

Open Textbook Journeys: Lessons learnt at the University of Cape Town.

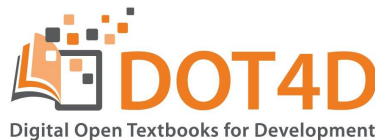
By Glenda Cox and Bianca Masuku

Digital Open Textbooks for Development, Centre for Innovation in Learning and Teaching,
University of Cape Town

November 2022



Centre for
Innovation in
Learning and
Teaching



UNESCO CHAIR
IN OPEN EDUCATION
AND SOCIAL JUSTICE



Digital Open Textbooks for Development

Initiated as a three-year (2018–2021) research, advocacy and implementation project funded by the Canadian IDRC, following in wake of Research on Open Educational Resources for Development (ROER4D) and other CILT open education initiatives (since 2007). Now an institutionally funded initiative.



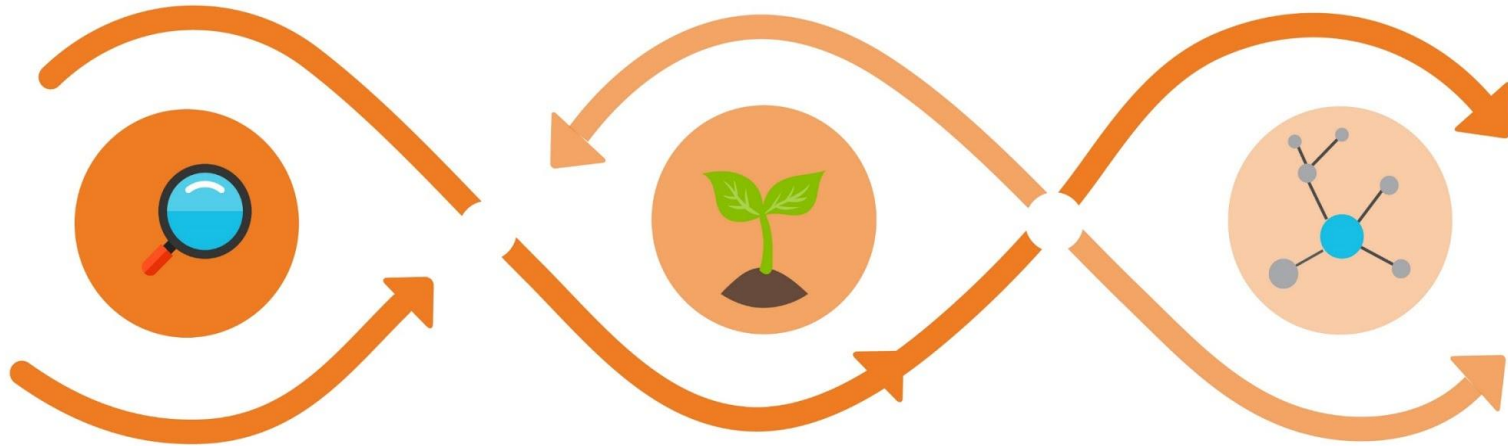
Dr Glenda Cox
Principal Investigator



Bianca Masuku
Researcher



Michelle Willmers
Publishing &
Implementation Manager



Research

Identify optimal approaches to open textbook design and publishing.

Grants

Support open textbook publishing at UCT that prioritises strategies for integrating student perspective, curriculum transformation and sustainability.

Advocacy

Inform current open education policy initiatives at institutional and national levels.

DOT4D objective

To contribute to improving *inclusion* in South African higher education by addressing equitable access to relevant learning resources.

> Backdrop of widening inequity, exacerbating crisis in access and representation

Social justice approach

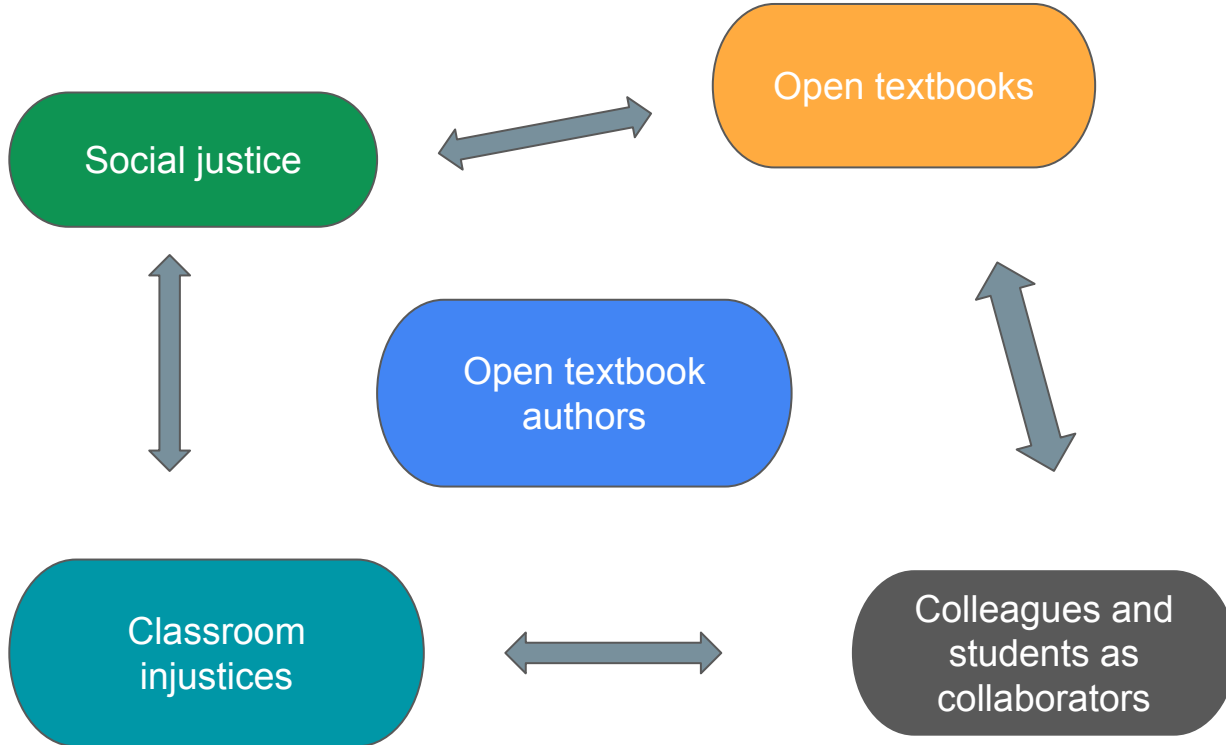
Social justice is a concept that requires the organisation of social arrangements that make it possible for everyone to participate equally in society. Fraser (2005) considers social justice as ‘participatory parity’ economically, culturally and politically.

Cox, G., Masuku, B. & Willmers, M. 2020. Open Textbooks and Social Justice: Open Educational Practices to Address Economic, Cultural and Political Injustice at the University of Cape Town. *Journal of Interactive Media in Education*, 1 (2):pp. 1–10. Available at: <https://open.uct.ac.za/handle/11427/31887>

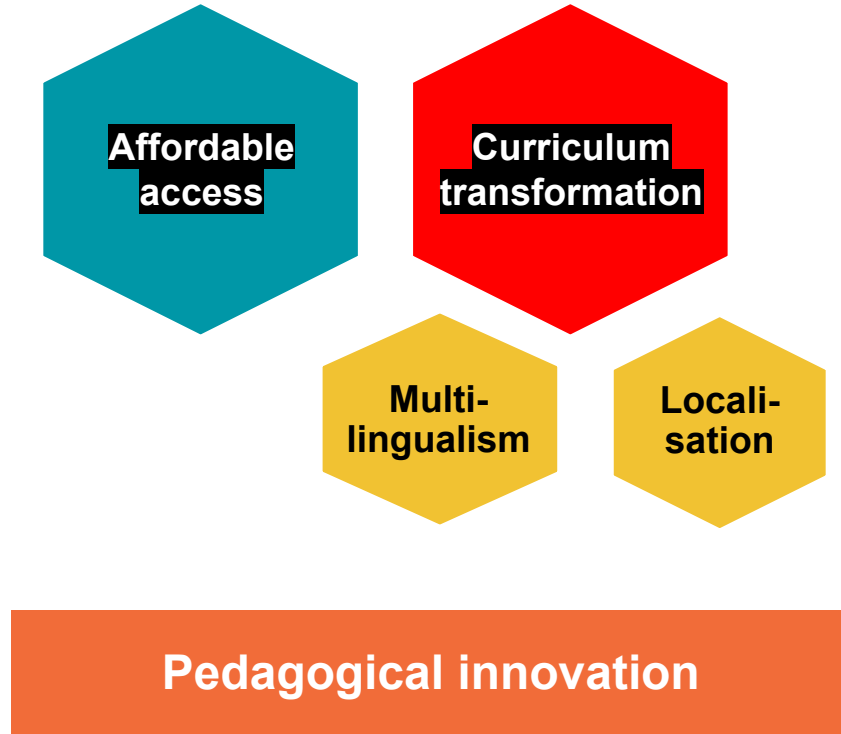
Key features of open textbooks for social justice

- Digital, freely available collections of scaffolded teaching and learning content
- published under an open licence
- with affordances for integrated multimedia and third-party content
- published via platforms and in formats that provide affordances for content delivery on a range of devices, print and low bandwidth access strategies
- through **collaborative, inclusive authorship, quality assurance and publishing approaches**
- that can be leveraged in **sustainable models of open textbook production for social justice and transformation.**

**Parity of Participation > Collaboration > Inclusion >
Social justice > Sustainability**



Social justice drivers for open textbook production at UCT



DOT4D research

**Method, open textbook production
and collaboration framework**



DOT4D

METHOD

11 UCT open textbook initiatives > content (co-)creation > social justice (Fraser, 2005) > classroom contexts > open textbooks development

DOT4D mixed-method approach

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graph TD; A[DOT4D mixed-method approach] --> B[Case study process]; B --> C[Open textbook production]; C --> D[Collaborative open textbook production models];
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Case study process

Open textbook production

Collaborative open textbook
production models

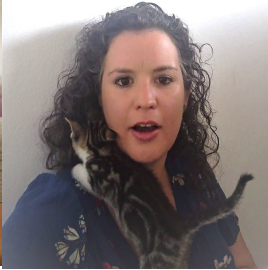
UCT open textbook authors in the DOT4D study



[Kensleyrao Apajee](#)
Mechanical Engineering



[Chris Barnett](#) & [Cesarina Edmonds-Smith](#)
Chemistry



[Stella Papanicolaou](#)
Architecture



[Dr Juan Klopper](#)
Surgery



[A/Prof. Abimbola Windapo](#)
Construction



[A/Prof Maria Keet](#),
Computer Science



[Jonathan Shock](#),
Mathematics



[Dr James Lappeman](#),
Marketing



[Tim Low](#),
Statistics



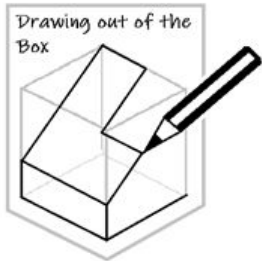
[Dr Michael Held](#),
Orthopaedic Surgery



[Dr Claire Blackman](#)
Mathematics

DOT4D grantees

Engineering and the Built Environment



First-Year
Mechanical
Engineering Drawing



Science



Computer
Science



Mathematics
Textbooks for South
Africa



First-year Chemistry
in South African
context

Health Sciences



Learning Innovation
through Orthopaedic
Network



Centre for Higher Education Development



Statistics: Introduction to
Probability in isiXhosa

Commerce



CASE STUDY PROCESS

- Examine how academics involved in open textbook authoring and publication activity at UCT plan, implement and reflect on their activities.
- In-depth conversation with 5 key OT authors from our cohort
- Process was a reflexive exercise for authors to think deeply about their motivations and drivers, addressing particular injustices in classroom, and strategies that they use
- OTs are being understood and used as very important tools in the classroom to address a range of issues experienced by students
- Authors are trying to democratise not only the teaching and learning process but also the creation and production of knowledge

OPEN TEXTBOOK PRODUCTION

- Aim to surface and articulate the open textbook production and publishing models that are being employed at UCT
- Utilised a combination of qualitative and quantitative research activities.
- Identified key production activities
- Exploration of textbook publishing landscape and the individuals who participate in it.

Grantee	Grant initiative	Output	Discipline
Dr Cesarina Edmonds-Smith & Dr Chris Barnett	Inqoxo	Online discussion forum on first-year chemistry concepts (with focus on isiXhosa translation). 'Living textbook' still in 'closed' (classroom-only) prototyping and content development phase.	Chemistry
Dr James Lappeman & Dr Paul Egan	Marketing to South African Consumers	Open textbook comprised of 21 chapters co-published online in PDF, HTML and EPUB formats and in print by the Liberty Institute of Strategic Marketing and UCT Libraries.	Marketing
Dr Michael Held & Learning Innovation through Orthopaedic Networks (LION)	Orthopaedics for Primary Health Care	Open textbook comprised of 52 chapters co-published with UCT Libraries and made available on their open access Continental Platform.	Orthopaedics
Assoc. Prof. Maria Keel	An Introduction to Ontology Engineering	Open textbook comprising new edition of world's first textbook for computer scientists in this subfield (first published 2018), including new chapter co-written with former student and focus on multilingual approach.	Computer Science
Tim Low	Introduction to Probability (isiXhosa version)	Two chapters translated from existing Inrostat (2013) open textbook as proof-of-concept collaboration between author, students and linguist academics. Translations in the process of being finalised for release in line with faculty transformation and multilingual efforts.	Statistics
Stella Papanicolaou and team	Modern Architectures: Cape Town	Open textbook profiling Modern Movement architecture of Cape Town in the context of the decolonial gaze. Part of a series of outputs and activities in the Modern Architectures in the Global South Initiative. Student content also shared on uctma.gs Instagram page.	Architecture
Dr Jonathan Shook	Introduction to Complex Numbers	First prototype chapter for the Introduction to University Level Mathematics for a South African Audience open textbook, which is being designed to replace the prescribed work for first-year mathematics students in line with faculty transformation efforts.	Mathematics
Assoc. Prof. Atimbola Windapo	Fundamentals of Construction Management	Freely available textbook addressing construction management from Global South perspective.	Engineering
Dr Claire Blackman	Mathematics Textbooks for South Africa	Open textbook addressing high cost of current textbook, localisation and techniques for thinking about and writing mathematics. Process in incubation.	Mathematics
Kensleyrao Apajee	First-Year Mechanical Engineering Drawing	Undergraduate guide to engineering drawing tailored to the local context and structured to adequately support student learning. Process in incubation.	Mechanical Engineering
Dr Juan Klopper	The Open Surgery Textbook	Project engaging young doctors and domain experts to identify and collaboratively author content in video tutorial format for delivery via Instagram. Process in incubation.	Surgery

OPEN TEXTBOOK JOURNEYS

- OT activity at UCT is fragmented and expertise developed around open textbook production is confined to small pockets within the institution
- It is imperative that the stories of the academics who are undertaking this work are profiled and shared.
- The concept of 'journeys' emerged from exploring the various aspects and components involved in UCT authors' conceptualisation, production and publishing of open textbooks
- Aim to capture the varied experiences in a collection of narratives
- Efforts of the academics undertaking this work with limited funding or other forms of institutional support is testament to their desire to improve the learning experience for students

Journeys case study series

<http://www.dot4d.uct.ac.za/outputs-2>

UCT OPEN TEXTBOOK JOURNEYS

Bianca Masuku
Michelle Willmers
Henry Trotter
Glenda Cox

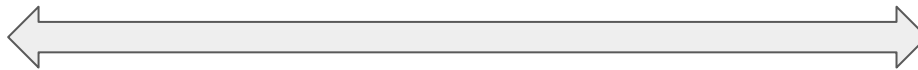
COLLABORATIVE OPEN TEXTBOOK PRODUCTION MODELS

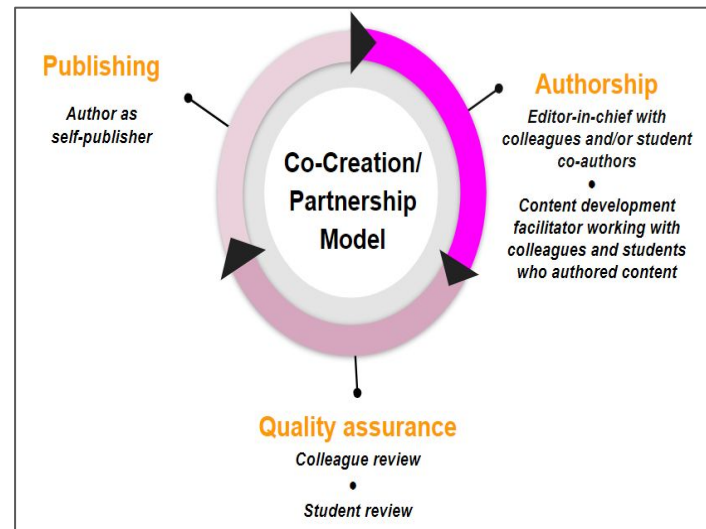
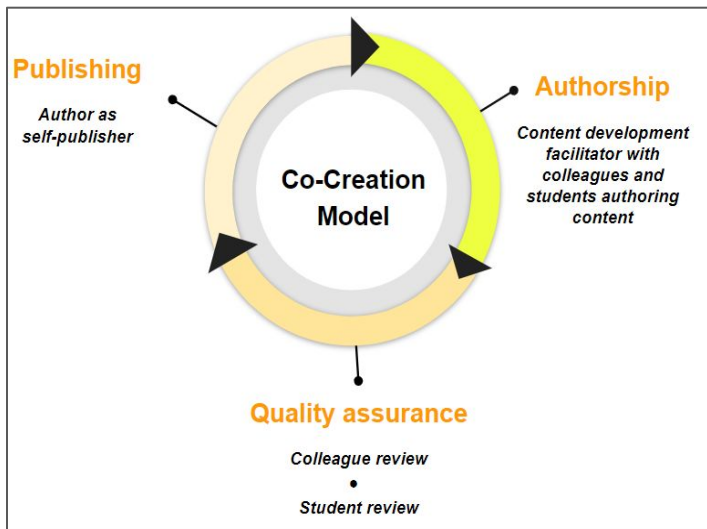
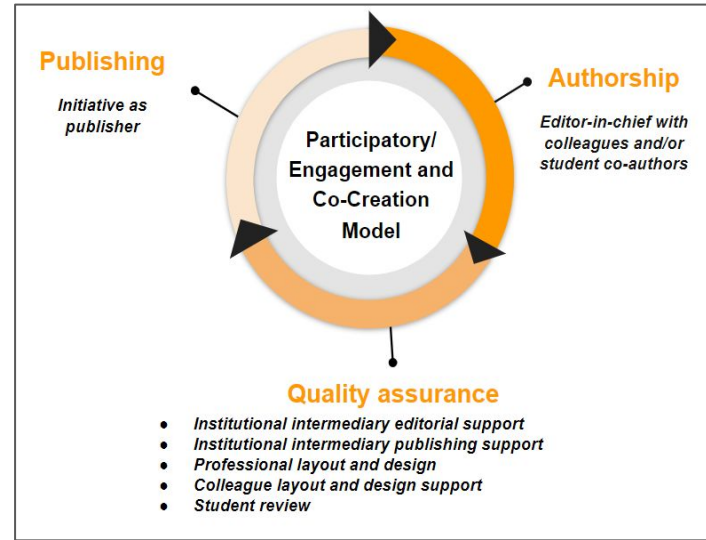
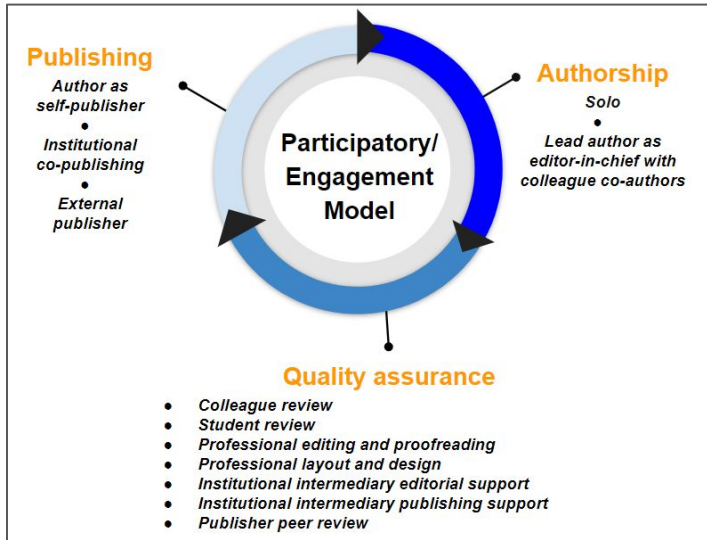
Aim: Provide open textbook creators with sustainable models of production that manifest “parity of participation” as the just end point of social justice

DOT4D context: Four models of open textbook production reflecting varying levels of students and colleague collaboration
(adapted from Bovill (2020) framework of inclusion)

- **Participatory/Engagement Model**
- **Participatory/Engagement and Co-Creation Model**
- **Co-Creation Model**
- **Co-Creation/Partnership Model**

	AFFIRMATIVE REMEDY		TRANSFORMATIVE REMEDY	
None	Participatory design	Engagement	Co-creation	Partnership





Student co-creation highlights (and lowlights)

- In 6 initiatives, students took on various co-creation roles in authorship.
- In 2 initiatives, students were co-creators in quality assurance processes.
- Authors found ways in which to not only capture students' lived realities in the authorship process, but also to include their feedback in quality assurance.
- However, students were not involved in any of the publishing processes.
- Student participation is a critical aspect of the institutional transformation agenda, in that it addresses social justice and inequity in the classroom.



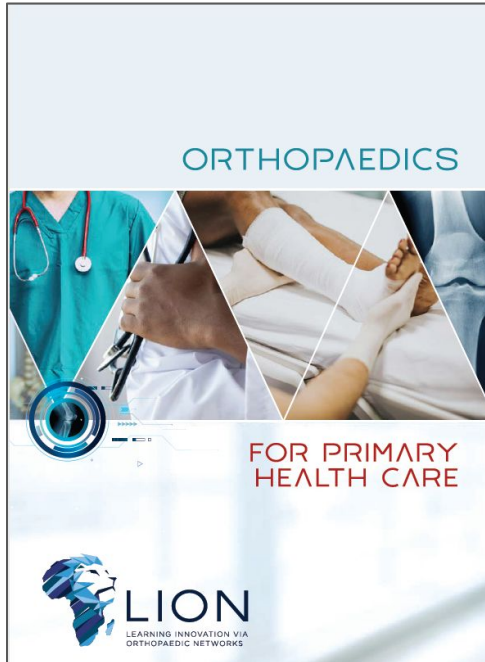
**DOT4D advocacy:
Addressing recognition and
sustainability
The UCT Open Textbook Award**



Award winners

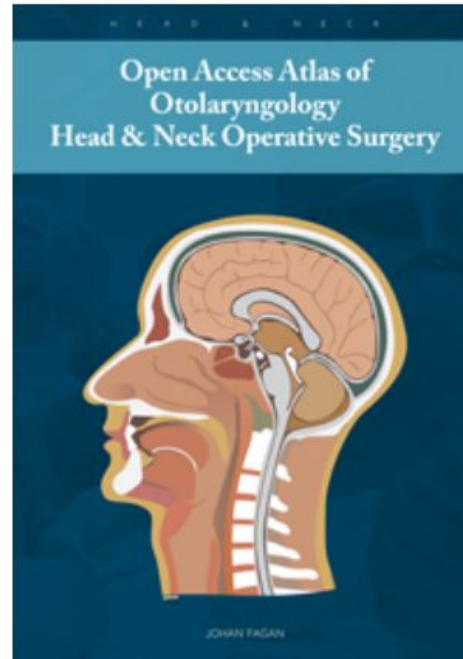


2021

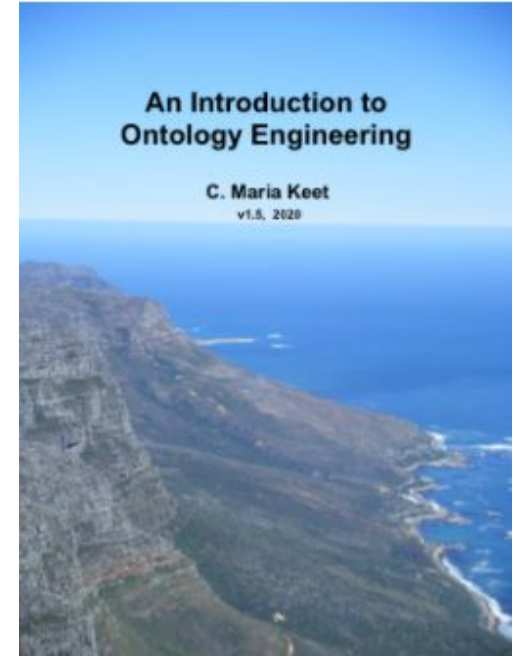


<https://openbooks.uct.ac.za/uct/catalog/book/36>

2022



<https://openbooks.uct.ac.za/uct/catalog/book/1>



<https://people.cs.uct.ac.za/~mkeet/OEbook/>

Recognising teaching innovation that promotes social justice and transformation

Symbol of institutional commitment to supporting teaching and learning initiatives producing textbook content that promotes:

- Curriculum transformation / decolonisation
- Pedagogical innovation
- Inclusion of students and marginalised voices
- Disability access
- Relevance to local context
- Multilingualism
- Technical innovation





Communities

Select a community to browse its collections

Research Output



Comparison of the EQ-5D-Y-5L, EQ-5D-Y-3L and PedsQL in children and adolescents

Verstraete, Janine; Verstraete, Janine; Scott, Des; Scott, Des

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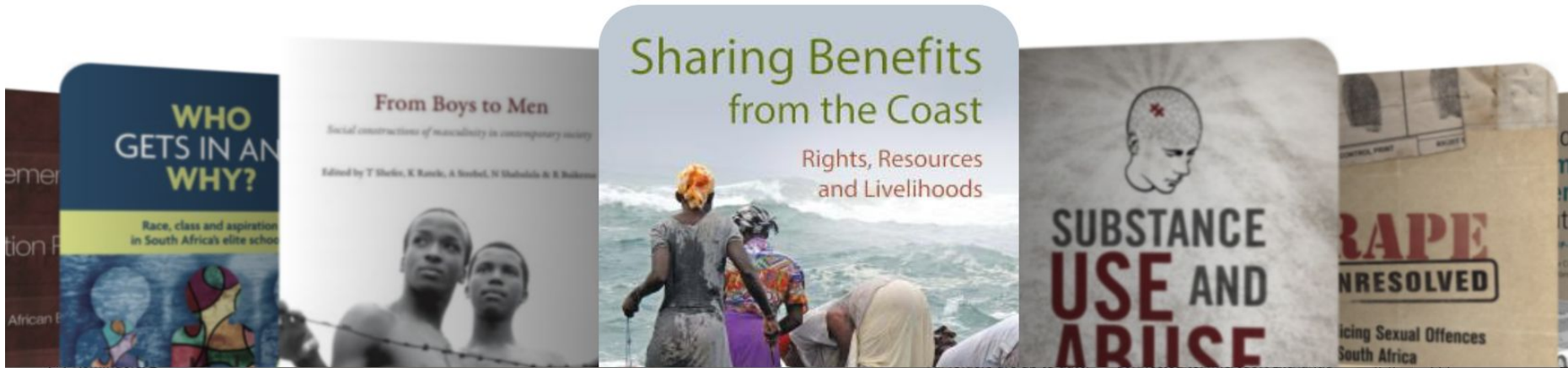


UCT Press

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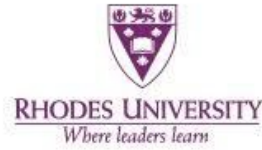
**What's next for open textbooks at
UCT and beyond?**



The student experience

‘Students as partners’ in open textbook production: Power, identity and the reconceptualisation of content and practice

Image: Wikimedia Commons (CC BY)



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Open Education
GLOBAL



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SOUTH AFRICA

100
1918 - 2018



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WESTERN CAPE



Recommendations

- Conducting a landscape survey
- Any kind of funding
- Engaging with permanent posts that have aspects of the job being in open
- Identify champions existing and new
- Encourage collaboration (colleagues and students)
- Institutional buy in at top level management/mission/vision

References

Cox, G., Masuku, B. & Willmers, M. 2020. Open Textbooks and Social Justice: Open Educational Practices to Address Economic, Cultural and Political Injustice at the University of Cape Town. *Journal of Interactive Media in Education*, 1 (2):pp. 1–10. Available at: <https://open.uct.ac.za/handle/11427/31887>

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Bovill, C. (2020). Co-creation in learning and teaching: The case for a whole class approach in higher education. *Higher Education* [online] 79, pp. 1023–1037. Available from: <https://doi.org/10.1007/s10734-019-00453-w>