Reimagining Responsible Research Innovations Regarding Professional Teaching Standards for Curriculum Practice

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ABSTRACT
Applying teacher capabilities is widely considered to be a technique for enriching the quality of teaching in all teaching spaces, worldwide. Education reformists have a responsibility to ensure that education accommodates the best interests of all learners. Standards depend largely on teacher capabilities and the context of a country. This paper reflects on responsible research innovation techniques that are crucial for improving teacher capabilities and advancing professional standards that are needed to improve education in South African schools. An architecture theory, which draws heavily on the famous quotation of Adolf Loos, was used as the main lens for the study. Critical participatory action research (CPAR) was used to generate data. CPAR was preferred, since it pilgrimages three principles of responsible research innovations, that is, recognising participants, establishing professional learning communities, and engaging in critical reflection that deliberately embraces capabilities, to address the inequalities that characterise the context of the South African education space. Critical discourse analysis was used to arrive at the following broad findings: (i) A practical learning experience must be created for all teachers; and (ii) Teacher training institutions are central to edifying teacher capabilities. The paper concludes with a recommendation that the preconfigured standards for professional teaching practices should be reconfigured to involve a de-hierarchical list, and to avoid decontextualized performance and false dichotomies.

KEYWORDS
Professional teaching standards; curriculum practice; capabilities; architecture theory.
INTRODUCTION

The state of being capable has always been a central issue of debate in curriculum practice worldwide (Khalaily, 2021). Recent debate on how education ought to be reformed as a result of the COVID-19 pandemic has, once more, placed the quality of teaching and learning under the spotlight (Barnes & Cross, 2021). At the same time, a much more stimulating debate on the standard and the state of education cannot be evaded, since the disruption caused by the unfortunate occurrence of the pandemic propelled researchers to look for lasting solutions (Ghazala & Elshall, 2021). The view that the standard of education is a barometer that verifies the capabilities of teachers, and helps us to understand the contexts of countries, thus, needs to be tested. Thus, this study reflects on responsible research innovation techniques that are crucial for understanding teacher capabilities and advances in professional standards that make education effective universally. The vantage point of Smith et al. (2021) is that broad debates about the necessity to strengthen the power of science, technology and innovation are revealed through the expression of responsible research and innovation (RRI). This notion can also be seen in the work of Dube (2020), who demonstrates how COVID-19 crystallised the need for the notion of RRI, by explaining how rural students have been hampered and have had to pay a heavy price due to exclusionary acts, because they are unable to receive education remotely, as rural schools received no resources to deal with the interruption of teaching and learning caused by the pandemic. Thus, it is worth noting that RRI seems to be an elusive notion, as education inequality is being perpetuated, and the digital divide continues to exist, despite curriculum reformists continuing to search for lasting solutions for education (Smith et al., 2021).

Additionally, Budiharso and Tarman (2020) list six National Education Association (NEA) issues of quality, namely (a) “share understanding and committed to high goals”; (b) “open communication and collaborative problem solving”; (c) “continuous assessment for teaching and learning”; (d) “personal and professional learning”; (e) “resources to support teaching and learning”; and (f) “and curriculum and instruction”. Therefore, the study hopes to evoke debate and to interrogate the means and ends of science, technology, and innovation. Furthermore, RRI flags the intention to promote and pursue the Sustainable Development Goals and offers guidance on what to do and how to do it (Jiya, 2021). Evidently, RRI is a catalyst for striving to attain a set of standards.

In 2015, the European Association for Quality Assurance in Higher Education et al. (2015) adopted Standards and Guidelines for Quality Assurance in the European Higher Education. In South Africa, the Council on Higher Education is responsible for quality assurance, including the accreditation and reaccreditation of programmes, institutional reviews, and national reviews on fields of study (HEQC, 2013). Thus, for nations to achieve RRI, the playing field must be levelled by legislative framework; by doing so the capabilities of the workforce can be leveraged better. Hence, this paper reflects on teacher capabilities, with an understanding that legislative frameworks have been put in place to cater for training on professional teaching standards. The conceptualisation of professional teaching standards in South Africa is informed by an
international literature review done by the Joint Education Trust (JET) Services for the Centre for Development Enterprise, while teacher professionalisation research is done by the South African Council of Education (SACE), and standard setting is done by the Department of Higher Education and Training and the Department of Basic Education (Nel et al., 2021; Thomas, 2021). The following standards have been proposed for South African teachers (SACE, n.d., pp. 8–11):

- An ethical commitment to the learning and well-being of all students should form the foundation of teaching.
- Teaching and learning, and teachers’ own professional growth, specifically, depend on collaboration.
- Social justice and the eradication of injustices in their classrooms, and society at large, should be of concern to teachers.
- Teaching necessitates the creation and maintenance of well-managed and safe learning environments, within reason.
- The ability to educate is inextricably linked to teachers’ knowledge of the subject(s) they teach.
- All students achieving learning objectives requires teachers to make deliberate choices about the way they teach.
- Teachers acknowledge how important language is in teaching and learning.
- Teachers are able to organize learning events into logical sequences.
- Teachers know how to implement their instructional methods to be effective.
- Teaching entails keeping track of and evaluating students' progress.

Although the Department of Basic Education has not yet embarked on the implementation of the professional teaching standards that must be embodied by all teachers in South African schools, the desire to professionalise teaching and learning and to standardise curriculum practice seems to be on record.

**Problem Statement**

In South African schooling, curriculum practice has certainly not enjoyed the status that it was initially, three decades ago, expected to exemplify. Enthusiasm for and high standards of curriculum practice have yet to be seen in South Africa. The highly anticipated notion of *people’s education for people’s power* (PEPP) was first advocated in September 1987. Research suggests that PEPP achieved the highest form of wide, grassroots participation, which no RRI has ever achieved in Africa, or elsewhere (Randall, 1993). Unfortunately, as reported by Kruss (1988), realising the high hopes and promises was riddled with complexities, and uncertainties marked an unstable and uncertain vortex that changed over time and from place to place. Curriculum reformists have adapted the promises and assured the people that they (the people) will always be involved in the planning stages of education to achieve liberation – though, without consultation to explain why the initial intentions were abandoned. It is not clear why, after 27
years of democracy in South Africa, inequalities are still being perpetuated in curriculum practice.

It is because of these reasons that this paper reflects on RRI techniques, which are crucial for understanding teacher capabilities and advances in professional standards, to make education work in South African schools.

Research question
As such, the study’s overarching purpose was to reimagine responsible research innovations regarding professional teaching standards for curriculum practice. To achieve the purpose of the study the following question was pursued:

• Why does it seem that responsible research innovation techniques that are crucial for teacher capabilities and advances in professional standards to improve education in South African schools, being overlooked?

THEORETICAL FRAMEWORK
It can never be disputed that knowledge will always be guided by principles, whilst research is a tool through which knowledge is advanced. Thus, this study adopted architectural theory as the main lens of the study. Architectural theory is based on the present and the future, and how to build or organise the future (Avermaete, 2021). Architectural theory describes reflection on the origin and evolution of architectural form, style, ideologies, movements, and architects of diverse eras (Vattano, 2022). Architectural theory is relevant for this study, since its assumptions are that nobody can be taught architecture, and that people can only be guided. Thus, teachers cannot learn the 10 professional teaching standards proposed by SACE (n.d., pp. 8–11) by merely reading and interpreting the standards, instead, they ought to acquire professional standards through practice thereof. The philosophy of architecture is relatively new, but it is a growing subdiscipline, and regarding key conceptual issues, we can look to a tradition spanning two millennia of theoretical treatises in architecture (Swope, 2021). Architectural theory focuses on critical commentary. The theory, furthermore, provides reasons for the kinds of style, design, and policy stance that researchers and co-researchers assume; thus, in our reflection on responsible research innovations, a deliberate focus was more of a critical questioning, with the intention to expose how hegemonic power is intermingled. As such, it can be argued that those who wield power turn out to be overwhelmed by the power, which results in less recognition of, relations with, and reflection on the situation at hand. Above all, the theory advocates for inclusivity and, as such, complements critical participatory action research (CPAR), which was adopted in this study and will be elaborated on later (Swope, 2021). In the Renaissance sciences, architectural theory was used to delve deeper into the maker’s knowledge tradition, and we acquire a kind of knowledge through doing – as in the trial and error of design and construction – which we then transmit to others for their enlightenment and benefit, as celebrated by Descartes and Bacon (Lang & Moleski, 2016).
We used face-to-face and virtual discussion forums to form a community of practice for a group of university lecturers and teachers, of whom most were enrolled for Master’s or Doctoral studies, and a preservice teacher. We met twice per week, and we engaged in providing social support for each other by, for instance, celebrating birthdays together and bonding. It is also worth noting that CPAR entails looking into actual practices, rather than hypothetical ones (Zeller-Berkman et al., 2020). Doing so entails learning about the real, tangible, and concrete practices of specific individuals in specific areas. While it is impossible to avoid the inevitable abstraction that accompanies using language to name, explain, analyse, and assess things, CPAR differs from other types of action research in that it is more adamant about changing the habits of the participants (Ross, 2020). Kemmis et al. (2014, p. 20), on the other hand, claim to be interested in classroom practice and their first inquiry is, “Which component of practice are we interested in?” The common answer tends to be “‘assessment’, ‘consonant blends’ or ‘behaviour management’”, all of which are relatively abstract and fragmented notions when compared to the dramatic and multifaceted experience of classroom life (Kemmis et al., 2014, p. 20).

According to Kemmis et al. (2014), critical participatory action researchers, like everyone else, are fascinated by activities in general or in abstraction, but their primary purpose is to change current practices, or “the way we do things around here” (p. 20). It is the assumption that critical participatory action researchers do not need to apologise for seeing their work as mundane and entangled in history; rather, some philosophical and practical dangers of idealism suggest that a more abstract view of practice might allow one to rise above the past (Kemmis et al., 2014). CPAR is an innovative vision of practices as a learning process with tangible results that affect people’s lives, and involves the following:

- What individuals think and say (their sayings), as well as the cultural and discursive structures that shape their perceptions of the world (such as languages and expert discourses). In this study, we reflected on how curriculum practice used to be done, prior to the new dispensation. We invited experienced and retired teachers to share their views on professional teaching standards exhibited in the contemporary teaching setting. We were critical in a constructive way and resolute about thinking prudently about our words and actions (Dansereau & Wyman, 2020).
- What participants perform (their deeds), as well as the material and financial structures that allow them to observe and act in the teaching profession, as well as the persons who normally conduct CPAR. We took precautions and adhered to COVID-19 restrictions, and only had face-to-face meetings once lockdown restrictions had been relaxed; even then we wore masks and practiced social distancing while we engaged in discussions and reflected on how research was to be done and practiced.
- The social and political structures that define how people engage with the world and with others, as well as how they relate to others and the world (Mohr, 2021).
Through CPAR, teachers gain an understanding of how distinct cultural-discursive, material-economic, and social-political circumstances that pertain to a specific region at a specific period in history influence their social and curriculum practices, and due to the endurance of certain situations, how these behaviours are duplicated in everyday social contact in a given location, along with their responsibilities (Fine & Torre, 2019). Critical participatory action researchers become aware of ideas about how to enhance the practices they are producing and reproducing through their existing ways of working, by recognising their practices as products of circumstances. Other (or transformed) practices could be produced and repeated under multiple (or modified) intentions, conditions, and circumstances if their current practices are the outcome of a single set of objectives, conditions, and circumstances. By focusing on behaviours in a concrete and precise way, they become more accessible for examination, argument, and reconstruction, as products of former circumstances that can be changed in and for current and future contexts. The term “action research” refers to a variety of activities, including CPAR. CPAR is unique in that it sees itself as a social practice – in fact, as a practice that changes practices (Sandwick et al., 2018).

CPAR emphasizes a shared goal of making our actions, understandings of our practices, and the environment in which we practice more rational and reasonable, productive and sustainable, and just and inclusive.

When people who are involved in or affected by a practice choose to work together to establish intersubjective agreement on the meaning of the words and concepts they use, as well as mutual understanding of one another’s viewpoints, they create a communicative space for communicative action. CPAR presents a unique perspective on what it means to participate, by concentrating not just on people’s participation in a practice, but also on their participation in public spheres where people involved in or affected by a practice come together (McTaggart et al., 2017).

According to Brooks et al. (2021), critical participatory action researchers are able to develop a theoretical language for discussing their practice. This enables a better understanding of how their practices, which are composed of sayings, doings, and relating bundled together in a project of a practice, are prefigured by, and embedded in historically formed architectural practices (cultural-discursive, material-economic, and social-political arrangements) (Brooks et al., 2021).

**METHODS**

This section will present the design, sample, and the instrument used to generate data. This study used discourse analysis to understand how the hegemonic power behind the discourses, consciously or unconsciously, operates. I also looked, with an architecture lens, to see the deeper meaning of the style, and the ways participants react and interreact through their conversations.
Design
This study adopted a CPAR approach, because the methodology is complementary to architectural theory in that it relates to action, which is a major principle in architectural theory. CPAR offers an opportunity to create professional teaching standards that will encourage teachers to work together as co-participants in the struggle to remake the practices through which they interact in a democracy, without artificial separation (Fine et al., 2021). At its best, CPAR is a social process of collaborative learning with the aim of individual and communal self-formation, accomplished by groups of people who band together to change the ways they interact in a shared social world – a shared social world in which we live with the repercussions of one another’s actions, for better or worse (Brooks et al., 2021). A cohort of lecturers who work collaboratively, and who were registered for Master’s and Doctoral studies, were recruited to participate in the study. A preservice teacher acted as a resource person, and ultimately became a team member in the research endeavour.

Sample
A total of nineteen researchers and co-researchers were recruited, because they were registered for the academic year in question. A sample of six lecturers and twelve Master’s and doctoral students participated in the study (Tshelane & Mahlomaholo, 2015). Some of the lecturers possessed Master’s degree qualifications, and were registered for doctoral studies. The last participant, a student assistant, was registered as a final-year preservice student teacher, and acted as a resource person, particularly in relation to information communication that was required by the study.

Instruments
Virtual and face-to-face contact was used to generate data, and free attitude interview techniques were used as instruments to generate data (Tshelane & Mahlomaholo, 2015). An audio-visual device was used to capture data, which was later transcribed into text representing the reflections of the researchers and co-researchers (Waters et al., 2021).

Data Generation and Analysis
The data generated for the purpose of this study were presented, interpreted, and analysed through CDA. CDA is a type of discourse analysis that has a foundation based on linguistic terms, whether verbal or non-verbal (Maposa, 2015), and that “is concerned with the way abuse of social power, discrimination, inequality, and dominance is enacted, reproduced, and resisted by text and talk in social contexts” (Macgilchrist, 2016; Tshelane, 2015; Van Dijk, 2004). CDA is mainly used to describe, interpret, and explain how text is represented, to enhance “understanding of social phenomena” (Maposa, 2015). For scholars who are interested in using CDA for data interpretation and analysis, there is a close relationship between language choices and texts, since language can be represented through text (Macgilchrist, 2016; Machin & Mayr, 2012; Maposa, 2015; Tshelane, 2015).
When using CDA for data analysis, it is important to consider the context of the text, hence, it is of utmost importance to extract relevant and abandon irrelevant information, since people tend to speak in messages “– verbal or non-verbal – not necessarily in sentences” (Maposa, 2015; Sriwimon & Zilli, 2017; Thompson, 2004; Tshelane, 2015).

Therefore, for the purpose of this study, the verbal and non-verbal discourses of language were considered, to maintain coherence and to understand the meaning of data from the way it was exploited. The discourse can be discussed on three levels, namely analysis of text, the spoken word, and social and discursive practices, to provide a report of findings.

**FINDINGS AND DISCUSSION**

The promotion of professional teaching standards has become a central issue of debate globally, including in South Africa. The South African Council of Educators is the body that is responsible for improving teacher conduct; it is the institution that has already taken the necessary steps to develop a professional teaching standard. This initiative goes a long way to edify teacher curriculum practice capabilities. Curriculum practice is concerned with the way teaching, learning and assessment are conducted in a professional setting.

Higher learning institutions in South Africa are obliged to conduct research that enables all related bodies to work to improve the workforce in South Africa, especially in the area of curriculum practice. South African higher learning institutions are also legally compelled to follow current trends in the research fraternity by engaging in research into epistemologies that provide much-needed training to improve teacher capabilities. Two major findings of the study will be reported on below.

**Creation of Practical Learning Experience for all Teachers**

It is essential to create practical learning experiences for all teachers, because they operate in diverse learning spaces that are characterised by standards that are embodied in the context of eradicating education inequalities in South African society, in general. Crafting, or architecting, professional learning is crucial for generating curriculum content and methodology to deliver the content, which is a key facet of teacher professionalism. SACE has legislated professional standards that are in line with sustaining, supporting and creating inclusive working conditions. When they have a good understanding, teachers become more assured and honest about contributing to decision-making at the workplace. Evidence of this assertion could be seen in one of the virtual discussion forums, in which one of the teachers argued as follows:

I have always noticed that we must protect our profession. I’ve taken it upon myself to assist the new teachers in our school. You know one day as I was passing a colleague’s class, I found a young colleague teaching whilst seated, I never supposed that that could happen in our school. Truly, I was bothered by what I saw, initially I thought the colleague was not well but on inquiry I realised it was her preference. Something just struck me – and after you emailed that SACE document on professional teaching standards that we
discussed in one of our forums I made a copy for my colleague in question and highlighted some standards and requested her to read the highlighted sections just for us to have a conversation the next day: Teaching is based on an ethical commitment to the learning and wellbeing of all learners, Teachers collaborate with others to support teaching, learning and their professional development and Teachers support social justice and the redress of inequalities within their educational instructions and society more broadly.

Considering the extract above, and analysing it as text and spoken word, it became obvious that the understanding of the term “profession” has traditionally been linked to merely an expectation, without deeper thought on the meaning of, for instance, the phrase “Teaching is based on an ethical commitment to the learning and wellbeing of all learners”, which clearly indicates that “knowledge”, and distinguishing “professional practice” from other forms of practice is pivotal for providing goods or services in any society.

After engaging in research innovation, the participant became aware of the expected code of practice that must displayed by professional teachers. The participant shows clearly that, after internalising the expected professional teaching standards, precautionary measures must be taken to protect practice. It might be that the young teacher had been taught the correct way to teach, but never thought much about her actions and how those actions might render her incapable and unprofessional in the view of her colleague.

The language aspect of any social activity is more than the mere reflection and expression of social processes and practices, but is a part of those processes and practices (Fairclough, 2017). As Fairclough posits, language is part of society, and, on the one hand, linguistic phenomena are social, and on the other hand, social phenomena are linguistic. CDA sees discourse as a social practice and implies a dialectical relationship between a particular discursive event and the situation, institution, and social structure, that frames it (Wodak, 2021).

Discourse, according to Ruíz-Gómez (2021), entails any behaviour by which individuals fill reality with meaning. Discourse comprises text, talk, and media, through which ways of knowing, experiencing, and valuing the world are expressed (Ruíz-Gómez, 2021). In CDA, discourse is socially constitutive, in that it sustains and reproduces the social status quo while also contributing to transforming it (Wodak, 2021). Discursive practices are considered as having major ideological effects, in that they produce, reproduce, and maintain unequal power relations between groups of people (Wodak, 2021).

**Teacher Training Institutions are Central to Edifying Teacher Capabilities**

The real sense of teachers being committed to teaching and being able to display a high level of teaching can be credited largely to the quality of teaching provided by teacher training institutions. It is likely that a well-trained teacher will display knowledge of how to teach. A well-trained teacher has a relatively good sense of duty, commitment and passion, and a high moral sense, which resonates with professional skills. These teachers also embody a set of professional
teaching standards that resemble standards proposed by SACE. Higher learning institutions that engage in RRI are likely to be in a better position to produce teachers with high levels of teacher capability. These institutions will add value to the way societies view their graduates. This view was exemplified by a participant in the following comment:

I have a confession to make, ... Please don’t get me wrong, you know during my tenure as a school principal, I always did not look at the student teachers from Baobab University,¹ well I can tell you know those teachers were not well trained.

The extract above shows how one person may be seen as an agent of an institution, because society views someone as the product of an institution, and sometimes their behavior binds all the members of the institution as a collective. This analysis has its basis in a functional view of language (Hernández Rojas, 2008). Its focus is mainly the text, either spoken or written. With CDA, texts are considered to be sites of social struggle, in that they show traces of differing ideological fights for dominance, and of hegemony (Richardson & Wodak, 2009). Textual analysis pays attention to the use of figures of speech that, in a given environment, dominate the discourse (Jeremia, 2013). CDA considers discourse as “an object, giving it the objectivity and making it especially interesting for those who approach discourse analysis from positivist scientific positions” (Ruiz-Gómez, 2021, p. 12). However, Ruiz-Gómez (2021) cautions against treating discourse solely as an object act, because someone who is subjective might reading the texts, selecting the relevant pieces, and establishing the necessary relationships or significances behind the seeming objectivity of textual analysis. This suggest that text can, thus, be regarded as either objective or subjective. An example may be the use of words, concepts, and phrases that suggest the meaning that a particular higher learning institution is responsible for ensuring professional teaching standards, which are expressed through the capabilities of teachers who graduate from that institution. These words are loaded with power and have social justice connotations. The research participants were able to identify the key priorities for ensuring the success of the study and balanced power relations (Jeremia, 2013). Thus, using textual analysis enabled the research participants to unveil underlying meanings of power domination. Power can be exercised directly or indirectly – indirectly through syntax, rhetoric, or turn-taking. It can also be exercised through linguistic surface structures that include “tone, hesitation, pauses, laughter, or forms of address, or by controlling context” (Mullet, 2018, p. 131). Mullet (2018) explains that power influences, among other things, knowledge, beliefs, understandings, ideologies, norms, attitudes, values, and plans, and CDA seeks to uncover, reveal, and disclose implicit or hidden power relations in discourse.

The first step of textual analysis is usually to translate a discourse into its textual form. As Ruiz-Gómez (2021, p. 10) asserts, “this translation of non-textual discourse into a textual form constitutes the first phase of textual analysis and should therefore be done according to criteria and procedures”, to ensure these two procedures, namely, description and

¹ Pseudonym
transcription, are applied. Description applies to non-verbal discourse, while transcription applies to spoken discourse. Furthermore, according to Ruíz-Gómez (2021), the description and transcription should include all of the text's antecedents and contextual aspects that can aid in its understanding. As a result, all nonverbal events, such as silences and their duration, modulations, and emphasis, should be included in the transcription. All elements of the context in which the discourse has been produced should be included in meaningful movements and expressions.

CONCLUSION

From the discussion of the findings of this study, it is clear that teacher capabilities and professional teaching standards cannot be separated. It is, therefore, key to note that teachers are the architects of their own profession. Higher learning institutions are compelled to continuously improve on their research initiatives; they should continually find new solutions to education-related challenges, which are predominantly displayed through inequality. Higher education institutions should use a policy framework for professional teaching standards to take the opportunity to engage in RRI, to architect practical skills. The rational of professional teaching standards is to minimise education inequality, unemployment, poverty and social upheavals. RRI on curriculum practice would enable teachers to employ a variety of strategies to ensure that learners not only acquire knowledge and skills, but also benefit and learn in a manner that indicates that learners are able to do what they have been taught. Hence, the discussion on RRI shows that curriculum practices that are driven by genuine participation by people at grassroots levels, as a strategy employed by teachers, could be an essential tool to ensure that professional teaching standards are achieved.

Thus, RRI is a strategy that is useful for improving professional teaching standards worldwide. This study recommends that the preconfigured standards for professional teaching practice are reconfigured, to provide a de-hierarchical list, and to avoid decontextualized performance and false dichotomies. The process of engaging teachers as communities of practice must be fully integrated in developing the standards that have bearing on the future of teachers. Lessons can also be drawn from participatory ways of allowing people to contribute to compiling standards for professional teachers.

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