

# FINAL TECHNICAL REPORT / RAPPORT TECHNIQUE FINAL DIGITAL OPEN TEXTBOOKS FOR DEVELOPMENT FINAL TECHNICAL REPORT

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# Digital Open Textbooks for Development

## Final Technical Report to Canada's International Development Research Centre

IDRC Grant: 108841-001

by

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**July 2021**

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### **Abstract**

The Digital Open Textbooks for Development project is a research, implementation and advocacy initiative in the Centre for Innovation in Learning and Teaching at the University of Cape Town. This final report to Canada's International Development Centre (IDRC) details project activity for the IDRC grant period July 2018 – July 2021.

Project findings demonstrate that there is compelling evidence to suggest that open textbook development processes have the potential to address social injustice in higher education. Findings also demonstrate the efficacy of grant mechanisms to stimulate open textbook creation and reuse, and the need to scale activity to national level in order to boost South African open textbook development that supports social justice efforts.

**Keywords:** Global South; open education; open textbooks; social justice; South Africa

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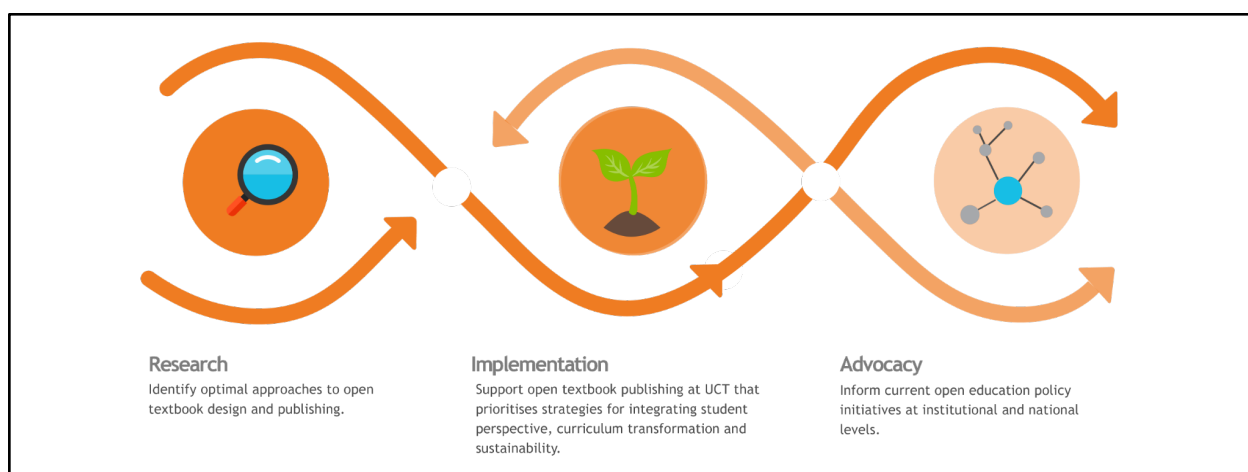
## Introduction: Digital Open Textbooks for Development

One of the challenges experienced in South African higher education (HE) is a lack of access to affordable, appropriate textbooks and other teaching materials that can be legally shared on online forums and the internet.<sup>1</sup> In addition to challenges related to cost, there are also increasing calls to address transformation and social justice in South African HE through curriculum transformation (Mendy & Madioppe 2020). In many instances, South African university students are opting not to purchase textbooks<sup>2</sup> – partly because they are unaffordable, but also because they are unfit for the local context or because courses only make use of a fraction of the overall textbook content (Cox et al. 2020).

The Digital Open Textbooks for Development (DOT4D) project at the University of Cape Town (UCT) aims to contribute to improving inclusion in South African HE by addressing equitable access to appropriate and relevant learning resources. The project operates under the hypothesis that open textbooks have the potential to contribute to improved social justice in teaching and learning through inclusive content development strategies. As such, the specific aims of the project are to:

- Articulate and identify the options for open textbook approaches which contribute to a social justice agenda.
- Support open textbook publishing activity at UCT that prioritises strategies for integrating student perspective, curriculum transformation, and sustainability.
- Inform current textbook publishing policy-development initiatives at institutional and national levels.

These three priority areas are embodied in the project's intermeshed Research–Implementation–Advocacy programme design, in which each of these activities bolster and inform one another in a dynamic, evidence-based manner that enables integrated open textbook data collection, community building and institutional action.



*Visualisation of the integrated DOT4D Research–Implementation–Advocacy design approach*

<sup>1</sup> <https://www.universityworldnews.com/post.php?story=2020042910373650>

<sup>2</sup> <https://pdby.co.za/the-price-of-publishing-why-are-textbooks-so-expensive/>

The DOT4D project is the first open textbook initiative in South African HE. Based in the Centre for Innovation in Learning and Teaching (CILT), it builds on more than a decade of open education research, implementation and advocacy activity at UCT and follows in the wake of the large-scale Research on Open Educational Resources for Development (ROER4D) project. This report provides insight into project activities and lessons learned in the three-year (2018–2021) IDRC funding phase of the DOT4D project. Having secured institutional funding for a bridging (or “DOT4D-Reach”) period focused on dissemination of findings and addressing the long-term sustainability of the initiative, project work continues beyond the three-year IDRC grant period but remains reliant on external funding.

The DOT4D project team is comprised of Principal Investigator (PI) Dr Glenda Cox, Researcher Bianca Masuku and Publishing and Implementation Manager (PIM) Michelle Willmers. Dr Glenda Cox is a Senior Lecturer at UCT. With more than 10 years of experience in working on open education initiatives at UCT, she is an active member of the international open education community and was a sub-project Research Lead in the ROER4D project. Bianca Masuku is a PhD candidate in Anthropology. Her research background and varied research experiences fuel her more recent interests in open education, open textbooks, and open scholarship with an interest in the inclusion and recognition of student voices. Michelle Willmers has a background in academic and scholarly publishing and has worked as a project manager in scholarly publishing initiatives at UCT since 2008. She was the Programme Manager of the IDRC-funded Scholarly Communication in Africa Programme and the Publishing and Curation Manager of the ROER4D project.



*DOT4D team members (from left: Glenda Cox, Bianca Masuku and Michelle Willmers)*

### **Clarifying concepts: What are open textbooks?**

Open textbooks are digital, free to use and openly licensed collections of course-related teaching and learning content published on platforms and in formats that provide affordances for the integration of multimedia and ancillary practice or assessment components. These locally produced textbooks present opportunities for inclusive, collaborative authorship strategies. The open licensing aspect also means that these resources can be legally shared and redistributed, both within and beyond the institution.

The project’s work of advancing understanding of the definitional concepts of OER and open textbooks (and how they interrelate) is a central thread within its advocacy work; particularly as many policy-makers and other institutional stakeholders are still developing their understanding of this terrain.

## Project Activity 1: Research

DOT4D is intrinsically a research project, in that the data gathered in the research process informs the initiative's implementation and advocacy activity. In doing so, it also provides an evidence base upon which to build open textbook activity at other South African institutions. As a research project, DOT4D also makes a contribution to international discourse around open education, open textbooks and social justice, providing a data-informed perspective from the Global South.

### Intersectionality approach and research questions

The DOT4D research process comprised a suite of research activities which were tailored to provide data that would enable the project to contribute rich anecdotal evidence about current open textbook production models and practices at UCT that advance social justice. With this, the project made an innovative field-building contribution in its theoretical positioning through the use of a conceptual framework which combines the theoretical works of Fraser (2005) on social justice and Archer (2003) on social realism in order to surface varied dimensions of social injustice and to examine agency respectively, and embed an intersectional approach in its investigation of the open textbook ecosystem at UCT.

The primary research question for the research component of the project was:

1. What are the factors associated with current models of open textbook publishing at UCT and in what ways does the conceptualisation, creation, adaptation and use of these open textbooks provide opportunities to address curriculum transformation and affordable access as crucial aspects of a more socially just approach to HE?

Within the context of this overarching question, the research process addressed the following three sub-questions:

1. Do open textbooks have the potential to promote a more socially just approach to materials creation and provision in the South African HE system, and what practices might address economic maldistribution (in terms of access and cost), cultural misrecognition (in terms of identity and marginalisation); and political misrepresentation] (in terms of misframing and exclusion of voices) at the University of Cape Town?
2. What are the authorship and content development approaches academics at UCT undertake in open textbook production and how do these relate to their drivers, social justice imperatives and ultimate concerns?
3. In what ways are open textbook authors at UCT exploring and understanding the complex relationship between the social (in)justices in their classrooms, their pedagogical practices and the production of open textbooks?

### Methodological approach

The DOT4D project employed a mixed methods approach, drawing from a range of data sources in its qualitative and quantitative research activities. As part of its foundational work and as an initial attempt to scope the open textbook climate at UCT, the project conducted a landscape survey. This preliminary work laid the groundwork for the project's exploration of

open textbook activity and informed the methodological approaches and research activities undertaken as a means of gathering the data required to construct case studies and articulate the various models of open textbook production.

### **Case studies**

The project's methodology had a qualitative focus and used a case study approach (Merriam, 1998) to produce detailed narratives pertaining to the complex set of activities and factors entailed in open textbook production. This process involved the use of a purposive sampling technique to identify five participants for the case studies. These five case studies draw on data arising from the qualitative and quantitative research activities and enabled the project to capture the nuances of a range of open textbook production models. The project chose this approach because of the kind of exploration that it allowed of the UCT open textbook publishing landscape and the individuals who participate in it.

The following activities were conducted with research instruments developed by the project in order to probe issues related to social justice in the classroom and individual academics' agency with regards to addressing these injustices:

- [First round of interviews](#) with five UCT open textbook authors.
- [Second round of interviews](#) with five UCT open textbook authors.

### **Open textbook production**

In addition to the case study process, the project worked towards surfacing and articulating the open textbook production and publishing models that are being employed at UCT and utilised a combination of qualitative and quantitative research activities. This activity was conducted with the 11 academics who received DOT4D grants and one open textbook practitioner. The five case study participants were also part of this sample.

The following data sources were used in the research process in order to surface the details of open textbook production:

- [Background, Technology Fluency and Personal Reflection Survey](#)
- PIM field notes on implementation activity.
- DOT4D open textbook grant proposals.
- DOT4D open textbook grant closure reports.

### **Data management and analysis**

Data collection and management was undertaken in line with the stipulations of the project data management plan, which was articulated as part of a formal faculty ethics approval process.

As part of the project's initial phase of data analysis process, the Researcher, with guidance and support from the PI, undertook the coding of the surveys using Excel and the coding of interviews using NVivo qualitative software, followed by preliminary analysis of data collected from both research activities. This process was informed by the project's social justice conceptual framework, in that it was designed to surface injustices in UCT classrooms through probing the experiences of DOT4D grantees and the manner in which

these academics endeavoured to address the economic, cultural, and political dimensions of the injustices they identified within their classrooms.

This was followed by a process in which Excel was used to collate all the data collected across the project's various research activities in order to identify key themes.

## Findings

Numerous research findings emerged from the project's research activities, specifically through the use of political philosopher Nancy Fraser's (2005) trivalent lens on social justice. This trivalent lens highlighted an intricate entanglement of economic, cultural and political dimensions of inequality and injustice that were present in the classrooms at UCT and allowed the project to critically examine the role of open textbooks therein.

The DOT4D project produced one journal article and two book chapters based on the various research activities that the project conducted.

The journal article, "Open Textbooks and Social Justice: Open Educational Practices to Address Economic, Cultural and Political Injustice at the University of Cape Town" (Cox, Masuku & Willmers, 2019) was published in 2020 in a special issue of the *Journal of Interactive Media in Education* on "Open Education and Social Justice". The article used Nancy Fraser's (2005) trivalent lens to examine inequality, specifically as relates to economic, cultural and political dimensions. It explored how authors critically analyse the UCT context and the extent to which open textbook production as well as open education practices within the classroom promote social justice through "parity of participation" (Fraser, 2005, p.73). **The findings from the paper demonstrated that open textbooks have the potential to disrupt histories of exclusion in South African HE institutions by addressing issues of cost and marginalisation through the creation of affordable, contextually relevant learning resources. In addition to this, they provide affordances which enable lecturers to change the way they teach, include student voices and create innovative pedagogical strategies.**

The first of the book chapters, "Internal Conversations and Cycles of Time: Open Textbook Author Journeys at the University of Cape Town" explores the journeys of open textbook authors at UCT; the dynamic relationship between the economic, cultural and political injustices they witness in their classrooms; and the open educational practices (OEP) they adopt as a response. Utilising Margaret Archer's Social Realist (2003, 2005, 2007) approach, **the findings from this chapter reveal the dynamics related to open textbook authors' agency and ultimate concerns, and how their "internal conversations" and social justice motivations shape their practices and approaches to open textbooks. They also highlight how open textbooks are framed as a set of open educational practices that play out in varying cycles of time and hold promise in terms of addressing the need for greater access and inclusivity.**

The second chapter, "Open Textbooks, Intuitive Pedagogy and Social Justice" is currently in press for the forthcoming book from ACRL Press edited volume, "Using Open Educational Resources to Promote Social Justice". This chapter drew on the work of critical theorist Nancy Fraser's social justice framework to examine the role of open textbooks as a tool for

promoting social justice in the South African HE classroom. It explored the complex interrelationship between five open textbook authors' layered conceptions of social (in)justice in their classrooms, the pedagogical approaches they developed in response to these injustices, and how this extends into their open textbook development processes. **Findings from this chapter indicated the dynamic relationship and engagement between students and educators in the classroom in navigating injustices. Findings also revealed open textbook authors' intuitive pedagogical practices as a means to address social injustice in the classroom; their understandings of power dynamics in relation to open textbook production; and the ways in which they extend their pedagogical practice into open textbook production as a means to address social injustice.**

### **DOT4D Open Textbook Landscape Survey Report: UCT**

The "[DOT4D Open Textbook Landscape Survey Report: University of Cape Town](#)" presents findings from the DOT4D landscape survey which explored the institutional open textbook publishing terrain in order to gain a sense of current open textbook production and publication activity taking place within the university. The survey was conducted in the project inception period in 2019 and repeated in the project closure period in 2021.

Findings from the survey revealed an array of notable insights for the project, specifically:

- There were at least 39 UCT open textbooks published in the period 2010–2021.
- There was uneven distribution of open textbook output across different faculties.
- The bulk of open textbook production aligned with early institutional efforts to promote open educational resources .
- There were varied authorship approaches adopted and a variance in definitions in terms of what could be classified as an "open textbook".
- There was extensive evidence of quality assurance processes employed within the creation of open textbooks at UCT.
- The open textbooks surveyed were presented in varied formats that allowed for different levels of access and usage, with most resources developed as PDFs with limited multimedia and interactivity.
- Numerous open textbooks were hosted on more than one platform. In these cases, the institutionally curated spaces were primary environments with learning management systems, departmental and other websites being alternative spaces which dictated varied forms of access and different terms of use.

The landscape survey provides insight into what is currently happening at UCT in terms of open textbook production and provides a foundation for other research, implementation and advocacy work that can build on this preliminary analysis. Further to this end, the project has shared its working spreadsheets as open data:

- [DOT4D open textbook landscape survey: UCT \(1/2\)](#)
- [DOT4D open textbook landscape survey: UCT \(2/2\)](#)

Project research findings demonstrate that there is a nascent community of open textbook creators at UCT. Findings also demonstrate the complex interrelationship between content creation and pedagogical approaches, as well as the potential of open textbooks to be a tool for social justice in the classroom. Given the highly context-specific nature of the open textbook initiatives studied, there are a wide range of differences between the use cases explored. There are, however, also similarities. The DOT4D project continues its research work in the articulation of open textbook production and publishing models that support social justice in South African HE.

### **Outcomes from the research process**

- Data-informed perspective on the models of open textbook publishing activity at UCT.
- Research capacity development of a researcher in the field of open education, including skills related to communications and curation.
- Case study participants and other partners forming a fledgling community of practice around open textbook publishing.
- DOT4D research forming a baseline for further open textbook research, implementation and advocacy activity.

### **Reflections: Key takeaways from the research process**

- > The social justice-informed research design of the DOT4D project and its intersectionality approach enabled it to effectively probe social justice dimensions.
- > Open textbook research initiatives need to take cognisance of the lengthy cycles of time over which this activity plays out.
- > Participants saw the research process as an opportunity to be reflexive about their practice and expressed that they benefited from the interaction.

## **Project Activity 2: Implementation**

DOT4D implementation activity was focused on supporting UCT open textbook authors who were grantees in the DOT4D grants programme (March 2019 – February 2020). In addition to this, the PIM and PI also provided support to other open textbook and open education initiatives at UCT. DOT4D implementation activity extended the project's social justice focus into the content development and publishing domain.

## The DOT4D grants programme


The DOT4D grants programme:

- Supported the evolution of open materials produced at UCT into open textbooks through a grant programme.
- Provided support in areas such as resource design, technical production, adaptation for mobile content delivery, and licensing and copyright management.
- Promoted student involvement in content-generating activities at UCT as a means to promoting curriculum transformation.

The DOT4D call for grant proposals was issued in Year 1 of project activity (December 2018) by UCT DVC Teaching and Learning as a symbol of institutional backing for the initiative. Both the call for proposals<sup>3</sup> and the grants selection committee evaluation rubric<sup>4</sup> were informed by the DOT4D intersectionality framework, and were focused on surfacing the educational and pedagogical challenges open textbook authors at UCT are trying to address. The process also had a strong focus on identifying initiatives which are making a concerted effort to address student voice, curriculum transformation efforts, or dynamics around courses impeding graduation. The project received 19 proposals by the submission deadline of 31 January 2019 and awarded nine grants<sup>5</sup>, each with a value of up to ZAR 80 000 / CAD 6 800 (with a total budget allocation of ZAR 400 000 / CAD 34 400).

Of the 10 grants awarded, seven resulted in innovative open textbook development processes, demonstrating a wide range of approaches towards open textbook production, student participation, quality assurance and content delivery. Details of grant initiatives are presented in the “DOT4D grantee programme overview” table (with hyperlinks to author profiles and outputs).

### *DOT4D grantee overview with links to author case studies and outputs*



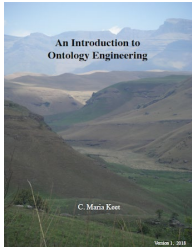
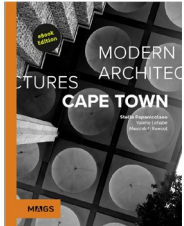
Grantee	Grant initiative	Output	Discipline
<a href="#">Dr Chris Barnett &amp; Dr Cesarina Edmonds-Smith</a> 	<a href="#">Ingxoxo</a>	<p>Online discussion forum on first-year chemistry concepts (with focus on isiXhosa translation). “Living textbook” still in “closed” (classroom-only) prototyping and content development phase.</p> <p><b>Addressing:</b>  <b>Pedagogical innovation</b>  <b>Curriculum transformation</b>  <b>Multilingualism</b></p>	Department of Chemistry, Faculty of Science
<a href="#">Dr James Lappeman</a> & Dr Paul Egan	<a href="#">Marketing to South African Consumers</a>	Open textbook comprised of 21 chapters co-published online in PDF, HTML and EPUB formats and in print by Liberty Institute of Strategic Marketing and UCT Libraries.	Liberty Institute of Strategic Marketing, Faculty of Commerce

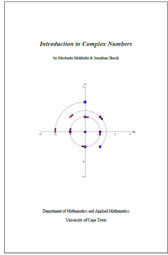
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[http://www.dot4d.uct.ac.za/sites/default/files/image\\_tool/images/493/Grants/Call%20for%20grant%20proposals.pdf](http://www.dot4d.uct.ac.za/sites/default/files/image_tool/images/493/Grants/Call%20for%20grant%20proposals.pdf)

4 [https://docs.google.com/spreadsheets/d/1In4JuX0Z9Zouxum0r\\_Q37sYNLS1yIIEKFyLIm\\_BusYw/edit#gid=0](https://docs.google.com/spreadsheets/d/1In4JuX0Z9Zouxum0r_Q37sYNLS1yIIEKFyLIm_BusYw/edit#gid=0)

5 For a brief description of each of the grantee initiatives, see <http://www.dot4d.uct.ac.za/dot4d-grantees>.

		<p><b>Addressing:</b> <b>Cost</b> <b>Curriculum transformation</b></p>	
<p><a href="#">Dr Michael Held</a> &amp; Learning Innovation through Orthopaedic Networks (LION)</p> 	<p><a href="#">Orthopaedics for Primary Health Care</a></p>	<p>Open textbook comprised of 52 chapters co-published with UCT Libraries and made available on their Continental Open Access Platform.</p> <p><b>Addressing:</b> <b>Cost</b> <b>Curriculum transformation</b></p>	<p>Orthopaedic Research Unit, Faculty of Health Sciences</p>
<p><a href="#">Associate Professor Maria Keet</a></p> 	<p><a href="#">An Introduction to Ontology Engineering</a></p>	<p>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 female student and focus on multilingual approach.</p> <p><b>Addressing:</b> <b>Cost</b> <b>Curriculum transformation</b> <b>Multilingualism</b></p>	<p>Department of Computer Science, Faculty of Science</p>
<p><a href="#">Tim Low</a></p> 	<p><a href="#">Introduction to Probability” (isiXhosa version)</a></p>	<p>Two chapters translated from existing <i>Introstat</i> (2013) open textbook as proof-of-concept collaboration between author, students and linguistics academics. Translations in the process of being finalised for release in line with faculty transformation and multilingual efforts.</p> <p><b>Addressing:</b> <b>Curriculum transformation</b> <b>Multilingualism</b></p>	<p>Education Development Unit, Faculty of Commerce</p>
<p><a href="#">Stella Papanicolaou</a> and team</p> 	<p><a href="#">Modern Architectures: Cape Town</a></p>	<p>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 <a href="#">uctma.gs Instagram</a> page.</p> <p><b>Addressing:</b> <b>Pedagogical innovation</b> <b>Curriculum transformation</b></p>	<p>School of Architecture Planning and Geomatics, Faculty of Engineering and the Built Environment</p>

<p><a href="#">Dr Jonathan Shock</a></p> 	<p><a href="#">Introduction to Complex Numbers</a></p>	<p>First prototype chapter for the <i>Introduction to University Level Mathematics for a South African Audience</i> open textbook, which is being designed to replace the prescribed work for first-year mathematics students in line with faculty transformation efforts.</p> <p><b>Addressing Cost Curriculum transformation</b></p>	<p>Department of Mathematics and Applied Mathematics, Faculty of Science</p>
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Three initiatives were not successful in fulfilling the deliverables agreed to in the grants process due to competing personal and professional pressures. The authors who didn't succeed also provided valuable insight and data for the research and advocacy process.

The PIM provided varying degrees of practical publishing and editorial support to different grantees; this collaborator factor being influenced by timing, need and other synergistic factors. Her immersion in a range of open textbook publishing initiatives provided detailed insight into open textbook production processes, and enabled a view in which activities could be positioned in a broader open textbook production lifecycle with the following components (or "steps"): Needs analysis and scoping; Authorship; Quality assurance; Identification of delivery mechanisms, Production, Publishing, Dissemination, and Uptake.

### **Institutional open textbook support**

In addition to the PIM's engagement with publishing processes in the grants programme, the PIM and PI also played an institutional support role in advising open textbook and other education initiatives. This work happened on an ad hoc basis through university networks and communication channels, and typically focused on providing input to open textbook authors who were in the planning and development phases of their work. The DOT4D team also provided support in budget formulation for textbook production processes to aid individual authors' open textbook fundraising efforts. Advice to the general UCT academic community was also provided on open licensing and copyright.

In addition to the work undertaken with open textbook authors, the project provided institutional support through its collaboration efforts with UCT Libraries. This formed part of a pilot between CILT<sup>6</sup> and UCT Libraries as part of an ongoing collaboration between these two entities to support open education at UCT. The CILT/UCT Libraries open textbook collaboration is premised on CILT functioning as a partner to academics in pedagogical and content development while UCT Libraries functions as the publisher. The combined, central focus promotes the imperative to support transformation in teaching and learning at UCT.

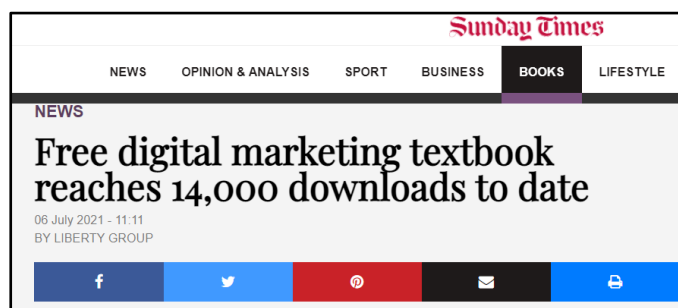
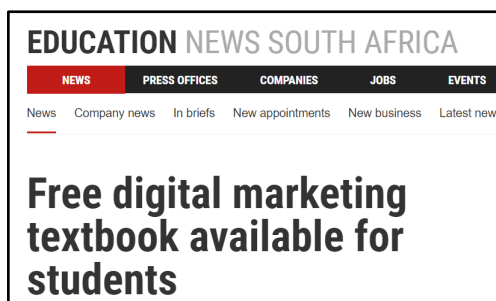
Insights gained and lessons learned from the PIM's interaction with grantees and other UCT open textbook authors inform the project's work of articulating open textbook content development and publishing models. They also inform the project's advocacy work around highlighting the extent of time and effort entailed in taking on work of this kind (along with the need for additional institutional support and transformation of reward systems to recognise

<sup>6</sup> Within the context of this work, CILT functioned as representative of CILT.

activity in this area). Various stakeholders in the South African HE sector have expressed an interest in engaging with the case studies on the 11 grantee initiatives in order to inform possible strategies for pursuing similar activity at other South African universities.

### Outcomes from the implementation process

- Manifestation of five new open textbooks and seven new open textbook initiatives at UCT.
- Proof-of-concept use cases of open textbook publishing models at UCT.
- Increased institutional capacity to undertake open textbook publishing activity, amongst academics, institutional managers and administrators.
- Grantees and other interested parties interacted with in the course of project activity formed a fledgling community of practice around open textbook publishing.
- National interest in grants programme by HE stakeholders and exploration of this mechanism as a means of stimulating open textbook production in other universities.



*National coverage of the Marketing to South African Consumers open textbook produced in the DOT4D grants programme<sup>7</sup>*

<sup>7</sup> Coverage can be accessed at: <https://www.bizcommunity.com/Article/196/98/217514.html> and <https://www.timeslive.co.za/sunday-times/books/news/2019-01-14-introducing-sunday-times-books/>

### Reflections: Key takeaways from the implementation process

- > The challenge of academics' time and resourcing is compounded by protracted cycles of time and the challenge of alignment with semester cycles.
- > Timing is everything. Support activity and funding needs to be flexible in working around academics' and students' availability and competing commitments.
- > Academics employ a range of authorship, content development, quality assurance and publishing models (generally collaborative), often influenced by discipline and technical ability.
- > Student involvement in content development and publishing processes can be challenging, but shows promise as a means to capture student voice and address epistemic representation.
- > There is a range in degree of technological sophistication in content delivery, but growing demand for and expectation of dynamic, interactive publishing platform(s). The question of where to publish/host dynamic interactive content poses a challenge.
- > Academics are being thrust into new roles and responsibilities managing editorial and publishing processes, requiring both academic and private-sector service provider partners.

## Project Activity 3: Advocacy

The DOT4D project's institutional advocacy work was unexpectedly successful. The support of UCT's Deputy Vice-Chancellor, Teaching and Learning, Lis Lange, enabled the launch of an annual Open Textbook Award and the creation of institutional briefing documents to support open education activity at UCT. Advocacy work also included community-building through presentations and webinars in local, national and international forums (see Appendix A for a breakdown of presentations and other project outputs).

While the COVID-19 institutional shutdown placed delays on many committee and meeting processes, it also introduced a new mindset and set of imperatives in terms of dealing with the challenges of remote teaching and the broad range of inequalities that have arisen as a result of unequal access to the internet, devices and support structures required for remote learning.

### The UCT Open Textbook Award

The project's work around the inception and launch of an annual Open Textbook Award has been driven largely by the DOT4D PI's role as Deputy Chair of the UCT Teaching Awards and Grants Sub-Committee, which provided a platform through which she successfully lobbied for the award. This award will be supported again in 2021 with funds from the Office of the DVC Teaching and Learning. As such, it is an attempt to build awareness of the

affordances of open textbook activity amongst the UCT community; recognise the efforts of academics who undertake this work without any formal institutional reward and place the teaching and learning endeavour on more of an equal footing with the research agenda.

### The UCT Open Textbook Award

The [UCT Open Textbook Award](#) is an initiative of UCT Deputy-Vice Chancellor for Teaching and Learning, Associate Professor Lis Lange. It aims to recognise and reward open textbook production with a social justice focus and is a direct outcome of the advocacy efforts of the DOT4D project.



The award, launched in 2020, was shared between Professor Johan Fagan for his *Open Access Atlas of Otolaryngology, Head and Neck Operative Surgery* and Dr Michael Held for his *Orthopaedics for Primary Health Care* textbook in its first year. Read more about the 2020 award winners [here](#).

In addition to providing the advocacy impetus for the Open Textbook Award, the DOT4D project team manages the award process in collaboration with DVC Lange's office. The project has also produced a "UCT Open Textbook Award – Concept Document" to detail the principles of this initiative and capture the social justice essence of the award. It is envisioned that this document, as well as the work done in articulating open textbook models, will continue to facilitate the advocacy conversation, and can be of use to open education advocates at other institutions attempting to promote the OER and open textbook agenda.

In addition to work around the Open Textbook Award process and concept document, DOT4D was also commissioned by DVC Lange to develop a brief to support changes to institutional promotion criteria in order to recognise academics' engagement in the development of open textbooks and other open education activity. This ambition has been outlined in multiple versions of the brief developed in consultation with DVC Lange and presented to the UCT Teaching Awards and Grants Sub-Committee in an ongoing series of meetings. As a result of the brief development process, the Subcommittee agreed in November 2019 that the criteria regarding teaching and learning need to be revised for consistency across faculties. DVC Lange has since met with Deans of faculties to constitute a team to investigate this. The [brief](#) is currently in its third iteration, and is evolving dynamically in response to the queries and concerns raised by the Sub-Committee.

### "Open Textbooks in South African Higher Education" roundtable event

As part of ambition to scale open textbook activity to the national level and share lessons learned beyond UCT, DOT4D hosted the "Open Textbooks in South African Higher Education" virtual roundtable event with academics, senior managers and policy-makers from a range of South African institutions in July 2021. The event aimed to mobilise the South African HE community around exploring open textbooks as a means to alleviate the current crisis around cost and accessibility of locally appropriate teaching content that can be openly shared online, and published a ["Open Textbooks in South African Higher](#)

[Education: Call to Action 2021](#)” in this regard. Forty-six participants representing 18 institutions, government departments or organisations attended this interactive event which has sparked interest in growing a community of national stakeholders and prompted a number of subsequent national-level conversations. Following on from this event, DOT4D will host two additional seminars aimed at national open textbook community-building in 2021 as part of the “DOT4D-Reach” project phase.



*Institutions, government departments, organisations and consultancies represented at the DOT4D “Open Textbooks in South African Higher Education” roundtable event (July 2021)*

## Engagements with the local and international open education community

The project has engaged a number of other South African universities, including discussions with the UNESCO Research Chair on Multimodal Learning and Open Educational Resources, Prof. Jako Olivier (based at North-West University). The project also continues its engagement with the Universities South Africa (USAf) Teaching and Learning Strategy Group, to which it delivered a presentation in February 2020, and the niche community of practice which it is part of through its involvement as members of the Creative Commons South Africa Chapter.

At the international level, the project advocacy agenda extends to its interactions with Swedish researchers in the Open Education and Social Justice (OESJ) initiative, through the DOT4D project shares instrumentation, data and advocacy strategies with Swedish collaborators at the University of Gothenburg and University West in Sweden who are promoting the open education agenda Sweden.

At the international level, the project also plays an important role in contributing to discourse around the emerging open textbook phenomenon, particularly as relates to the Global South and social justice dimensions of this work.

DOT4D succeeded in making a significant contribution towards building an institutional community of practice at UCT of those interested in all aspects of open textbooks, whether it be authoring and/or supporting the process. It also played an enabling role in promoting the national conversation around open textbooks in South African HE.

### Outcomes from the advocacy process

- Recognition of open textbook publishing activity at UCT through the UCT Open Textbook award.
- Entrenchment of the UCT Open Textbook Award social justice principles through the development of the Open Textbook Award brief.
- Institutional conversation with high-level management around implementation and policy dimensions of open textbook publishing.
- Beginnings of the formation of a community to address funding for open textbook publishing sustainability at institutional and national levels.
- Development of a “Call to Action” brief to drive national advocacy efforts.
- Recognition of the potential of open textbooks to play a role in addressing transformation and cost issues around access to HE amongst local, national and international stakeholders.



*Social media coverage of the DOT4D call for national action around support for open textbook development*

### Reflections: Key takeaways from the advocacy process

- > The time is right for national collaboration or strategy for open textbook creation and use in response to the need to transform curriculum in order to address social injustices in HE.
- > COVID-19 has forced an online pivot where there is an increased need for digital, free, quality materials available to all South Africans.
- > Advocacy work built on solid research and models of open textbook implementation can and should be shared and scaled up across institutions.
- > Open education presents an enduring solution to crises such as the Fallist movements and the COVID-19 pandemic.
- > Advocacy activity suggests that multiple rounds of interaction with a wide range of stakeholders over a period of time will be required in order to progress towards an open textbook policy-making agenda.

## Conclusion

The DOT4D project has, in the period July 2018 – July 2021 explored the hypothesis that open textbooks have the potential to contribute to improved social justice in teaching and learning through inclusive content development strategies, giving students not only free access to course-related content, but also access to relevant materials. In the course of this exploration it has produced evidence to support this hypothesis and extend its Research-Implementation-Advocacy cycle of project activity.

The role of open educational tools and practices in supporting quality educational provision has been amplified in the COVID-19 context, particularly in resource-constrained contexts. Having gained the experience and evidence base of the three-year IDRC grant period, the project sees the importance of sharing lessons learned with other institutions and initiatives in order to reach greater efficiency in South African open textbook creation and reuse that supports social justice efforts in the classroom.

The DOT4D experience demonstrates that institutions embarking on this work need to establish capacity to provide publishing support to academics, including copyright and licensing expertise. Insights from the project also demonstrate that small grants to boost open textbook creation or adaptation, as well as recognition as part of annual review (or, as in UCT's case, an award), can be valuable mechanisms to promote this work and the sustainability of the endeavour.

In line with the ambition to scale activity to national level, the project has sourced additional funding for the six-month DOT4D-Reach period to disseminate findings and engage national stakeholders. The project will also undertake fundraising efforts to address issues related to scalability and financial sustainability. DOT4D-Reach aims to move beyond South Africa to engage with other African universities in order to begin conversations around “open textbooks for Africa”.

The project recommends that further crucial research work take place with students, other potential users of open textbooks and educators, in order to gain a sense of the teaching and learning experience as well as any potential benefits or disadvantages of utilising these resources.

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## Appendix A: Project outputs

### Articles

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### “Journeys” Case Studies Series

Masuku, B., Willmers, M., Trotter, H. & Cox, G. (2021). *Abimbola Windapo’s Open Textbook Journey*. UCT Open Textbook Journeys Series: No. 1.

Masuku, B., Willmers, M., Trotter, H. & Cox, G. (2021). *Cesarina Edmonds-Smith and Chris Barnetts’ Open Textbook Journey*. UCT Open Textbook Journeys Series: No. 2.

## Digital Open Textbooks for Development Final Technical Report (July 2021)

Masuku, B., Willmers, M., Trotter, H. & Cox, G. (2021). *Claire Blackman's Open Textbook Journey*. UCT Open Textbook Journeys Series: No. 3.

Masuku, B., Willmers, M., Trotter, H. & Cox, G. (2021). *James Lappeman's Open Textbook Journey*. UCT Open Textbook Journeys Series: No. 4.

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### Reports and Briefs

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### Research Instruments

Cox, G., Masuku, B. & Willmers, M. (2021). *Digital Open Textbooks for Development Background, Technology Fluency and Personal Reflection Survey*. Cape Town: Digital Open Textbooks for Development.

Cox, G., Masuku, B. & Willmers, M. (2021). *Digital Open Textbooks for Development Case Study Interview Schedule: Interview 1 of 2*. Cape Town: Digital Open Textbooks for Development.

Cox, G., Masuku, B. & Willmers, M. (2021). *Digital Open Textbooks for Development Case Study Interview Schedule: Interview 2 of 2*. Cape Town: Digital Open Textbooks for Development.

### Presentations

- UCT Teaching and Learning Conference: "[Digital Open Textbooks for Development: Broadening access and supporting curriculum transformation at UCT](#)" (2018)
- Open Education Conference: "[A proposed social justice and intersectionality model for open education research: The ROER4D and DOT4D initiatives](#)" (2018)
- Apereo Africa: "[Digital Open Textbooks for Development](#)" (2019)
- "[UCT Open Textbook Conversation event: Part 1](#)" (2019)
- OER19: "[Digital Open Textbooks for Development!](#)" (2019)

## Digital Open Textbooks for Development Final Technical Report (July 2021)

- Open Education Global 2019: "[Open textbook case studies: Social justice, agency, and intersectionality](#)" (2019)
- Open Education Global 2020: "[Participatory Pedagogy and Open Textbook Publishing Journeys: Emerging Models at the University of Cape Town](#)" (2020)
- Nelson Mandela University OpenEdColloquium20: "[Open textbooks: Towards a Sustainable Model for South African Universities](#)" (2020)
- "[UCT Open Textbook Conversation event: Part 2](#)" (2020)
- UCT Emerging Research Programme: "[Publishing an Academic Book](#)" (2021)
- CILT Brown Bag presentation: "[Open Textbooks, Intuitive Pedagogy and Social Justice](#)" (2021)
- OTSAHE Roundtable Event: "[Open Textbooks in South African Higher Education](#)" (2021)