Radiography 28 (2022) 684–689

Contents lists available at ScienceDirect

Radiography

journal homepage: www.elsevier.com/locate/radi

Radiography lecturers' understanding of a socially responsive curriculum

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ARTICLE INFO

Article history:
Received 13 February 2022
Received in revised form
3 May 2022
Accepted 3 June 2022

Keywords:
Critical consciousness
Radiography education
Reflective practitioner
Curriculum transformation
Emerging pedagogies
Constructive reflective practice

ABSTRACT

Introduction: In health professions education (HPE), focus is placed on developing clinically competent practitioners who can function within their professional scope in a broad range of health care contexts. In this study, the authors investigated diagnostic radiography lecturers' understanding of how students become socially responsive. The concept of 'critical consciousness' was explored as an intervention of being a transformer in the local environment. This places focus on learning and teaching that aims to develop radiography graduates who are critically conscious, such that they can take up the challenges of healthcare in their environment, in addition to being clinically competent in their field. The study under discussion therefore sought to find out how radiography lecturers understand a socially responsive curriculum at a University of Technology in the South African context.
Method: A qualitative, exploratory design was used where curriculum documents were reviewed and from which stimulus points were identified for a semi-structured focus group interview with radiography lecturers followed by five individual interviews. All interviews were audio-recorded, transcribed, coded and analysed through a process of thematic analysis.
Results: Four dominant themes emerged from the analysis, namely i) diverse understandings of critical consciousness, ii) becoming a reflective practitioner, iii) a need for curriculum transformation and iv) emerging pedagogies.
Conclusion: Critical reflection by both the radiography students and lecturers is key to developing social awareness and critical consciousness which could drive critical motivation and critical action to effect social change. It is recommended that the current curriculum should be reviewed and transformed to include constructive reflective practice.
Implications for practice: Dedicated time should be scheduled, in the curriculum, to allow students and lecturers to engage in meaningful constructive reflection to enhance socially responsive practice.

Introduction

In the unequal society that prevails in South Africa, the healthcare environment must strive to meet the health needs of all citizens from diverse social contexts. Luckett & Shay[1] argue that curriculum renewal in higher education can be one means of challenging and dismantling injustices and inequalities in society. They suggest that one of the issues that needs to be interrogated, are the assumptions informing the norms of curricula, and that in order to do that, all academic staff need to rethink their curricula and pedagogic practices. In Radiography, there is the need to develop social consciousness, which can be described as practicing diagnostic radiographers who are aware of important social issues in the local context and who strive to transform their environments. In order to develop socially conscious radiographers, we

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https://doi.org/10.1016/j.radi.2022.06.001
1078-8174/

need a socially responsive curriculum preparing students to make a meaningful contribution to society.[2]

Critical consciousness is an education concept[3] founded on the theory and pedagogy developed by Brazilian educator Paulo Freire.[4] Critical consciousness is described as the ability to have an in-depth understanding of the world along with the inequalities and oppression associated with it.[3–5] Additionally, it is the ability to take action against these differences as a result of achieving this world understanding. Therefore, an applicable pedagogy, for a socially responsive curriculum, may be informed by critical consciousness and encompasses the promotion of compassionate and socially responsive healthcare professionals who are advocates for social change. Furthermore, the curriculum in higher education programmes should be constructed to enable students to function as healthcare practitioners who have an understanding and awareness of the social environments of their patients and carers.

A collaborative study was conducted with six higher education institutions in South Africa to explore health professions curricula of various health science programmes and to investigate how these respond to the need to be socially responsive and contextually relevant.[5] Within this large collaborative study there was a sub-study which focused on the four-year professional diagnostic radiography degree. The goal was to uncover how to develop radiographers who are equipped to go beyond the narrow achievement of clinical competence in their field of study and to be practitioners who are also socially conscious. The aim of this paper is to present radiography lecturers' understanding of and enablers for a socially responsive curriculum at a University of Technology in a South African context.

Methods

Ethical considerations

Prior to commencement, the head of the academic department granted permission for the researchers to access the programme curriculum documents, as well as to interview consenting staff members. Ethical clearance was obtained from the Faculty Research Ethics Committee at the research site; reference number: REC 2020/H8. Participation was voluntary and all participants signed informed consent. Their confidentiality was maintained by storing audio recordings offline and further processing being on anonymised interview transcripts. Prior to the focus group all participants agreed to maintaining confidentiality of identity of participants and the content of the conversations.

Design

A format of social inquiry was applied, using a two-stage approach; firstly, review of relevant curriculum documents (to identify stimulus points); and secondly, qualitative data gathered through a semi-structured focus group interview, followed by five (5) semi-structured individual interviews (to confirm and elaborate on the identified stimulus points). A purposive sampling technique was utilised to identify academic lecturers and clinical instructors to ensure information-rich data would be obtained. The five female participants, in full time employment on the Diagnostic Radiography programme are a fair representation of the team. The participants' academic and clinical teaching experience ranged between two to twenty years. Stimulus points, in the form of phrases and sentences relating to social responsiveness, were identified from the curriculum documents. These points informed the discussions during all interviews, and the focus group content further informed the individual interviews. An example of a stimulus point was when participants were asked to explain their understanding of one of the exit level outcomes in a fourth-year student guide, i.e. becoming reflective practitioners and lifelong learners committed to excellence.

The coding framework developed for the large study, during the analysis of data from medical and physiotherapy programmes, was adapted to accommodate the radiography data. The diagnostic radiography study, summarised in Table 1, replicated the methodology for all sub-studies and selected a purposive sample from the radiography lecturers at a University of Technology, to address the research question: *What are radiography lecturers' understandings of and enablers for a socially responsive curriculum?* This programme was selected based on the intention that students must function with contextual relevance and work within an environment that provides a relevant service in a context of inequality and diversity.

Data analysis

Interviews were audio-recorded, transcribed, coded and analysed through an interpretive approach of thematic analysis. The steps outlined by Braun & Clark[6] were followed. The first step was for the researcher to become familiar with the data; achieved by the research team reading and rereading the transcripts. The next step was to assign preliminary codes to the data by highlighting key words in the data sets. A process of inductive reasoning was applied in this study in order to create themes. This involved the identification of possible themes by grouping similar codes and allocating these to a descriptive theme. Step four involved review of the themes to ensure that they made sense in relation to the codes. Step five was adjusted so as to adapt the existing coding framework in the process of naming the themes and the last step was to provide a report with extracts of verbatim quotes from the data to support the themes. This interpretive thematic analysis was further enhanced by the use of literature.[6]

Results

Four themes emerged from the thematic data analysis as; diverse understandings of critical consciousness, becoming a reflective practitioner, a need for curriculum transformation and emerging pedagogies. Each theme will be discussed; supported by quotations from collected data.

Diverse understandings of critical consciousness

The experiences shared by the participants demonstrated that radiography lecturers have a diverse understanding of critical consciousness. Some key concepts that were conveyed by the participants included having an awareness of the patient, being present in the moment and having a sense of community. Many participants shared the notion of bridging the gap and linking theoretical practices to the South African reality. This is clearly articulated in the following quotes:

> **FG E:** "… critical social consciousness, is about the environment or the reality that we exist in, because we have such a vast and rich cohort of students, and if we think in terms of the diversity in terms of their language, their culture, and so it makes me think"

> **FG A:** "If we look at our students … at the two big teaching hospitals which would receive patients from all walks of life. So I think students get a sense of the communities that come in, being socially responsive, treating patients equally, you know the very sick ones, the very poor ones, the more affluent ones, …"

Table 1
Summary of research design.

Research Question: What are radiography lecturers' understandings of and enablers for a socially responsive curriculum?			
Data Sources	Data collection methods	Analysis	Analytical method
Relevant curriculum documents	Document review	Stimulus points identified in documents	Content analysis
Purposive sample of five (5) academics	One (1) semi-structured focus group interview	Phrases related to 'understanding' and 'social responsiveness'	Thematic analysis
	Five (5) semi-structured individual interviews	Clarify and confirm phrases related to 'understanding' and 'social responsiveness'	Thematic analysis

FG D: "Could it possibly also mean just being in the moment you know, being conscious within the moment …, just being critical and thinking about what you're doing, how you doing, and why you're doing it? But just you know, being aware of your surroundings, the people you're interacting with, so your patient, your colleagues. And just being in the moment and being critical about it"

Participants also expressed feelings of not being fully prepared to facilitate the development of critical consciousness within a radiography environment. They expressed various understandings of being critically conscious and shared stories which indicate a need for faculty development to further explore and enhance their understandings of this phenomenon. This is supported by the quotes below:

FG B: "So maybe, most of it should start with us. I don't know if it's something that we should be getting a workshop on or something, but I think if we would be equipped ourselves, and you know, start practicing the same things that we realise that, it is important, that our students need to have …"

FG D: "radiography lecturers, we haven't actually been trained. We don't have that background to actually say, OK, these are the things that we need to do so that we can get our students to this point of being critically conscious."

Becoming a reflective practitioner

The second theme focused on the effective development of reflective practitioners. Participants indicated that reflective practice was important for understanding the diverse social contexts of South Africa. They considered reflective practice as an essential approach to becoming socially aware and critically conscious of the environments patients reside in. The participants alluded to the need for reflective practice by both the lecturer and student as depicted in the following quotes:

FG A: "I think perhaps what may be lacking in the academic sense is that I don't think we give our students enough time to reflect … on their experiences, and we don't give them time to reflect and think about what they've seen when they've been in clinical. How did it make them feel, how could they change things, how could they have done things differently, did they display empathy?"

FG D: "And it's not just about, you know, negative, having a bad experience and then reflecting on this bad experience. It's good experiences as well, 'cause you need to know if something went well, why did it go well so that you can continue to do the same thing, and if it went bad, why did it go bad so you can improve yourself. So something as small as reflective practice, introducing it at a first year level, it's fantastic"

I B: "… when I said that … if the students reflect and they tell you about things that happened, then you might be able to pick on things that they didn't think were important …. and expand on that and explain further …"

I B: "I think it is necessary to encourage the students …, to reflect, just talk about them and sort of get them to understand what is the correct way of doing it. What was wrong with what they observed and how they should be - approach or dealing with those kind of things in the future."

There was a clear indication that the current curriculum needed to be adapted to include constructive reflective practice. A recommendation that the current curriculum be reviewed to include active reflection in a more guided and constructive manner, as well as a proposition for having dedicated time to allow students to engage in meaningful reflective practice, was made. The quotes below portray related contributions:

I B: "So, and you know maybe in a way at the lower levels, start sensitising the students towards those things by having discussions around the different type of patients that the students are going to come across and maybe asking them to reflect once they start going to clinicals, asking them to reflect on the things that they saw at the hospitals, the patients that they saw, the circumstances you know those kind of things."

D: "one of the things that I wanted to introduce to first year students was having a reflective journal. So it's not just one reflective piece that you get marks for and it's a done deal but having a reflective journal from the very beginning … letting them document these things so when they go to the clinical environment they come back, we should have debriefing sessions with them … have a session where we just talk and we vent and we, you know, share our feelings and I really feel that can go a long way with the students"

I B: "So if it's say for example, on the timetable, everybody knows that this is reflection time. It's not something that happens randomly, I think then the effect might be different because then everybody will be knowing that this is the reflection time and these are the outcomes for these reflections because then even maybe the students would take them seriously."

A need for curriculum transformation

The third theme explored the idea of revising the curriculum to incorporate an awareness of critical social consciousness. Participants considered the topic of critical social consciousness to be fluid in nature and that this could be easily adapted into any radiography subject or module. There was also a consensus that teaching students to become aware of their patients' social

environments does exist but in a more implicit manner. The following quotes convey the experiences shared:

> **FG A**: "But it's my feeling is that we don't necessarily, in our syllabi, subject-specific modules, that go deeply into them. I think we kind of touch on all of those, and they're nice to have and I think there are isolated pockets in the four-year qualification where we do maybe go into detail in terms of actually carrying those outcomes actually into tangible experiences for the student"

> **FG A**; "it's all implicit … where the modules actually relate to some of the issues, you know, the human rights and the ethics and all of that, but I think when it comes to assessment it may be isolated in those silos in a subject. There are these management projects and the outreach and all of that - I still think it can be better woven in, so that we have this holistic person out at the end."

> **FG B:** "So … I don't think we are doing it at the moment across the program, and maybe, individual lecturers, you know whenever the opportunity presents itself. If a scenario pops up or something like that, then they would bring it into their subject or the topic at hand. And in terms of assessment, I don't think it's happening at all. But as A said, implicitly it is sort of happening. You know, when you get an opportunity to touch on the human rights or the ethics, then you bring that in, but across the program I don't think we are explicitly doing it, but I feel it is important that we should be trying to achieve that."

A term used by one of the participants to describe this individual, fragmented approach to teaching was "working in silos" as reflected in the below quote:

> **FG E**; "Another example, is also that we encourage peer learning and peer engagement and interaction, and we talk about those words and we also say that when we go in the clinical then we have a first year and we have a fourth year and so, ideally what we want is for the first year to learn from the fourth year, but how do we actually assess that, or how do we actually follow up on that? So it's all words, but it's not being followed up on or it's not being assessed in a way, so I think it's just a lot of things that's happening in silos"

Additionally, participants reflected on their previous qualification and how some elements could have been more effectively incorporated into the current curriculum to better prepare students for the realities that patients encounter. The below quotes arise from experiences shared:

> **FG C:** "Going back to the national diploma, there were ways that were introduced to us to sort of keep us in the loop to what's happening with our communities and how we can sort of contribute as future professionals and so on, that I don't see them being done in the BSc program.

> **FG A**: "with the BSc we had the idea that it was going to be, we needed to up our basic Sciences so the focus kind of went there, and I think the community engagement, kind of, not wasn't so important, but there were other things that we thought was more important, like building in good academic literacy and information literacy and really pushing up our standard of our basic Sciences, our Anatomy, Physiology, Physics,"

Emerging pedagogies

The fourth theme focused on the teaching methods and practices that participants felt would be beneficial for exploring and enhancing social awareness amongst student radiographers. Some interesting ideas included the introduction of interprofessional education, an integrated approach to community engagement and service learning, and peer support within the classroom setting. It was also mentioned that student involvement in further exploring this phenomenon of being socially aware of others could be advantageous. These ideas are highlighted in the quotes below:

> **FG C**: "… she mentioned things like safety and so on, but I just realised now maybe perhaps this is just, putting it out there, to sort of combat those, maybe they could have approached in a more collaborative way. You know, for instance at [clinical site A] they could have maybe gone to radiotherapy or other departments within the hospital and then find out what outreach programs they are doing and how our students can sort of engage or involve themselves in it to sort of again build the culture …"

> **FG A**: "… common module where all the first years joined at [University A], and there were other health care professional students involved in that module. So it was an interprofessional module, with a community service project and they worked together in groups, and your group would be made up of radiographers and dental students and so that was quite nice because there was a project and the radiography students mixed with other healthcare professionals and they kind of learned from each other"

> **FG C:** "… also introduced it in BSc and let it carry on, maybe from first year, even second year, and in third year sort of link it with management, that project that they do, so that they sort of carry that on through up until they finish, and then once they graduated, it's not really a concept or it wasn't something that was just part of this subject, so to speak. It's more of a culture that they carry on with them once they also finish"

> **FG A**: "So I think unless you actually brainstorm with the students and you actually talk to them what does it mean, what it means to be socially responsive, what it means to be critically conscious. You know they're not going to know and we as lecturers are not going to know actually either. So for me a starting point would be to actually take that terminology, take and brainstorm with it, do some research, do some reading for myself, know what it all means and engage with the students on this"

Discussion and recommendations

Diverse understandings of critical consciousness

There are various approaches to promoting social awareness within healthcare education. One such method is critical consciousness. Halman et al.[3] explain critical consciousness as an educational concept which intends to cultivate compassionate and socially responsive healthcare practitioners. Critical consciousness can be further described as the ability to have an in-depth understanding of the world along with its associated inequalities and oppressions.[7] It was apparent from the participants' stories that

radiography as a profession offers imaging services to diverse patients from various walks of life. It is therefore imperative for radiographers to be aware of the social contexts of their patients. Literature highlights the need to appreciate and understand the context of communities and larger systems in which the learning takes place[5,8] as was clearly articulated in the stories shared by the participants.

The focus of present-day interpretations of critical consciousness is on youth and is supported by Freirean ideology which postulates three fundamental elements: critical reflection, critical motivation, and critical action.[7] The participants of this study highlighted a similar understanding of being critically conscious in terms of having an understanding of the social contexts of patients and the inclusion of reflective practice. It is therefore recommended that the current curriculum be reviewed to incorporate constructive reflective practice.

Becoming a reflective practitioner

Reflection, as a component of professional practice, was popularised by Donald Schön,[9] where he identified two forms of reflection; the real time reflection-in-action and looking back during reflection-on-action. In a study that sought to explore thinking about culturally responsive pedagogy, Tsuruda and Shepherd[10] wanted to find ways to enable safe pedagogical activities for Indigenous and non-Indigenous students and lecturers to share and learn together. One approach that they stressed was reflective practice. This aligns well to the theme of becoming a reflective practitioner that emerged in this study. Participants highlighted reflective practice as being essential for health science students, in the culturally diverse South Africa, to become socially aware; a term we came to appreciate as students and lecturers who 'acknowledge and consider other identities, perspectives and life experiences'.[10] The need for reflective practice to be further integrated into the radiography programme was verbalised strongly. This has unfolded into a firm recommendation to review the teaching approach to systematically include active reflection activities that build towards fully engaged reflective practitioners who are critically conscious.

A need for curriculum transformation

The need for health professions curriculum evolution with roots in transformative pedagogies and which uses a structural and critical lens to systems and practices was highlighted by Frenk et al.[11] A commission of 20 professional and academic leaders from diverse countries developed a vision for transformative education that promoted inter/transprofessional education, advocated for the removal of professional silos and the development of a common set of values around social accountability.[11] Examples of transformative pedagogies for praxis are initiated by a conscientising process using tools such as critical dialogue, reflective questioning and social action projects.[12]

This curriculum transformation aligns with the idea of revising the curriculum to incorporate an awareness of critical social consciousness. The concept of a transformative approach, being more explicit and less fragmented, emerged as a means to incorporate social accountability into the curriculum. A recommendation is that a transformative pedagogy be used to develop a curriculum with a critical consciousness agenda for HPE.

Emerging pedagogies

Andrews and Leonard[13] provide an excellent example of emerging pedagogies where critical service learning projects are designed with, rather than for, students and in doing so creating an awareness around critical consciousness. Such co-design and co-creation of curricular activities between lecturers and students is not new to HPE, however, it could be seen as the first step towards an integrated approach to, for example, community engagement and service learning activities that will impact students' critical consciousness and social awareness beyond the classroom. By involving students from the onset of the academic programme, i.e. the first year of study, to explore and discover together what these concepts entail, will move the goal post from an awareness to 'building a culture' as one participant said, and hopefully 'a culture that they can carry with them', as echoed by another participant.

From these findings the authors recommend that lecturers in HPE can incorporate emerging pedagogies, with input from their students, to discover the power of contextual teaching and learning methods and practices in order to move from awareness to building and sustaining a culture around social accountability and critical consciousness. This could be done by starting with peer support in the classroom, where mentors and tutors are equipped to care for themselves and others in a collaborative and supportive manner, which could be transcended to the differing social contexts.

Conclusion

Lecturers indicated that critical reflection is key to developing an awareness of relevant and diverse social issues, accountability and critical consciousness. While participants expressed that reflective practice is undertaken, it was noted that this is unstructured and without a clear goal of developing critical social consciousness. A recommendation was made for the curriculum to be reviewed to include regular guided active reflection through including dedicated space on the timetable for students and lecturers to engage in meaningful reflective practice. Future studies should focus on the implementation of critical reflection to promote compassionate and socially conscious health care practitioners who are advocates for social change. This will close the circle of reflection on and in practice to develop radiographers who display critical social consciousness and social responsibility.

Author contributions

Substantial contribution to conceptualisation, design, analysis and interpretation of data: LH, KN (compiling data analysis section and presentation of findings), PEH, FD (revision for important intellectual content and approval of final draft); drafting and critical revision of important scientific content: LH, PEH, FD, KN (all authors contributed to the drafting and critical revision of the article, LH and PEH checked for alignment with journal requirements); approval of the version to be published: LH, PEH, FD, KN (all authors approved the final version to be published).

Conflict of interest statement

No potential conflict of interest was reported by the authors.

Acknowledgement

This article has emerged from work conducted as part of the Responsive Curriculum Project which is a South African based multi-institutional project led by the Centre for Health Professions Education at the Faculty of Medicine and Health Sciences, Stellenbosch University in collaboration with the Cape Peninsula University of Technology, Sefako Makgathu University, the University of Cape Town, the University of the Western Cape and the University

of the Witwatersrand. The authors wish to acknowledge all of the staff in these different institutions who participated in the study.

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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