the emergence of these protests is through the lens of re-centring (Knowles 2020:119). This means using an African theory 'which deals with the question of African identity from the perspective of African people as centred, located, oriented and grounded' (Knowles 2020:119). Many thinkers gravitate towards re-centring, but few provide actionable ways in which the concept can work practically. This can be because the university's neoliberal agenda is difficult to shake and the student leadership that leads these movements have now become part of large political parties whose views themselves are neoliberal.

Ndelu cautions South African universities against chasing world rankings as this pushes these universities to be in Africa by geography only whilst they are ideologically located in the west (Ndelu 2020). The pushback against this strategy led to the #RMF movement at UCT. #RMF's initial concern was lobbying for the indefinite removal of a bronze statue of colonial-era British businessman and politician Cecil John Rhodes from the university's main campus. Like the protests at other universities, the list of demands by #RMF included decolonising curricula. Once Rhodes' statue was removed, the #RMF directed their energies to 'the invisible statutes' that still exist within UCT's ideology (Ndelu 2020:139).

To frame their demands, the #RMF insisted on using the term #RMF insisted on the term 'decolonisation' rather than 'transformation'. #RMF clarified its position by stating (Ndelu 2020):

> [*W*]e have begun to understand the need for a new language that challenges the pacifying logic of liberalism. This logic presents itself to us in these ideas of 'reform' and 'transformation', which are legitimised by the Constitution – a document which violently preserves the status quo. Transformation is the maintenance and perpetuation of oppression, hidden within meaningless surface-level change. We have recognised that what is needed instead is the radical decolonisation of this institution, which is necessarily linked to the black condition, both nationally and internationally. Our existence as black people is defined by a violent system of power. The university's processes and language naturalise that colonial system. Therefore, if we wish to get rid of that system of power, we have to destroy the processes altogether. Decolonisation is this very destruction. (p. 140)

The #RMF's insistence on a decolonised rather than transformed curriculum stems from the desire to determine a future built on self-determination and self-reliance whilst being able to remember the past and engage with the present (Omarjee quoted by Ndelu 2020). According to #RMF, when

implementing their idea of a decolonised curriculum, the university must (Ndelu 2020):

> Implement a curriculum which critically centres Africa and the subaltern. By this we mean treating African discourses as the point of departure – through addressing not only content but languages and methodologies of education and learning – and only examining Western traditions in so far as they are relevant to our own experience. (p. 140)

It can be said that to the #RMF, the implementation of decolonised curricula varies from subject to subject. To counter the emphasis placed on the commercialisation of education by universities like UCT, the #RMF demanded the elevation of a Freirean pedagogy that is (Omarjee quoted by Ndelu 2020):

> [*A*] teaching culture that destabilises the power disparity between the educator and learner, as well as placing equal value on formal and informal curricula, which may or may not be shared within the classroom. (p. 144)

Inside the classroom, the #RMF advocated for a relook at the language of instruction. A move towards multilingualism in a country with eleven official languages would surely benefit students. The public discourse on multilingualism in South African universities has almost been strangled by the debate around the continued use of Afrikaans as a language of instruction at historically Afrikaans universities. This debate exists in a clash between acknowledging the benefits of having students being taught in their home language and the constitutional obligations to reverse apartheid-era patterns of racial discrimination (Ndelu 2020:145). Indeed, whilst Afrikaans as a language is being 'fought' for as a language of instruction, not many are calling for the other official languages to be at the forefront of pedagogy at South African universities. They see the achievement of multilingualism as impractical and time-consuming. But as we see with the development of Afrikaans, using a language other than English for academic purposes will take time, but it is doable. Thus, we cannot be seen to have decolonised until English is displaced as a language of instruction.

To move UCT away from the ideas of a 'market university' that is geared towards serving corporate interests, the #RMF challenged the university to introduce a decolonised research agenda (Ndelu 2020:148). This could be achieved by providing funding to academics who have Africa as a research focus and by re-evaluating the standards by which research areas are decided (Ndelu 2020:148). The representation of black lecturers across faculties was also addressed, as it is believed that being thin on black faculty or having black faculty who are disillusioned and unmotivated has an adverse effect on the educational outcomes for both black and white students (Ndelu 2020:150). A lack of representation results in black students' sense of exclusion and alienation being amplified, whilst white students are deprived of the richness of diverse teaching staff (Ndelu 2020:163).

The Fallist movement was instrumental in the founding of the Curriculum Change Working Group (CCWG) at UCT. The group was a multi-sectoral group of experts commissioned by the vice-chancellor to engage with faculties, departments, academics and students in order to 'initiate deep curriculum conversations in relation to the challenges of transformation, as well as opportunities and debates that the call for decolonisation brought to the university' (Ndelu 2020:151). The aim of the CCWG was to ensure that the entire university was working together to decolonise the curriculum and pedagogies rather than in 'patchy' silos (Ndelu 2020:151). The Curriculum Change Framework came out of the CCWG and brought with guidelines as to what direction the university would take to meet the demands of the #RMF regarding a decolonised curriculum (Ndelu 2020:151). The framework did omit a few issues as it does not deal with (Ndelu 2020):

> (1) whether it would be binding on all faculties, departments, and academics; (2) how the university plans on monitoring and enforcing compliance; and (3) how a binding framework might impact on the principle of academic freedom, which the university so jealously guards. Already, there are signs of cleavages within the university. (p. 151)

The fact that this framework is also subject to the approval of the university's statutory bodies like the senate, which may be resistant to the changes it seeks to bring forth, does not bring hope as it may end up gathering dust and thus lack legitimacy. In sum, the decolonisation of the curriculum needs constant refinement as it is likely to take a long time to achieve.

☐ An academic's response to the Fallist movement

One of the criticisms of the Fallist movement was that its leaders were not sufficiently literate in the relevant radical social theories they were purportedly representing. As Modiri (2016) suggests, we should not be shocked at the gaps in knowledge that are shown by students, as this illustrates the shoddy work that some academics are doing at South African universities (Modiri 2016). Instead of questioning the students about where they got their knowledge, we should rather be questioning their lecturers about where they studied. We should also be kind in our critiques of the Fallists because (Modiri 2016):

> It is unfair to expect students to perfectly grapple with a deep historical and social conundrum (how to repair the irreparable) and also to master the voluminous literatures, discourses and theories that have been produced in that effort. (p. xx)

The Fallists may not have prominence with fully formed ideologies, but they were vigorous in their call for the transformation of the South African university.

■ On the universities' future

Perhaps the biggest challenge for practitioners of the decolonial school is the moving from theory to practice. For Modiri (2020:157), the disconnect

between theory and actualising decolonisation may be widening because of the trend of some academics using the call to transform curricula for commercial purposes. By doing this, these academics perpetuate the commodification of knowledge that is promoted by the university of today. Inevitably, it is the student who bears the brunt of this approach which in turn increases the alienation the student might feel when studying these commercially focused theories (Modiri 2020:158). Leaders or lecturers of a decolonised curriculum must not think and act like contemporary market subjects. This is because they will not always be discussing capital or the market in their work. Thus, we cannot decolonise through neoliberal praxis (Modiri 2020:159).

As a starting point to actualising decolonised curricula, the university 'must continually account for its deeply entrenched epistemic violence, Eurocentrism and racism' (Modiri 2020:171). This can be done by reconfiguring the symbolism that is synonymous with post-1994 South Africa. The university, then, must not be exempt from historical responsibility and must reckon with its role in the 'economy of conquest' that has led to the status quo. The centring of African knowledge in South African universities requires that academics are retrained to enable them to research and instruct in the radical tradition that a decolonised curriculum calls for. It is not only the academic facet of the university that must change but also the administrative side to ensure effective implementation (Modiri 2020:171).

It may seem that resisting the commodification of the university is unrealistic because of the fact that students must leave the university and participate in the job market. However, this does not mean that students need only to learn the tools of their trade. The goal is to make the student a well-grounded member of society whilst ensuring that they will be equipped for the job market. Ultimately, the aim is to decentralise the university as the only site of knowledge production. The tension between Western knowledge production and African knowledge production, where the former relies primarily on text and the latter on orality, is proof that we should not overemphasise the university's primacy and run the risk of repeating the mistakes of the past (Modiri 2020). Decolonisation necessitates multiple sites of knowledge.

Looking outside the university can also assist in the decolonial project, as introducing forms of knowledge that are grounded in resistance (as opposed to those grounded in commerce) allows for greater self-reflection. In our development of a decolonised open curriculum, we must not read blindly but must remain critical of even the decolonial texts which we seek to introduce in our studies. The diverse student body should always remain at the back of our minds as we continuously shape and reshape curricula.

Self-directed learning as an enabler of epistemic justice

Open educational resources as a tool for social justice

In our zeal for the use and development of an open decolonised curriculum, we must ensure that we link the economic value gained using OERs with pedagogical and cultural advances (cf. Chapter 2). Account must also be taken of the structural inequalities that are present when implementing OERs. According to Fraser, social justice is 'parity of participation', it is both a result where 'all the relevant social actors participate as peers in social life' and a process in which procedural standards are followed 'in fair and open processes of deliberation' (Fraser 2005:73). Conversely, both these conclusions and practises can be regarded as being socially unjust in three manners, which according to Fraser could be: '(1) economic maldistribution; (2) cultural misrecognition; and (3) political misframing' (Fraser 2005:87).

Economic maldistribution is where economic structures prevent some people from economic participation by denying them access to resources they might need to interact with their peers (Fraser 2005). The use of OERs can be a means of economic redistribution as their use can lead to cost-savings (Hodgkinson-Williams & Trotter 2018:207). Economic restructuring, on the other hand, refers to a 'transformative' shift that speaks to the 'root causes of the maldistribution', an example of OERs as a 'transformative remedy' would constitute a change in the way educational materials such as textbooks are created and adapted, and how their production is funded, etc. (Hodgkinson-Williams & Trotter 2018:207).

Cultural misrecognition refers to a situation where 'people are prevented from interacting on terms of participatory parity by institutionalized hierarchies of cultural value that deny them the requisite standing' (Fraser 2005:73). As a result of the current domination of Western epistemologies, educators and students in the Global South can be disadvantaged because of a lack of representation (Hodgkinson-Williams & Trotter 2018). This cultural misrecognition is opposed through the creation, localisation and redistribution of OERs in the languages of the marginalised and from transformative epistemic perspectives (Hodgkinson-Williams & Trotter 2018:219).

Political misframing 'tells us who is included in, and who is excluded from, the circle of those entitled to a just distribution and reciprocal recognition' (Fraser 2005:73). To deal with this division, underrepresented groups must have opportunities to participate in decision-making. From an OER perspective, this refers to granting relevant stakeholders the ability to decide on what is important from an educational perspective in order to avoid becoming some 'objects of charity or benevolence' (Hodgkinson-Williams & Trotter 2018:208).

From Fraser's formulation of justice, we gain insight into why a social justice framework is important in the development of open pedagogy.

Self-directed learning and decolonising legal education

There are various models for SDL. The approach used by Oswalt (2003) is one we can adapt to the teaching of law. Oswalt (2003) divides SDL concepts into three major groups: the learning situation, the different components of learning and the attributes of students.

The learning situation relates to opportunity, support and collaboration and specifically refers to the 'extent to which the facilitator is dedicated to nurturing SDL in the learning situation' (Bosch et al. 2019:11). To promote the tenets of SDL, the facilitator must provide students with the opportunity and support to direct their own learning. Support involves the provision of expertise, guidance and materials for the learning situation by the facilitator. Collaboration is also important to the learning situation because peer-to-peer networks can potentially encourage SDL in formal or non-formal learning situations (Bosch et al. 2019).

Components of learning refer to cognitive, motivational and contextual factors of learning (Bosch et al. 2019:17). Cognitive factors of learning include 'critical self-reflection on both the individual's learning process and the knowledge and skill the student is attempting to master'. Motivational factors incorporate both self-efficacy as well as volition. Self-efficacy refers to the student's self-assurance (or lack thereof) in their ability to succeed or fail, whilst volition relates to a student's ability to commit to tasks regardless of external factors that compete for their attention. Moreover, contextual factors relate to peers, resources, and other external factors in the learning environment over which there may be no control (Bosch et al. 2019:17). Students have to take responsibility for all these factors mentioned here in order to be regarded as effective self-directed students (Bosch et al. 2019:17).

The learning attributes incorporate content skill, SDL skill and some willingness to direct their own learning. The skill level of students within a content area has a direct impact on direction within that specific area. They might also be more willing to assume responsibility for their learning if they have developed a sufficient understanding of the basic concepts or mastered the basic skills beforehand (Oswalt 2003).

Like in all aspects of learning, the teacher's role is essential to the success of an SDL approach. Students should be allowed more control over their learning situations by intermittently providing them assistance in locating resources or mastering alternative learning strategies. This allows students to gain more practice at being agents in their learning (Bosch et al. 2019:19).

Certain teaching methods can be used in partnership with SDL (Bosch et al. 2019:19). Problem-based learning (PBL) is of interest to legal educators. Problem-based learning is a teaching method in which students are taught concepts and principles using challenging real-world issues rather than the direct presentation of facts and concepts (Bosch et al. 2019:26). Problem-based learning is a successful teaching method for encouraging student autonomy, and it is impossible to use without SDL. The components of SDL that problem-based learning shares are (Bosch et al. 2019):

> (1) reviewing the scenario and generating hypotheses, (2) identifying their learning issues, (3) confirming the resources they will access, (4) performing their own information seeking and (5) applying their new learning and reflecting on the content and process of learning. (p. 26)

From a content perspective, decolonisation assists the self-directed approach by drawing from both traditional aspects of learning as well as alternative methods that are championed by African knowledge systems. It is my view that a link between the Fallist movement's call for a decolonised curriculum and SDL exists. Because students have previously shown their willingness to participate in their learning, and it is up to the educators to allow this to take place meaningfully.

Conclusion

Legal pedagogy is still stuck in traditional law teaching methods, like the case law method and the Socratic method (Quinot 2012:411). Even with the use of the problem-based method, the emphasis is placed on the learner reading large amounts of text and regurgitating the content when it comes time for exams (Bajpai & Kapoor 2019:95). The learning materials used for studies are still statutes and casebooks that reflect current law. Legal scholars generally do not engage with open pedagogy, although they do look at OERs and the impact that intellectual property law has on open licensing.

Though the term 'open legal pedagogy' does not exist in a formal sense, we can define it using Wiley and Hilton's (2018:133) definition of OER-enabled pedagogy. According to Wiley and Hilton (2018):

> OER-enabled pedagogy can be defined as the set of teaching and learning practices that are only possible or practical in the context of the 5R permissions that are characteristic of OER. (p. 133)

In addition to what Wiley and Hilton (2018) envisage, open legal pedagogy would incorporate the principles brought forth by SDL and the ideas of decolonisation. The content used in open legal pedagogy would be guided by the 5R activities (Wiley & Hilton 2018:135):

- **Retain** – 'the right to make, own and control copies of the content (e.g. download, duplicate, store and manage)'

- **Reuse** – 'the right to use the content in a wide range of ways (e.g. in a class, in a study group, on a website and in a video)'
- **Revise** – 'the right to adapt, adjust, modify or alter the content itself (e.g. translate the content into another language)'
- **Remix** – 'the right to combine the original or revised content with other material to create something new (e.g. incorporate the content into a mashup)'
- **Redistribute** – 'the right to share copies of the original content, your revisions or your remixes with others (e.g. give a copy of the content to a friend)'.

OERs are generated by the students themselves (Wiley & Hilton 2018:135). The use of the OERs by students requires them to be self-directed (Olivier 2019:168). In my view, the link between student protests and SDL can be drawn when we look at the call for a decolonised curriculum in Free decolonised education section and students' interest of being involved in their learning. The protests were to have the effect that a curriculum more reflective of students' views was to be drawn up post the protests. It is proposed that open legal pedagogy will be an enabler of this decolonised curriculum, where OERs will be used as learning materials in line with 5R activities.

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Chapter 9

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Chapter 10

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Index

There is palpable urgency for South African higher education institutions (HEIs) to consider blended and embedded learning strategies and offer teaching and learning resources to equip students to take charge of their learning. In this light, this book goes a long way to answering pertinent questions about how students can nurture self-directed learning with support in the post-COVID-19 sphere, what roles open-learning resources and practice play in enhancing students' self-directed learning, and lastly, how the use of open-learning resources may be maximised in a South African higher education institution.

This book tackles the issues of systematic reviews and empirical case studies and weaves them together uniquely to create a practical and suited product for the South African higher education context. Throughout this book, the authors present compelling arguments for the adoption of open-education practices and demonstrate their use in different disciplines within one institution of higher learning. It is a must-have for scholars interested in creating activities to boost their students' self-directed learning competencies.

Dr Emmanuel Mushayikwa, WITS School of Education, Faculty of Humanities, University of the Witwatersrand, Johannesburg, South Africa

This book consists of a range of scholarly contributions which provide insightful elucidation into the nexus of open-educational resources, student agency and self-directed learning. In response to the need to embrace socially just pedagogy, the book highlights the profound implications of the nexus of open-educational resources, student agency and self-directed learning for praxis. It represents a timely and strategic intervention that can guide the decolonisation project through the contextualisation of open-learning practices predicated on the nexus of open-educational resources, student agency and coherent implementation of self-directed learning.

Prof. Sam Ramaila, Department of Science and Technology Education, Faculty of Education, University of Johannesburg, Johannesburg, South Africa

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