

Student Co-Creation of Open Textbooks: Reflections on Power Dynamics and Building a Sense of Belonging in Higher Education

Dr. Glenda Cox 

Centre for Innovation in Learning and Teaching, Centre for Higher Education Development, University of Cape Town, Cape Town, South Africa

Bianca Masuku 

Centre for Innovation in Learning and Teaching, Centre for Higher Education Development, University of Cape Town, Cape Town, South Africa

Correspondence:

Dr. Glenda Cox

Email: [glenda.cox \[at\] uct.ac.za](mailto:glenda.cox[at]uct.ac.za)

Abstract

Despite calls for social justice and inclusion in higher education, there is still growing structural inequality in terms of access to education, which extends to structural and economic oppression of marginalised groups. Student inclusion in design, creation and evaluation of curricula is lauded in research as essential for student belonging, with open textbook production as one way in which student co-creation is being explored. Yet, little work has been done to look at the challenges involved when traditional power dynamics are disrupted in partnering with students. Highlighting the collaborative endeavours that lecturers undertake with students in open textbook production and the challenges therein, this paper draws on Yuval-Davis' (2011) work on student belonging and Fraser (2005) on social (in)justice, to explore the nexus of three complementary themes: open textbooks, students as partners, and student belonging in higher education. Data were derived from a set of interviews conducted with three open textbook authors at the University of Cape Town (UCT) on their efforts to foster co-creation practices with students in their classrooms as part of open textbook initiatives. Findings reveal that student co-creation of open textbooks has the potential to shift, or at the very least tilt, power balance and give students agency. Academics who undertook open textbook production with student co-creators respected students' expertise and in turn, students felt a sense of value in their departments, which enabling a sense of belonging.

We highlight how the reality of student co-creation is complex as academics have the intention to shift the traditional power dynamics between lecturer and student; however, examples here show this kind of transformation is gradual and continuous and often difficult to implement when the institutional culture remains hierarchical.

Keywords: belonging, open textbooks, power dynamics, student co-creation



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Introduction

There has been a global call for a new, just social contract in education (UNESCO, 2021). This new social contract is founded on the belief that radical change is necessary to meet the objective of moving away from neoliberal competition towards education as a public and common good. It entails a radically different approach to education, with a focus on openness, inclusivity and diversity.

The progress and success of students participating in higher education (HE) is shaped by a variety of factors that are not solely academic. As they navigate the university environment, students exist at the intersection of different economic, cultural, political and social (in)justices that shape their experiences and influence their sense of (un)belonging. Students' experiences of these power dynamics and their sense of (un)belonging—as well as the way in which this influences their participation and success in HE—requires deep engagement to develop better strategies for supporting and integrating students in their education pathways (Le Roux & Groenewald, 2021).

Many researchers have responded to the call for the disruption of traditional power hierarchies in HE by theorising about the term “students as partners” (Cook-Sather et al., 2018; Healey et al., 2014; Matthews, 2017). These “partnerships” can extend across all aspects of teaching and learning, from student feedback on aspects of course materials to students co-creating, co-researching and co-designing course materials (Bovill, 2017). Lubicz-Nawrocka defines curriculum co-creation as “the values based implementation of an ongoing, creative, and mutually beneficial process of staff and students working together to share and negotiate decision making about aspects of curricula” (2020, p. 245).

One of the strategies for changing power relations between educators and students is through the co-creation of open textbooks. Open textbooks are understood to be digital, freely available collections of scaffolded teaching and learning content published under an open licence on platforms and in formats that provide affordances for content delivery on a range of devices, the integration of multimedia, and incorporation of content from varying sources through collaborative authorship models. In some instances, they also provide affordances for print and low bandwidth access strategies (Cox et al., 2022(b); Frydenberg & Matkin, 2007; Pitt, 2015). Research on open textbooks has highlighted their value in addressing issues of cost and utility (Bliss et al., 2013), but there is also a need to understand their production and their potential impact in various teaching and learning contexts (Pitt, 2015; Jhangiani et al., 2016). This approach of co-creation of open textbooks is acknowledged in numerous studies, which have highlighted the affordances provided by open education, specifically open textbooks, for collaboration, student empowerment and transformation of the curriculum (Bliss et al., 2013; Hilton & Wiley, 2011; Cox et al., 2020; Cox et al., 2022(a)).

As Cox et al. (2020) point out, open textbook development processes have the potential to provide one means through which to address the power imbalance in the classroom by integrating students in curriculum articulation, textbook selection, production and peer review. Cox et al. (2022(a)) also demonstrates how collaborative approaches to open textbook authoring, quality assurance and publishing processes “enable a higher degree of agency on

the part of both students and academics in terms of the power to shape content and influence diversity in epistemic perspective” (Cox et al., 2022(a), p.4).

We explore the role of open textbooks in shifting power dynamics and promoting student belonging in the classroom at the University of Cape Town (UCT), where students are, to various degrees, engaged in the co-creation of open textbooks. This investigation takes place against a backdrop of crisis in financial and epistemological access, which plays out at institutional and national levels and informs debates around curriculum change and transformation (Heleta, 2016; Mendy & Madiope, 2020; Walton, 2018; Zembylas, 2018).

The study demonstrates the potential of open textbooks to address challenges related to resource access and student empowerment in South African HE and supports the call for a new social contract in HE.

Study Context

UCT is a research-intensive African university in South Africa with a student population of approximately 30 392 in 2021 representing varying demographic profiles (mainly Black, White, Coloured, Indian and Asian) with more than 9 000 of them being undergraduate receiving financial support (UCT News, 2022). Students at UCT battle a range of social injustices which can have a negative impact on their sense of belonging, including lack of access to relevant, affordable teaching and learning materials, disparity in educational background, scheduling of late classes which exclude students who have to travel far distances, predominance of English as the primary mode of instruction and social stress from cultural dynamics perpetuating white, patriarchal, heteronormative ideals and the exclusion of historically marginalised voices (Cox et al., 2022(c)). Sithaldeen et al. (2022) also point out that students at UCT face challenges in terms of having the confidence to express their voices and engage in help-seeking behaviour in the current institutional environment.

Research shows that open textbook authors at UCT display a thoughtful, sensitised awareness of social injustice in the classroom, which correlates with a high level of care in their pedagogical practice (Cox et al., 2022(c)). These academics typically form strong relationships with their students which are undergirded by human-centred values founded on principles of mutual respect and promote a sense of student belonging. These relationships provide a means through which to facilitate “new arrangements” in the classroom and disrupt the power dynamics traditionally associated with content creation.

Power dynamics and (un)belonging

Aspects of (in)justice and (un)belonging cannot be discussed without the recognition of traditional power dynamics, where those (students) who have “heteronormative power that synergizes with institutional power will always belong, whereas those who do not hold heteronormative power will be alienated in institutions” (Carolissen & Kiguwa, 2018, p. 2-3)

Authors engaged in debates around “students as partners” caution that there are challenges in these relationships where parity is difficult to achieve and traditional power differences between lecturers and students still exist. Does the university have a culture of partnership? If not, it becomes difficult for individual agents to resist traditional hierarchical structures (Matthews, 2017). Besides the cultural challenges of context, students and staff need to be committed to the ambition of being equal members of the university.

There is considerable research around the nature of collaboration with students and how it is enabled by trust, respect, reciprocity and shared responsibility (Cook-Sather et al., 2014). Importantly, these partnerships have the potential to enable “faculty to imagine how the university can create spaces that are welcoming, supportive and valuing” (Gibson & Cook-Sather, 2020, p. 28) to students, providing a space for them to develop a sense of belonging.

Attempts at drawing in students as partners and fostering a sense of belonging must also take into account that each student is different and lecturers “cannot expect the same from all students” (Graham & Moir, 2022, p. 4). Care should also be taken not to enter a potentially damaging process of “assimilation” where students are included in co-creation, but not given a space to express their difference (Reed et al., 2007, p.41)

Sithaldeen et al. (2022) analyse the relationship between student help-seeking behaviour and belonging at UCT as both factors have been shown to assist student success in the form of graduation. They make several recommendations to help foster belonging, two of which relate specifically to belonging; namely: there needs to be effort made by universities to create “a context where students feel like they are an important part of the university” and “a context where students feel they can trust their academic community” (Sithaldeen et al. 2022, p.16).

Building a sense of belonging

Belonging can be described as a form of acculturation and adaption into a new environment and with different cultures, shaped by aspects such as language, educational history, discrimination and socio-cultural background (Chinyamurindi, 2018; Bezuidenhout et al., 2011). In other cases, belonging is understood as how students identify and affiliate with the university community around them; how they form relationships with their studies, their homes, their chosen careers and their classmates and lecturers; and how they navigate feelings of alienation (Pedler et al., 2022; Yao, 2016; Case, 2007 in Bezuidenhout et al. 2011; Hausmann et al., 2009).

In addition to this, the idea of belonging has also been associated with paying attention to and addressing the varied kinds of injustices (economic, cultural, and political) that impede student inclusion and success (Cox et al., 2020; Le Roux & Groenewald, 2021). As such, the concept of student belonging is underpinned by principles of social connection, interaction and integration with peers, staff, and curriculum, as well as the dismantling of barriers in an effort to foster students’ emotional engagement in their learning.

Student belonging is embedded in debates of (in)justice and has the potential to foster participatory parity (Fraser, 2005). Yuval-Davis (2011)—who argues for a feminist political project of belonging based on the “ethics of care” (p. 7) and “mutual respect and mutual trust” (p. 14)—argues that it is important to distinguish between place belonging and the politics of belonging.

Place belonging is about emotional attachment and “feeling at home” and that home is a “safe space” (Yuval-Davis, 2011, p. 4). The experience of “place-belonging” will happen when there is personal involvement in an institution, “an intrinsic feeling of being part of the system” (Le Roux & Groenewald, 2021, p. 858).

Yuval-Davis (2011) also refers to socio-spatial forms of inclusion and exclusion: the **politics of belonging**.

Yuval-Davis (2011, p.5) argues that place belonging and political belonging is manifest through three interrelated analytical facets: the *social* dimensions of identity (or “social locations”), the

affective element (or “emotional attachments”), and in *consensual value systems* (ethical and political value systems).

A sense of (un)belonging can occur across the economic, cultural and political dimensions (Fraser, 2005).

Economic (place) belonging includes contestation over material resources, which results in exclusion. Students in HE have managed to overcome aspects of this structural (economic) boundary in order to enroll in HE, but they still need to live, get transport and buy textbooks. On entry to HE (the social location), they are differentiated from others in terms of their identity and intersectionality (race, ethnicity, gender, sexual orientation, religion, etc.). This “social categorisation” positions individuals in terms of their socio-economic networks of inclusion and exclusion (Le Roux & Groenewald, 2021, p. 857).

Cultural (affective) belonging focuses on the emotional attachment of a person, not only in terms of their own identity, but also in terms of how they identify with a group through a feeling of embeddedness. This emotional belonging can come from individuals feeling valued by others so that they can identify with a community or grouping (Yuval-Davis, 2011). An example of this is given by Garroway and Lange (2020, p.138), who describe how a student came to the realisation that in a particular tutorial “every question is important” and that her knowledge was valued. This value is a form of recognition addressing the cultural injustice of misrecognition highlighted by Fraser (2005).

Political (consensual) belonging is where there is a shared culture, language and ethnicity – and, arguably, both recognition and representation in Fraser’s (2008) terms.

Open textbooks as a means to shift power dynamics through student co-creation

Research into student co-creation suggests several positive outcomes, such as positive relationships between students as well as between students and staff, engagement and enjoyment, student transformation through taking risks and overcoming challenges, academic achievement and retention (Lubicz-Nawrocka & Bovill, 2021). Curriculum co-creation is much more than student engagement and active learning, as it has a strong focus on shared decision-making and negotiation (ibid.). Students’ perspectives are valued and traditional hierarchies between staff and students are disrupted.

Prior research (Cox et al., 2022(a)) has used Bovill’s (2020) framework of inclusion to examine the processes of open textbook initiatives at UCT in terms of their degrees of inclusivity.

Bovill’s (2020) framework captures the range of activities and roles that students and academics can take on and the different forms of inclusion that are enacted therein. In Bovill’s categories of “**student engagement**”, lecturers use a range of approaches. “**Participatory design**” involves a collaboration with a group of students to develop and design courses and course materials. There is a low level of agency in this category, as stakeholders are typically included in these processes as “testers”. “**Student co-creation**” implies new pedagogical practices that emphasize greater student empowerment and refer to collaborative relationships between staff and students that offer meaningful engagement. In this arrangement, students are active participants in constructing the learning process as well as their learning materials, and they can operate in different roles; namely: representative, consultant, co-researcher and co-designer. Finally, “**students as partners**” denotes a much deeper involvement and agency, where there is an equal partnership that is both collaborative and reciprocal.

The study

This paper draws on data from three in-depth interviews with open textbook authors at UCT who undertook collaborative content creation processes with their students in the period 2019–2021. The authors were selected through purposive sampling based on their unique collaborative approaches with students and their philosophies around co-creation and inclusion in their open textbook approaches. The views of the participants should therefore not be considered representative of all UCT academics.

The design of the interview schedule was informed by Fraser's (2005, 2008, 2009) analysis of economic, cultural and political dimensions of social injustice in HE and from literature exploring concepts of collaboration, student co-creation, students-as-partners and student belonging, as relates to open textbook development.

Open Textbook Author (OTA) 1, a senior lecturer in the Department of Architecture, developed an open textbook for second-year students. In her approach, she worked **with her whole class as part of the course**, eliciting additional assistance from tutors and teaching assistants in different roles. The main aim of her textbook development process was to make the historical narratives and technological developments of modern buildings in the Global South more visible and accessible to students in South Africa, as well as to scholars worldwide, and to challenge the scholarly dominance of the Global North view in architecture.

OTA2, a senior lecturer in the Department of Mathematics and Applied Mathematics, developed a chapter for an open textbook for first-year students. He worked **with two students as paid consultants** as part of his ongoing open textbook development efforts to provide a "roadmap" to help students transition from studying mathematics in high school to university-level courses, address the high cost of prescribed textbooks, and challenge the dominance of Global North understandings of mathematics in the classroom.

OTA3, the Director of the Orthopedic Research Unit, **invited students into a collaborative authorship relationship** in order to develop a textbook that provides accessible learning material that is practical and relevant to undergraduate medical students and addresses the problem of limited contact time to acquire the necessary skills and knowledge in the orthopedic surgery curriculum, as well as the severe lack of African learning materials tailored to local pathology written by local experts.

To surface open textbook author perceptions, the data analysis process involved collating the responses from transcriptions of the interviews into an Excel spreadsheet. In this process, interview questions and the corresponding responses from the interviews were mapped. Subsequently, key themes were identified from the interview questions, namely: belonging, social justice, student co-creation, open textbook production and institutional support. Finally, we identified interview responses that were related to or addressed these particular themes and filtered out key insights that spoke to the varying social injustices experienced within the classroom, interpretations of student belonging and student co-creation in open textbook production.

Findings

The following section presents the reflections of three UCT academics exploring collaborative approaches to open textbook production with their students. Their stories provide insight into their specific contexts and the ways in which they collaborated with students as partners.

Open Textbook Author 1: Architecture

OTA1's students were involved in collecting information for the textbook which she processed (or "cleaned up") as part of her role as editor to suit the overarching textbook approach. She also "engineered" the groupwork required in order to ensure that all students were able to contribute to the process, despite their academic ability, and students were allocated marks for their contributions. She felt it was "important to involve all of them at the same level because you just get a lot of work out and it's just rich" and that she didn't "particularly feel the need to work only with very good students".

OTA1 described the experience of collaborating with students as, "so satisfying because the energy they put into producing the stuff ... you can see that they're engaged and they want to do this. They're not dragging their feet." When assessing her practice in terms of Bovill's (2020) forms of inclusion, she categorised her collaboration with students as **co-creation, working with them specifically as co-researchers**, as they produced pages for the textbook as part of a classroom assignment.

The author saw the process of bringing students into textbook creation as providing a means through which students could be involved in sense-making for themselves within their discipline and within their own classroom, where "they start becoming involved in the choice of what content is shared". As part of her pedagogical approach, she encouraged students to "find [their] voice", particularly through essay-writing and engaging with literature in the field. This process of finding their voice was a skill she felt her students needed to master in order to establish their sense of understanding, place and belonging in the work.

Within the context of her collaborative work with students, OTA1 believed that the values and attitudes necessary were an appreciation of the material, enthusiasm for the subject matter, a desire to know more and an ability to share that knowledge with a community of like-minded peers. In addition, she felt that this kind of collaborative work required a "generosity of spirit" on the part of the lecturer and students, as well as an ability to see beyond credit values and marks within the course. She also felt that her students found it straightforward to assume these new roles as collaborators because of the highly structured manner in which she set up the textbook development process. She did, however, also express that: "I find that there are some places where it's useful for me to be really pedantic and in control and other places where I can let go."

In reflecting upon her process, OTA1 stated that although she had a lot of doubts and hesitation in the beginning, she enjoyed the textbook development experience and wouldn't change anything other than starting her process sooner, adding that: "[For] me, the thing that comes out of it is don't do things on your own. Just don't try and do things alone. The best thing to do is to do them with other people." In the end, OTA1 was able to produce and publish an open textbook that students, particularly in her Masters class, have been using and referencing in their coursework.

Open Textbook Author 2: Mathematics

OTA2 worked with two students he invited into the chapter development process—one of whom worked on designing quizzes, while the other provided technical assistance in the LaTeX formatting process. By working collaboratively with students, he hoped to create a sense of ownership in the textbook process regarding their mathematical knowledge and materials. The students he worked with were financially reimbursed for their efforts.

When assessing his practice in terms of Bovill's (2020) forms of inclusion, OTA2 categorised his collaboration with students as **co-creation**, where the process was "freeform, hands-off" and flexible with occasional meetings. He carefully navigated the power dynamics in his relationships in order to "give [the students] complete freedom [in their specific roles, rather] than try to hold the reins", as he felt that students recognise when the process is heavily controlled. The students selected for this process were, in his view, "excellent" and had experience of working with the author in teaching aspects of the course. For him, the collaborative relationship required students to be excellent, have a mastery of the subject, have a level of independence and take initiative with their own ideas rather than wait for instructions. He did, however, also highlight the value of working with students that were not "top of the class", as they provided insight into the perspectives of students who were struggling, which could also meaningfully contribute to the academic process.

Students also needed to have a level of creativity for the process, whereby they would help "to guide [him] as to what they as students think is the right thing to have in any particular place". The author believed that there needed to be a level of respect for students' creativity and the independence that they exercise, as well as a sense of belief in the students' capabilities. He stated: "I think if you come in as an academic feeling that the students aren't necessarily quite up to the level that you would like or, you know, they don't have the calibre to do what you want. I think then as an academic, you're going to fail."

Based on his classroom practice, he felt that students' sense of belonging is enhanced by localising teaching materials, having better representation of marginalised voices, allowing students space to ask questions, and taking note of the language that is used in the classroom.

In reflecting on his process, OTA2 wished that there was a way to train students to lead the authorship process, stating that "if there were any way to assist students in writing in the style of a textbook and in the style of this material so that it is really them creating the primary resource ... that would be very valuable." In reflecting on the impact of his process with students, OTA2 stated that, "I think simply taking students, second- and third-year students, and saying, 'hey, you have a positive impact to play within the department'. I think that in and of itself is a very powerful thing." At the end of his process, OTA2 published his chapter and it has been used as a learning aid by first- and second-year students, receiving positive feedback.

Open Textbook Author 3: Orthopaedic Surgery

OTA3's students provided feedback on their preferences regarding the way in which textbook content should be presented. Some students also participated in producing video content. In the video process, OTA3 gave them extracts of content from the textbook, which they processed into bite-sized videos which could be shared with fellow students. In addition to this, a few other

students with more invested interest volunteered to co-author some of the chapters with content experts in the field.

In working with these students in these different roles, the author had to ensure that the work would take place “within a timeframe of when they’re in your class or when they’re in the block that you run” in order to accommodate the time pressures that students navigate. Students were not paid for their participation in his process.

OTA3 aimed for a **co-creator** approach and described the collaborative process as requiring a lot of curiosity and equality from both academics and students – not necessarily in terms of expertise, but rather in the manner in which they see each other. He noted that the experience was different with each student and occurred at various levels, as student participation occurred in different capacities and with a lot of fluidity and could therefore not be siloed into specific categories. For OTA3, the nature of student collaboration changed in stages, in that it started as what Bovill (2020) would term **engagement**, and progressed to **participation** in the design of the textbook, which motivated students to author content, with the goal of his process being to achieve **co-creation**.

Throughout his work, the author understood his collaboration with students as more of a learning process on his part, stating that “they are actually mentoring me a lot more than I’m mentoring [them] ... It’s not me telling them, it’s them telling me. So you’re saying that we’re involving them, but their actually involving us. We’re just giving them some information and hoping that they can change that information into bites [of content] that they can feed their colleagues”. The author hoped that student participation and collaboration would encourage academics to have a sense of respect for students’ perceptions of and engagement with teaching content; and that the collaborative process would allow students to bring their culture into the content, which would resonate with students from similar backgrounds.

OTA3 believed that “the process is a little more important at the moment than the end result, because we’ll get there eventually as long as we keep on working on things together with people that the content is for ... as the generations or the student groups wash over this stone of our book or our content, hopefully more and more of their culture will be seen in the content”.

In reflecting upon his process, OTA3 wished he had understood from the outset the length of time required for this work and the fact that the process is anchored in collaboration with other people. The process was not quick, nor did it have a definite end, as it required continued reflection and iterative rounds of refinement in collaboration with others. He expressed that one of the key challenges was not around stepping back, but rather about getting buy-in from others into the process and how this affected the creation process. He stated that, “by giving up authorship of chapters, you’re obviously handing it over to the students and saying ‘write something’ and by doing that you might actually slow down quite a bit because you don’t know how the student’s going to write”. As such, the process required a lot of trust that the students involved would take pride in creating good work. He noted that students were concerned about a lack of recognition for their contributions given the protracted time cycle of the textbook development process. At the end of his process, OTA3 published his open textbook which students have benefitted from in their learning as a new, modernised, peer reviewed and up to date resource with more recent literature and images.

Discussion

The reflections of the open textbook authors interviewed for this study reveal a clear relationship between student co-creation of open textbooks, power dynamics and student belonging in HE. The three authors have different approaches, but they all demonstrate a deep concern for their students' well-being and the struggles they face in accessing HE, as was found previously in Cox et al. (2022(c)).

Reflections on the Process of Co-Creating Open Textbooks with Students

Authors were positive about and satisfied with the process of working with students. This is in line with other studies that recognise the benefits of co-creation (Bovill, 2017; Lubicz-Nawrocka & Bovill, 2021). OTA1 found the experience very valuable and regretted not starting this kind of collaboration sooner.

The student co-creation approaches adopted ranged from using a “whole class” approach to “students who were invited to participate”. In the cases where students were invited to participate, one author selected “a few excellent students”, while the other issued an open invitation for participation. This is a strategic decision open textbook authors need to make about which students to include and how to bring them on board. Bovill (2020) points out that if the aim is a transformative process focused on achieving “participatory parity”, a whole-class approach is the most just approach. Authors established clear roles for students and in one case the students were left to be independent, with the author taking a free-form, hands-off approach. One author noted that the categories of engagement, participation, co-creation and partnership suggested by Bovill (2017) are not siloed, but fluid, with some students working towards co-creation, and that the goal is to achieve co-creation for improved student learning.

Authors also reflected on the challenges involved in collaborating with students.

OTA1 found it challenging to be flexible in terms of control over the process and the structure she established at the outset, which limited the kind of input that students could offer in their participation. Although OTA2 established a free-form way of working with his students, he felt that the students' role in the authorship process was still very limited. OTA3 reflected that the biggest challenge for him was the slowing down of the content development process in terms of waiting for student and colleague contributions. Because the chapters took a while to finalise, students were concerned that they would not get recognition for all the time spent working on the content. This author recognised that co-creation should be “mutually beneficial” (Lubicz-Nawrocka & Bovill, 2021)

Values and the Negotiation of Power Dynamics

Previous research by Cox et al. (2020) demonstrates that the personal values of these authors inform the way in which they co-create with their students. Their belief in the principles and values of openness and sharing seem to underpin their willingness to attempt to relinquish “some” control and authority and give varied degrees of power to students.

A belief that students can do the work, that students have what it takes, appears to be a fundamental value; without it, co-creation would not be possible and would not work optimally in terms of parity of participation. One author noted that students will pick up if a lecturer is trying to control their contributions, adding that many academics would be resistant to relinquishing control, as they feel they are the experts. The authors all talk about a necessary trust in and

respect for students (Cook-Sather et al., 2014) in the textbook creation process. Authors also talked about creativity and independence, curiosity, enthusiasm, a "generosity of spirit" and building a sense of community as being key features that will assist the co-creation process.

One author felt that the students were mentoring him, "a role reversal", and that the students held the knowledge to create and/or recreate content. Another felt that students could be guides, adding material where they feel it should be. The other author felt that all students should be included in content creation would give them deeper insights into the nuances of their discipline.

Approaches to stepping back from traditional roles of authority were varied, with one author allowing top achieving students some freedom. Another reflected that it wasn't a case of stepping back; but rather a process of trying to get buy-in from the students, inviting them into the co-creation process. The third author used a structured template with students having some autonomy, but little room for creativity. In this case, marks were allocated for co-creation will most likely result in unequal power dynamics in their collaboration, as the lecturer remains in control.

When reviewing the approaches taken, it is clear that there is no example in this paper of students-as-partners, as described by Bovill (2020), where there is an equal sharing of agency in decision-making processes (Lubicz-Nawrocka, 2020). Despite her efforts to forge a collaborative relationship with her students through a whole-class approach, OTA1 kept strong control over her process to manage not only the content contributed by students, but also the logistics around reviewing and revising the content. The power imbalance was still very much present and there is a danger in this approach where students are "assimilated" and not given any space to express themselves (Reed et al., 2007). OTA2 used high-achieving students and didn't hand over any of the writing aspects in the process. OTA 3 had a more flexible, democratic approach, but maintained a strong editorial presence in the process.

It is these small shifts in power between the lecturer and students when engaging in co-creation activities which suggest that open textbooks have the potential to include students on the road to engaging them fully as partners, and in so doing alleviate the social injustices that prevent students feeling a sense of belonging in HE.

Social (In)justice, the Open Textbook and (Un)belonging

The lecturers profiled here all strived to build students' sense of agency, recognition and mutual trust. The inclusion of their voices and lived experiences through participation in co-creating open textbooks provides an important avenue through which students can explore and develop the aspects that shape their sense of belonging. In order to understand how a sense of belonging might vary according to the different forms of textbook creation these student's experiences should be explored.

This study demonstrates that student co-creation enabled a sense of place for students, as there was the potential for them to feel valued by their departments. In the Yuval-Davis (2011) framework, this corresponds to the first facet of belonging, social locations.

The second facet of belonging is what Yuval-Davis calls the affective—an emotional response and a feeling of embeddedness and recognition. In this regard, one author discussed how important it was for students to ask questions (also noted by Garroway & Lange, 2020) and for them to feel that the lecturer takes time and care in helping them to understand the answer.

Another author hoped that through collaboration there would also be an increased sense of respect for students' work and views.

It seems that the open textbook has its most important role in building consensual value systems for belonging, the third facet of Yuval-Davis' (2011) belonging framework. According to the authors profiled here, the collaboration process empowers students so that they are able to bring their culture into the content, make sense of their academic discipline, find their voices and identity, and express their personalities, thereby helping lecturers understand who their students are (Cox et al., 2022(a)). OTA2 stated that, "all three of them were students of colour and you know, they all realized that, you know, the department valued them enough not only to ask them, but to pay them. They had something that they had to offer that the department wouldn't have without their input."

Conclusion

This study demonstrates a tension between the intentions and aspirations of the lecturers and constraints of their context in terms of the power dynamics involved in textbook co-creation. Open textbook authors are attempting to transform their practice, but it will take time and generations of students who "wash over this stone of our book or our content" (OTA3) before they are truly represented in the content.

In this paper, it has been argued that the principles of co-creation overlap with a need to enable much needed student belonging. This study demonstrates that belonging encompasses more than co-creation, but it seems that co-creation plays an important role in building student identity, a sense of being valued and trust in academics who give them this opportunity, which resonates with the findings of Sithaldeen et al. (2022).

Further work does, however, need to be done in exploring institutional culture and challenging the traditional hegemony constraining student co-creation and belonging.

Future research involving more authors may reveal different insights related to power dynamics and belonging in different institutional contexts. The cases presented here explore the nuanced inner struggles of academics trying to tilt or shift the traditional power balance and reveal that the process does not always give students particularly high degrees of agency. The next step in this research will be to interview students to get their perspectives on collaborative open textbook production processes as a necessary next step in this research for all stakeholders to be represented.

Authors believe in the potential of the textbook to collate and deliver content and knowledge to students, but all acknowledge the limitations they have in accessing the impact of their resources and therefore can't claim to actually be addressing broader social injustices within the classroom and in the institution.

Open education in the form of open textbooks provides a window of opportunity to rethink existing curriculum and associated pedagogies and content, thus, answering the call for HE of the future to move away from business as usual and shift traditional power balances by including students as co-creators.

Author's Contributions

The authors of this article made equal contributions to the conceptualization, theory, analysis, writing, and revisions of this manuscript.

Open Researcher and Contributor Identifier (ORCID)

Glenda Cox  <https://orcid.org/0000-0001-8185-0645>

Bianca Masuku  <https://orcid.org/0000-0002-9746-5183>

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Ethics Statement

Ethics clearance for the study was reviewed and approved by Centre for Higher Education Development Research and Ethics Committee, University of Cape Town. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Data Availability Statement

Due to the small sample size in the study, the raw data supporting the conclusions of this article cannot be shared for ethical and privacy restrictions, in accordance with the ethical consent provided by participants on the use of confidential/identifiable human data.

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