

Transforming Practice: A study in health professions education

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INTRODUCTION: CLINICAL PRACTICE IN MEDICAL IMAGING

Work-integrated learning (WIL) involving a partnership between higher education and the workplace, is widely applied in South Africa. This includes health science programs at Universities of Technology (UoTs) where the curriculum is designed with an overarching pedagogy of WIL. These curricula give varying attention to the notion of social accountability and building social cohesion (Reddy, 2023). Yet, there is an urgency to address global health inequities and health professions education must be part of the solution through a shift towards curricula that prepare practitioners who are socially conscious without loss of clinical competence (Frenk et al., 2010; Hansen et al., 2023). To investigate responsive curricula in the health sector, a study was conducted in twelve health science programs across six higher education institutions in South Africa. The aim of this study was to investigate the understandings of health professions educators (HPEs) of social awareness and consciousness and how these understandings shaped their practice. This paper focuses on one of the programs, diagnostic radiography, where the dual challenge of the need for caring and competence in a technologically driven profession can be daunting. Medical imaging is central to patient management and has transformed with the rapidly changing health care environment where professionals enact their complex practice. In this high-technology space, the desire to address social inequalities through appropriate health professions education is a challenge worth striving for (Hudson et al., 2022). To initiate a project of transforming WIL towards increasing social justice, the study was conducted, at a University of Technology (UoT) in Cape Town, South Africa, to answer the question; How do radiography lecturers understand the project of building social consciousness?

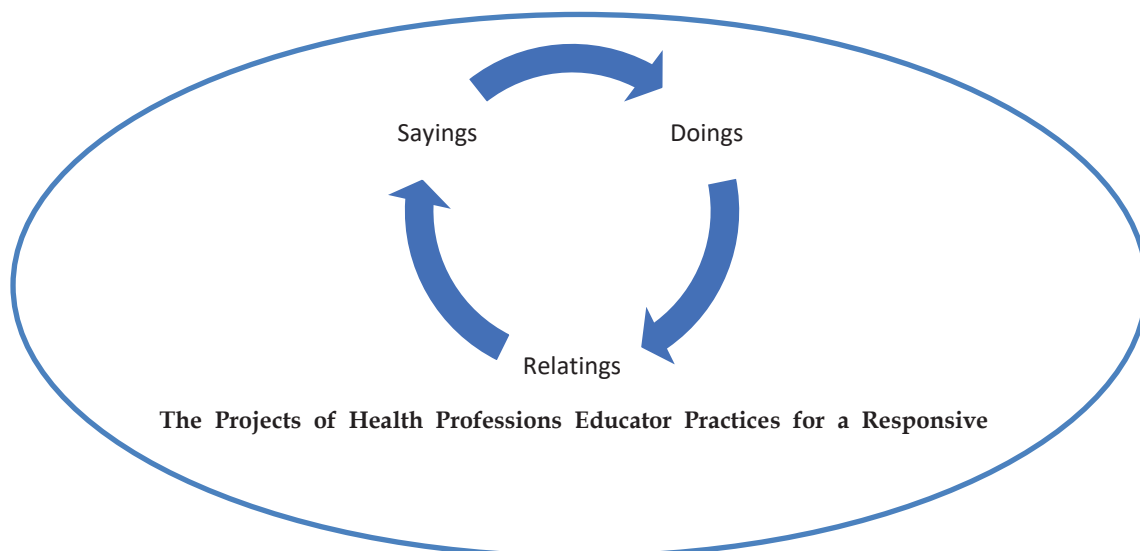
THEORETICAL FRAMEWORK: PRACTICE ARCHITECTURES

The motivation for more research in WIL and the application of WIL as a driver for social development is evident in studies across professional disciplines (e.g., Zegwaard, & Rowe, 2019). Similar to, Clerke et al. (2021) who researched WIL in engineering students through the lens of Practice Architectures, this study in diagnostic radiography, was framed by the Theory of Practice Architectures. This is one of the practice theories, that aims to demonstrate how social life and education are transformed in practice. The theory was introduced by Stephen Kemmis and Peter Grootenboer (2008) and has continued to evolve as the originators and other scholars have engaged with it in research and practice (e.g; Kemmis et al., 2014; Kemmis, 2019). The value of the Theory of Practice Architecture is as a theoretical resource that can build understanding about professional practice, while simultaneously being an analytical

resource for investigating how the environment enables and constrains practice, and a transformational resource for improving and changing practice. The theory has and continues to be used to investigate and learn about practice in a wide range of environments and while not previously applied in the field of diagnostic radiography it has been used in nursing (e.g., Hopwood, et al., 2013).

In practice architectures a practice is understood as a social human activity where understandings and utterances (sayings), actions within the environment of practice (doings) and ways of being and engaging (relatings) link together in a particular project (purpose) of practice in the space or environment of such practice (Kemmis & Grootenboer, 2008). It is a theory that shows the inter-relatedness of sayings, doings and relatings, for the purpose of practice (Figure 1) and that practice is therefore enabled and constrained by cultural and social influences at the place of practice (Mahon et al., 2017). This makes the framing research on WIL.

FIGURE 1: Health Professions Educator Practices: Sayings, Doings, and Relatings (visual summary developed by authors and not published elsewhere).



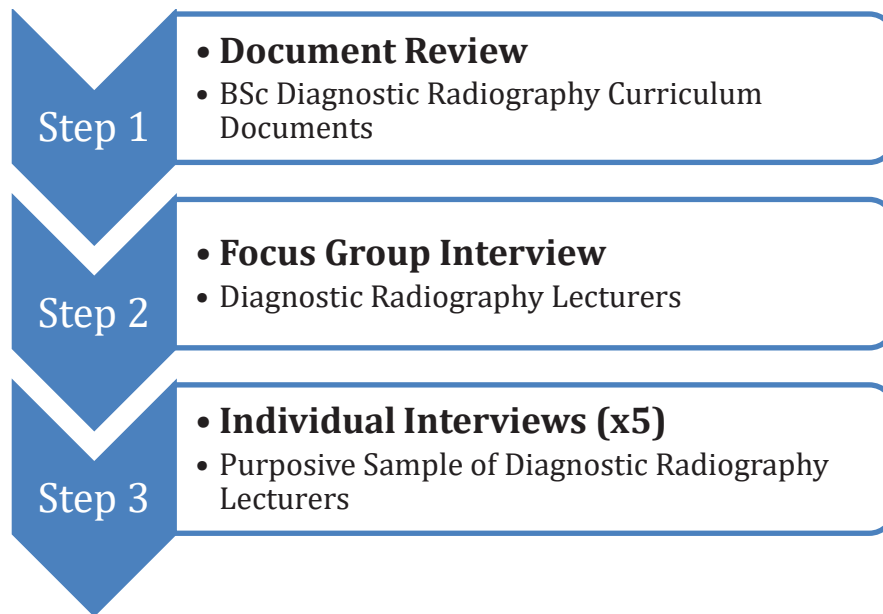
METHODOLOGY

A qualitative approach was used (Figure 2) whereby a curriculum document review informed focus group interviews with the health professions educators, followed by in-depth individual interviews with a purposive sample of these educators (Hudson et al., 2022) to answer the research question; How do radiography lecturers understand the project of building social consciousness?

This paper will present a further analysis of the data of the diagnostic radiography (technologists in medical imaging) sub-set through an exploration of the transcribed interview data considered through the lens of practice architectures. The use of this theoretical lens was to enable the exploration of practices, uncovering of appropriate and untoward practices and the seeking of new possibilities for transformation towards more inclusive practices of health professions educators when designing and

implementing a curriculum in diagnostic radiography. The focus was on extracting options for transforming a WIL curriculum by reimagining the roles of people to drive change in the education environment of this professional group in medical imaging.

FIGURE 2: A 3-Step approach to data collection



Ethical Considerations

Ethical clearance for the study was obtained from the relevant faculty research ethics committee of the Cape Peninsula University of Technology (REC Approval Reference No: CPUT/HWS-REC 2020/H8). Informed consent was provided by all participants, and all data were anonymized.

Data Analysis

Data from one focus group and five individual interviews were coded, using a jointly developed coding framework (Jacobs et al., 2020) and for this paper the Practice Architecture categories; Project, Sayings, Doings and Relatings were overlayed to gain a deeper understanding.

FINDINGS: WORK-INTEGRATED LEARNING FOR A RESPONSIVE CURRICULUM

The project of any practice will include the intention or aim that is the motivator for that practice, and the connected Sayings, Doings, and Relatings of carrying out of such practice (Kemmis, 2019). From the data four key projects (themes) were identified in the curriculum activities that enhance social awareness and consciousness for the lecturer and student. Table 1 presents these projects as; the (un)reality of practice, caring here and there, reflection on and for practice, and transform and change practice, with a selection of quotes from amongst the participants in the focus group (FG) and the five individual interviews (A to E) conducted with diagnostic radiography lecturers. In the table, reading

from left to right, each project is supported by quotes demonstrating the interrelated Saying, Doings and Relatings.

TABLE 1: Projects towards social awareness and consciousness

The Project	The (un)reality of practice	Caring here and there	Reflection on and for practice	Transform & change practice
Sayings	'They work with patients...with other professionals...our students need to be aware of their environment...' (E)	'...it will be lovely for students to understand what it could mean' (A)	'Reflective practice...I like but...I can see students are struggling with it, they're not fully understanding how to reflect'. (D)	'We don't have that background to actually say, these are the things we need to do to get our students to this point of being critically conscious' (FG)
Doings	'...carry through outcomes into tangible experiences for students' (FG) 'We need to bridge that gap and what the expectation is when students go to the clinical environment and what is actually happening there' (FG)	'...you know, being conscious within the moment of whatever you doing, just being critical and thinking about what you're doing, how you doing, and why you're doing it.' (FG)	'...asking them to reflect...on the things that they saw..., the patients, the circumstances...' (B)	'but across the program I don't think we are explicitly doing it' (FGB) '...it was an interprofessional module, with a community service project then was discontinued and we carried on separate paths (FG)
Relatings	'Well...I try to teach them real situations and/or refer to real situations...but it, is not exactly what they will ask you in a hospital' (D)	'social awareness within the classroom environment, and caring for each other' But just you know, being aware of your surroundings, the people you're interacting' (C)	'In a more meaningful way...listening to what the students say...' (B)	'...they could have more collaborative way' (FG) 'We are talking about student collaboration and... even educators, we don't collaborate...' (FG)

TRANSFORMING WORK-INTEGRATED LEARNING FOR SOCIAL AWARENESS

Practice architectures was well suited to exploring how the understandings of social consciousness, amongst radiography lecturers, influenced their practice and uncovered possible ways in which they could transform their teaching practice where the intention was to shift towards a training that enabled more socially aware practitioners. It was through considering the Sayings, Doings and Relatings in the Practice Architecture analysis that highlighted how the radiography lecturers anticipate that social awareness can be encouraged towards the reality of socially conscious practitioners.

The Gap is Still There

Much has been written about the gap between learning a profession in the classroom and entering the world of practice. In this study the same challenge was raised as the gap between classroom learning, using the ideal scenarios of the textbooks, and contextualizing this knowledge to the diverse healthcare environments found in South Africa. A key message was that the students on this diagnostic radiography program have more than adequate time in the clinical workplace, with good exposure to diverse circumstances where they can build social consciousness. However, a key finding was that because this is not overtly addressed as a learning outcome, nor reflected on in a meaningful and structured way, the learning is left to chance and is also not assessed.

Work-Integrated Learning Remedies were Proposed

The participants elucidated the many ways available to them to improve practice and to further expand on the gains already achieved through the WIL pedagogy already in place. If social consciousness is about the environment or the reality that we exist in, this is, for the students, the classroom and clinical learning sites. It was recognized by the participants that for building social consciousness the focus is placed on the workplace yet left to chance. Students could be better prepared to learn in the workplace through active engagement with fellow students who represent the diversity of society in terms of their family, community, home language and culture. This raised the missed opportunity to include classroom conversations that would raise awareness and create a personal opportunity to be more aware and inclusive in the everyday world of the students as well as the need for mechanisms to facilitate patients contributing meaningfully to transforming the education environment.

The radiography lecturers stressed the need for a conscious and collaborative intent to move forward in the direction of developing a responsive WIL curriculum. There is an urgency to bring a sense of community into the learning spaces of students in medical imaging to balance the current emphasis on technology with a parallel focus on who that technology must benefit.

The Contribution to Knowledge

This research contributes to a WIL pedagogy that integrates social consciousness. The study revealed that deeper understandings of the practice Projects, Sayings, Doings and Relatings can help to close the gap between the expert practitioner and the technology of medical imaging, and the patients they serve. Examining the data through the lens of Practice Architectures enabled aspects of social awareness and consciousness to be uncovered. This practice theory opened up four possible projects that can be applied to curriculum transformation to increase levels of social consciousness amongst educators and students.

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REFERENCES

- Clerke, T., Lloyd, N., Paull, M., & Male, S. (2021). Towards praxis: A practice architecture analysis of the work-integrated learning placement experiences of three Australian engineering students. *Studies in Continuing Education*, 43:3, 343-359. <https://doi.org/10.1080/0158037X.2021.1900098>
- Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., Fineberg, H., Garcia, P., Ke, Y., Kelley, P., Kistnasamy, B., Meleis, A., Naylor, D., Pablos-Mendez, A., Reddy, S., Scrimshaw, S., Sepulveda, J., Serwadda, D., & Zurayk, H. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. In *The Lancet*. Elsevier B V, 376(9756), 1923–1958. [https://doi.org/10.1016/S0140-6736\(10\)61854-5](https://doi.org/10.1016/S0140-6736(10)61854-5).
- Hansen, A., Engel-Hills, P., Jacobs, C., Blitz, J., Cooke, R., Hess-April, L., Leisegang, K., Naidoo, N., Volschenk, M., & van Schalkwyk, S. (2023). Understandings and practices: Towards socially responsive curricula for the health professions. *Advances in Health Sciences Education* (2023) 28:1131–1149. <https://doi.org/10.1007/s10459-023-10207-0>
- Hopwood, N., Fowler, C., Lee, A., Rossiter, C., & Bigsby, M. (2013). Understanding partnership practice in child and family nursing through the concept of practice architectures. *Nursing Inquiry*. doi:10.1111/nin/12019
- Hudson, L., Engel-Hills, P., Davidson, F., & Naidoo, K. (2022). Radiography lecturers' understanding of a socially responsive curriculum. *Radiography*, 28(3), 684–689
- Jacobs, C., Van Schalkwyk, S., Blitz, J., & Volschenk, M. (2020). Advancing a social justice agenda in health professions education. *Critical Studies in Teaching and Learning (CriStaL)* 8:2, 112-131. <http://doi.org/10.14426/cristal.v8i2.272>
- Kemmis, S. (2019). *A Practice Sensibility: An invitation to the theory of practice architectures*. Singapore: Springer
- Kemmis, S., & Grootenboer, P. (2008). Situating praxis in practice: Practice architectures and the cultural, social and material conditions for practice. In S. Kemmis & T. Smith (Eds.), *Enabling praxis: Challenges for education* (pp. 37-62). Rotterdam, Netherlands: Sense.
- Kemmis, S., Heikkinen, H., Aspfors, J., Fransson, G., & Edwards-Groves, C. (2014). Mentoring as contested practice: Support, supervision and collaborative self-development. *Teaching and Teacher Education* 43, 154-164.
- Mahon, K., Kemmis, S., Francisco, S., & Lloyd, A. (2017). Introduction: Practice Theory and the Theory of Practice Architectures. DOI: [10.1007/978-981-10-2219-7_1](https://doi.org/10.1007/978-981-10-2219-7_1). In: K. Mahon, S. Facisco & S Kemmis (Eds.) *Exploring Education and Professional Practice*.
- Reddy, L. (2023). Preparing future proof curricula to boost the economy and contribute to social cohesion: A Western Cape, South African perspective. In: Zegwaard, K. E., Fleming, J., & Eady, M. (Eds.). (2023). *Refereed Proceedings of the 23rd WACE World Conference on Cooperative and Work-Integrated Education, 2023, University of Waterloo, Ontario, Canada*.
- Zegwaard, E., & Rowe, A.D. (2019). Research-informed curriculum and advancing innovation practices in work-integrated learning. *International Journal of Work-Integrated Learning, Special Issue*, 2019, 20(4), 323-334.