



International Journal of Higher Education and Sustainability

ISSN online: 2056-4031 - ISSN print: 2056-4023
<https://www.inderscience.com/ijhes>

Critical reflective teaching praxis: lessons from oral hygiene educators in South Africa

Angelique Kearney, Oncemore Mbeve

DOI: [10.1504/IJHES.2025.10071095](https://doi.org/10.1504/IJHES.2025.10071095)

Article History:

Received:	08 October 2024
Last revised:	20 March 2025
Accepted:	30 March 2025
Published online:	24 July 2025

Critical reflective teaching praxis: lessons from oral hygiene educators in South Africa

Angelique Kearney

Dr Kearney Advanced Dentistry,
2 Blackberry Str., Zwartkop, Centurion,
Gauteng, South Africa
Email: angelique.kearney@gmail.com

Oncemore Mbeve*

African Centre for Migration and Society,
University of the Witwatersrand (Wits),
P.O. Box 76, Johannesburg, 2050, South Africa
Email: oncemorembeve@hotmail.com

*Corresponding author

Abstract: This paper explores perceptions, motivations, and critical reflective teaching praxis for oral hygiene educators, who mostly are subject matter experts without formal training in pedagogy. Through qualitative data that was collected from all 13 oral hygiene educators in a department of a university based in Johannesburg, the study highlights how the praxis of critical reflective teaching improves instructional methods and supports professional identity development. We found critical reflective teaching as crucial for maintaining high standards in the profession, fostering continuous learning and adaptability. Motivations for critical reflection included personal growth and the desire to enhance student learning outcomes. However, lack of formal structures supporting reflective teaching emerged as one of the challenges. There is need for institutional support, including reflective teaching frameworks and professional development programs. Furthermore, formal structures should be established and constructive feedback should be normalised to promote critical reflective teaching praxis.

Keywords: critical reflective teaching; oral hygiene educators; pedagogical training; instructional methods; higher education.

Reference to this paper should be made as follows: Kearney, A. and Mbeve, O. (2025) 'Critical reflective teaching praxis: lessons from oral hygiene educators in South Africa', *Int. J. Higher Education and Sustainability*, Vol. 5, No. 3, pp.246–263.

Biographical notes: Angelique Kearney is an oral hygienist/practice Manager at the Dr Kearney Advanced Dentistry. She is currently exploring the PhD options to which she can enrol. She is also involved with sessional teaching of oral hygiene in the University of the Witwatersrand. With her rich experience in oral hygiene, her research interests are on: improving oral hygiene in South Africa, teaching oral hygiene, critical reflexive teaching, and related topics.

Oncemore Mbeve is a PhD researcher in the African Centre for Migration and Society at the University of the Witwatersrand. His research interests are on education, migration and sexual health, and migrants' strength to survive in the foreign places they find themselves. His PhD research explores the mediators of sexual decision making (SDM) for young migrant men living in Johannesburg inner-city. He is also a research supervisor in the University of the Witwatersrand's Department of Social Work.

1 Introduction

Strengthening South Africa's higher education (HE) system is vital for the socioeconomic development and sustainability of the Southern African Development Community (SADC) region and the broader African continent. South Africa, as a top destination for students from the SADC region (Schoole and Phatlane, 2020), is uniquely positioned to lead this effort. Research highlights that South African institutions of higher education (IHE) play a crucial role in regional socioeconomic transformation by fostering critical engagement in students, thus promoting education for sustainability (Mbeve and Mhlanga, 2022; Mbeve et al., 2023; Schoole and Phatlane, 2020; Shava et al., 2020).

Several teaching and learning theories, including Vygotsky's zone of proximal development (ZPD) and lifelong learning theory, emphasise the need for a conducive learning environment to nurture critical thinking (Chibambo, 2024; Mbeve and Mhlanga, 2022; Mbeve et al., 2023). Such environments are essential for producing HE graduates who are equipped to address regional challenges like unemployment and contribute critical skills for socioeconomic sustainability (Mbeve and Mhlanga, 2022; Mbeve et al., 2023).

In this paper we use a theoretical framework that blends Vygotsky's ZPD and the social identity theory, to better understand our findings and advance the discussions on education for sustainability. We also draw on the concept of praxis, as developed by sociologists Karl Marx and Paulo Freire (Freire, 1970; Jung, 1987; Souza and Santos, 2024; Torres, 2024; Wainwright, 2022). Praxis refers to the process of translating theory into practice. In this paper, we use the concept to examine how educators understand and apply critical reflective teaching in their everyday practice, as reflected in their reports through our findings.

This paper contributes to the discourse on HE for sustainability (Adhikari and Shah, 2021; Agarwal et al., 2023; Chelawat and Sant, 2023) by examining the context of teaching and learning, specifically through insights from semi-structured interviews with Oral Hygiene educators in a Johannesburg-based IHE. The aim is to explore educators' understanding and application of critical reflective teaching. In South Africa, oral hygienists, like their counterparts in other countries known as Dental Hygienists, primarily focus on practice rather than teaching, with little research on their pedagogical practices. This paper examines how they engage in critical reflection, offering insights that could inform Oral Hygiene education in South Africa and beyond.

In South Africa, oral hygienists play a crucial role in preventive dental care and education, regulated by the Health Professions Council of South Africa (HPCSA). Their various responsibilities include patient education on oral health, participation in

community health initiatives, administering preventative treatments, and contributing to a multidisciplinary approach to dental care.

Our approach to critical reflection aligns with Dewey's (1910) concept of fostering active consideration of beliefs and knowledge, essential in educational contexts (Liu, 2015; Yaacob et al., 2020). We also draw on Tripp and Rich's (2012) perspective, viewing reflection as a self-critical process that enhances pedagogical practices, encouraging educators to critically assess their teaching decisions and their impact on student learning.

2 Literature review

Research has relatively recently considered critical reflective practice as a fundamental aspect of teacher education and professional development, for educators in several health departments including dental hygiene (Jarvis and Mthiyane, 2022; Nagatani et al., 2022; Yaacob et al., 2020; Ziada et al., 2024). This research is critical for this paper. While the current paper focuses on Oral Hygiene educators' praxis of critical reflection in teaching, literature on any students' reflection in learning is helpful for contextualisation. As demonstrated by Yaacob et al. (2020), reflective learning not only cultivates critical thinking skills among students but also fosters self-awareness regarding their learning processes.

Research demonstrates that engaging in reflective learning encourages students to step back and analyse their experiences, thus facilitating a deeper understanding of their educational journey (De Witt et al., 2024; Diacopoulos et al., 2022; Marshall et al., 2022). This approach resonates with Yang (2009), who highlights the benefits of using blogs as a reflective tool, allowing both teachers and students to engage in critical reflection and developing a community of practice. In similar light of the platform for critical reflection praxis, in Gün's (2011) study, the use of videos that teachers recorded themselves teaching, was critical in obtaining best results for their development. The findings from these studies underscore that reflective thinking, especially through collaborative learning, in platforms as blogs and videos, promotes knowledge sharing as well as enhances pedagogical methods, ultimately leading to self-development.

The emphasis on critical reflective practice is echoed in Nagatani et al. (2022), where they explore how dental hygiene students' perceptions of their professional roles are shaped by their educational experiences. The study identifies key aspects of perception change: the relationship between knowledge acquisition and professionalism, the evolution of students' views on their responsibilities, and the transition from an individualistic to a team-oriented perspective in healthcare. Such changes highlight the significance of understanding core values and behaviours in health professions education, aligning with the idea that critical reflective praxis can guide identity formation among students, and professionals.

Similarly, Ziada et al. (2024) emphasise the role of hands-on experiences in bridging the gap between theoretical knowledge and practical skills. Their research indicates that dental students' engagement in clinical training not only enhances their understanding of dental implants but also fosters confidence and enthusiasm for future patient interactions. This points to the broader implications of critical reflective praxis in developing a holistic understanding of patient management and treatment planning, needed components in the training of health professionals.

In the context of social responsibility, Jarvis and Mthiyane (2022) discuss the necessity for pre-service teachers in South Africa to engage in empathetic-reflective-dialogical re-storying to address xenophobia and promote social inclusivity. Their findings advocate for a recontextualisation of teaching practices to foster sustainable social cohesion, thereby linking critical reflective practice with broader societal issues. This aligns with Jarvis (2021), who suggests the integration of such reflective strategies in religion education to support decolonisation and empower students as active agents in their learning.

Additionally, Nocetti et al. (2020) underscore the importance of structured reflective practices, such as the Reflexive Cycle of Teaching Learning (CRAD), in enhancing teaching reflection among educators. Similar to Gün's (2011) findings, Nocetti et al. (2020) argue that without adequate training and opportunities for reflection, teachers often default to reactive rather than reflective practices. This sentiment is further echoed by Saric and Steh (2017), who assert that critical reflection is essential for the professional growth of educators, enabling them to adapt and innovate in their teaching strategies to enhance student learning outcomes.

Our reviewed literature collectively highlights that reflective practice is not merely a pedagogical tool but a transformative process that shapes professional identities and ethical responsibilities in health education. By fostering critical reflection, educators can equip students with the skills necessary to navigate their professional journeys, contributing to a more critical reflective and socially responsible practice in healthcare settings.

Nagatani et al. (2022), also shows that by teachers demonstrating being reflective in their teaching, they influence students' future practice as professionals, that is they also realise the value of reflection and may adopt it in their practice. As further demonstrated by Ziada et al.'s (2024) study, some students strongly enjoy their learning experience and absorb what they learn with an enthusiasm to apply it to their professions, when they eventual begin to work. This demonstrates that by collaborating, with their educators in critical reflection, students are motivated to think beyond their day-to-day profession, which may be highly clinical, and they become more cognisant of their environment as well as the socioeconomic implication of their praxis. This also speaks to social learning theory, where a behaviour may be socialised in students (Chuang, 2021; Stewart, 2021).

While the above studies provide an understanding of critical reflection, they mostly focus on dental hygiene, medical and nursing teaching, and other fields with an exception of oral hygiene, which is the focus in this study. In addition, far less research on critical education among oral hygiene is conducted in the South African context, with a nearly obvious outcome that less knowledge is generated to enhance Oral Hygiene education, especially compared to other fields.

Despite the limitations in the existing research, with particularly very limited focus on South Africa's Oral Hygiene education, the existing research demonstrates that the praxis of critical reflection has several positive contributions in teaching and learning. In students, it allows them to develop critical thinking skills and foster self-awareness of their learning (Yaacob et al., 2020). It further allows students together with teachers, as a community of practice, to understand themselves within the teaching and learning context (Hakkola et al., 2021; Pentón Herrera and McNair, 2021; Weinberg et al., 2021; Yaacob et al., 2020). This suggests that the praxis of critical reflection carries a crucial benefit to teaching and learning through enhancing learners and educators' role, and therefore,

helping them to be better dedicated and driven to enhance positive change within their profession.

Furthermore, Yaacob et al. (2020) suggests that, and important in the current study, critical reflection helps educators to share information with colleagues and students, to use it for improving their professionalism. This is often through the educator being more conscious of the ethical implications and consequences of their teaching practice (Yaacob et al., 2020).

3 Theoretical framework

This paper primarily integrates the ZPD and SIT to critically explore the perceptions, motivations, and critical reflective teaching praxis for Oral Hygiene educators, particularly in a setting where it is neither formally expected nor enforced. Using these theories, we argue that

- 1 critical reflective teaching
- 2 the development of identities as
 - a oral hygienist educators
 - b oral hygienist practitioners – who are mainly influenced by the educators’ teaching praxis – are shaped by the dynamic interplay of social relations.

Therefore, our analysis emphasises the importance of the social context in which learning occurs, the relationships that emerge within it, and how these factors influence the formation and maintenance of professional identities as oral hygienists.

ZPD is commonly applied in teaching and learning contexts to understand how knowledge co-creation can be improved to enhance outcomes, particularly for learners (Ariya et al., 2019; Hsu et al., 2023). In our previous study, we used ZPD to explore how HE can be improved to promote education for sustainability (Mbeve et al., 2023). In this paper, we extend this narrative by using ZPD to examine how educators’ own critical reflective teaching praxis advances their ZPD, expanding their knowledge and further praxis. We also demonstrate how their praxis of critical reflective teaching plays a key role in socialising the oral hygienists they teach into a practice of critical reflection, beyond the classroom.

While this paper primarily focuses on educators’ understanding and praxis of critical reflection in teaching, we argue that their praxis directly influences learners. Learners may recognise the value of critical reflection through their educators and apply it in their own professional practice as oral hygienists. At this point, we introduce social identity theory (SIT) to deepen our analysis of how Oral Hygienist professional identities are shaped from critical reflective teaching.

SIT, developed by Henri Tajfel and John Turner in the 1970s (Tajfel and Turner, 1978; Turner et al., 1979), explains how individuals derive their identity and self-worth from the social groups to which they belong. The theory suggests that self-concept consists of both personal identity (unique attributes and traits) and social identity (group memberships) (Stets and Burke, 2000; Trepte and Loy, 2017). In this paper, we apply SIT to illustrate five factors:

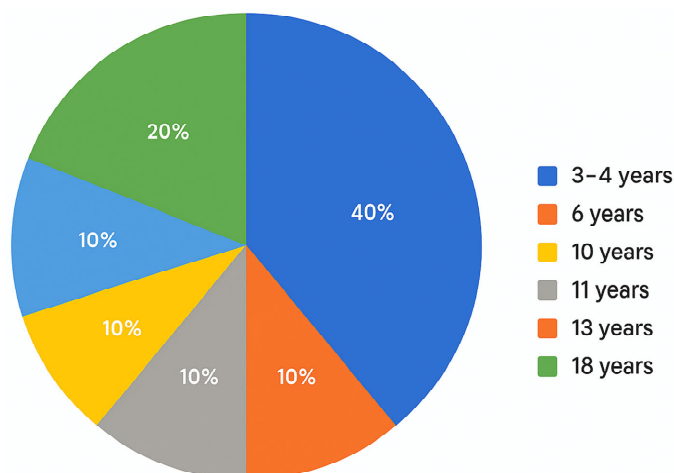
- 1 group identity formation
- 2 in-group and out-group dynamics
- 3 the role of the social context
- 4 identity construction through practice
- 5 identity maintenance.

These factors are critical to understanding professional identity formation, particularly in developing and sustaining an in-group culture and values that oral hygienists identify with and embody (see Nagatani et al., 2022; Wenger, 1999).

4 Methods

The data used in this study emanates from a master's research project. In the current paper, we analysed all the data that was collected for the study. The study is qualitative in nature, and prior to data collection an ethics clearance was acquired from the University of the Witwatersrand. The protocol number for the ethics clearance is: M220206. Purposive sampling was used to recruit participants particularly from one department in the whole school. This was intended to specifically understand the experiences of Oral Hygiene educators, whose views, as a representative of the profession in South Africa, and specifically within their department, have been understudied. The study was conducted in an Oral Hygiene department in an IHE that is based in Johannesburg, and all the staff members in the department were interviewed using semi-structured interviews. Below is the demographic information about the study's participants:

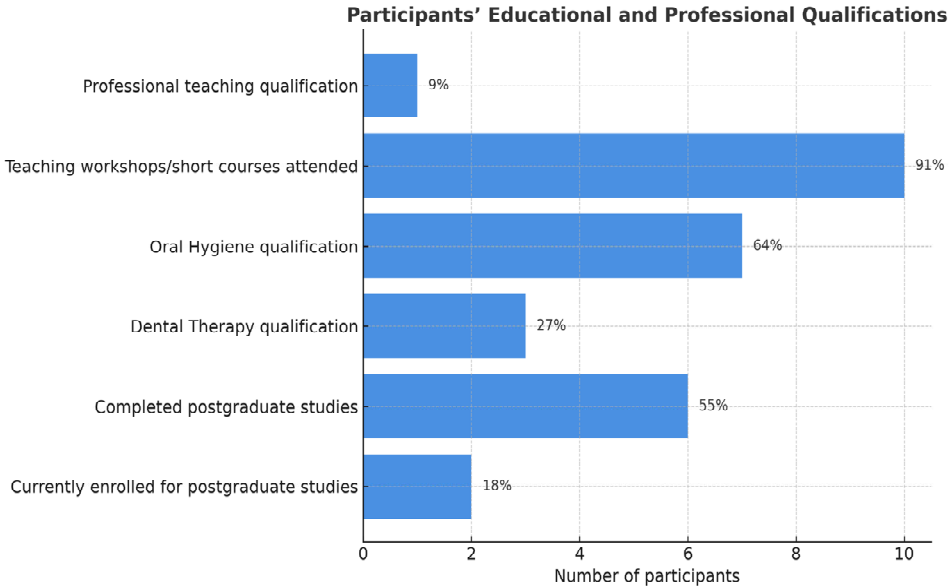
Figure 1 Years of teaching oral hygiene students (see online version for colours)



All educators were qualified oral hygienists or dental therapists by profession. They possessed teaching experience ranging from 3 to 18 years (Figure 1). While only one educator had a formal teaching qualification, all educators attended introductory and other teaching and learning workshops, as well as short courses throughout their teaching

careers (Figure 2). Additionally, some educators had either completed or were currently pursuing postgraduate studies, including diplomas, masters and PhDs in Health Science Education and other related fields. We analysed data for this study using thematic data analysis approach, which was influenced by Braun and Clarke’s (2006) six-steps. Thereafter, findings in the current paper are presented using themes.

Figure 2 Qualifications and attended workshops/conferences (see online version for colours)



5 Findings and discussion

The following sections present the findings of this paper, organised thematically. These themes reveal participants’ understanding of critical reflective teaching praxis, and the valuable insights they offered on improving it.

5.1 Participants’ understanding of reflection

In this study, participants demonstrated a diverse yet interconnected understanding of the praxis of critical reflective teaching. To set the foundation for our subsequent discussion of the findings, we begin by exploring these interpretations of critical reflective teaching praxis. While primarily focusing on the empirical findings from the current study, we make comparisons to international contexts as reflected in existing literature. As we previously highlighted, the social context plays a crucial role in shaping the praxis of critical reflective teaching – a point reinforced by the participants, as illustrated in P2’s quotation below:

“...in my own words. Reflection is like you know, I would say its more like revision finding out whether what I did was right or wrong how can I improve if a situation like this arises how would I tackle it.” (P2)

P2's approach to critical reflective teaching recognises the social context in which teaching occurs and how actions influence the teaching environment. Comparatively, the socioeconomic context has indeed been central in the decisions and implementations of critical reflective teaching, including at national level in Australia, which has so far officialised critical reflective teaching through the National Quality Standard (NQS) (Beamish and Williams, 2021; Irvine et al., 2024). Furthermore, if we draw on Freire's (1970) concept of praxis, which highlights the inseparable relationship between reflection and action, P2's narrative critically evaluates his/her teaching practices in light of the teaching impact. The values of 'right' and 'wrong' in P2's praxis are shaped by the broader social system, with learners and colleagues serving as both observers and participants, thus forming a crucial social context for reflection. This sense of being observed informs P2's praxis, contributing to the development of professional identity among oral hygienists, a narrative that is partly considered in Nagatani et al.'s (2022) longitudinal study conducted in a Japan university.

P2's reflective praxis aligns with Landreman (2023) view that critical reflection enables educators to challenge underlying assumptions in their teaching and ensure their practices conform to socially accepted norms. This encourages socioeconomic sustainability in education, and dynamic system that constantly changes to ensure that it responds but also is prepared to deal with contextual challenges (Sandri, 2022). By engaging in critical reflection, P2 refines their own teaching, eliminating practices considered 'wrong' and reinforcing those seen as 'right', based on professional standards. In doing so, P2 also socialises students into the values and norms of the profession. This professional socialisation process, as Wenger (1999) explains through communities of practice, plays a vital role in shaping and maintaining the professional identities of future oral hygienists, ensuring they embody the profession's expectations. The dichotomous, wrong and correct, narrative as well as that the praxis of critical reflective teaching takes place in its social context is continued in the following quotation:

“...reflection would be, for me, you self-evaluate the work you've done, and then you try and come up with a mechanism in order to be able to correct discrepancies or problems if there were any.” (P7)

In the above quotation, P7 acknowledged the significance of the social context and the awareness of being observed in critical reflective teaching praxis. However, P7 also emphasised the importance of individual-level praxis. P7's response illustrates a clear interconnection between personal values, or agency, and the broader social system, or structure, in shaping critical reflection, aligning with previous research that critical reflection involves recognising and challenging assumptions embedded in one's praxis (Morley and O'bree, 2021; Rolfe and Freshwater, 2020). Like P2, P7 underscored that critical reflective teaching is essential for developing and upholding professional values and norms, particularly in safeguarding the in-group identity of the Oral Hygiene profession.

P7 refers to *coming up with a mechanism to correct discrepancies*, which emphasises the importance of ongoing self-improvement in both teaching practices and professional identity formation, a concept supported by Schoen's (1983) idea of reflective practice as a means to foster professional growth. This approach is also noted in Australia's NQS (Beamish and Williams, 2021; Irvine et al., 2024) and in Singapore's Teaching Practice (STP) model (Kwek et al., 2024). These examples indicate the cruciality of reflective teaching at nationwide level, and a sense that it is a continues process in which educators

together with students co-learn the process of teaching especially because the professional identity that they are developing must be trusted, rigorous, and recognisable nationally.

Moreover, P7's emphasis on continuous learning reflects the broader theme of lifelong professional development, vital for maintaining the standards and identity of the profession. According to Wenger (1999), the process of engaging in communities of practice encourages individuals to develop their professional identities through ongoing learning and social interaction. P7's perspective reinforces the notion that reflective teaching praxis not only enhances individual competencies but also contributes to the collective identity and standards of the Oral Hygiene field.

In alignment with P7, P9 elaborated on how *self-evaluation*, rooted at the individual-level, can be effectively conducted:

“...Reflection for me is like a throwback. So, you're taking serious consideration and thought into whatever it is that you did at that moment and compare it against what you taught.” (P9)

P9, above, highlighted the significance of a *throwback* approach, emphasising the need for thorough reflection on daily teaching practices with the goal of continuous improvement. This perspective underscores the importance of praxis, where reflection is not merely an introspective exercise but a vital mechanism for enhancing teaching effectiveness. As contemporary studies and theory suggests, reflective practice involves critically examining one's actions to foster deeper understanding and improvement (Morley and O'bree, 2021; Rolfe and Freshwater, 2020; Schoen, 1983). By actively comparing past actions to teaching goals, P9 demonstrated a commitment to refining their practice, embodying the principles of lifelong learning and professional development, which would also promote sustainable HE and its long-term impact in the real world (Bortz, 2023; Mlambo et al., 2021; Şen and Yildiz Durak, 2022). In the following section, we explore the context in which critical reflective teaching is enacted, further illuminating its impact on educators and their professional growth.

5.2 Contextualising reflection

The findings of this study demonstrate that the social context in which critical reflection praxis occurs plays a crucial role. The participants, Oral Hygiene educators, recognised that critical reflective teaching is intertwined with their learners and that they themselves are embedded in a broader social system of teaching and learning. P4 illustrated this awareness, acknowledging that the praxis of critical reflection requires an understanding of one's own limitations as an educator:

“Even myself, remember that we are not perfect because we are their lecturers, we are also learning something from them even if they are students.” (P4)

P4's comment, above, highlights the co-construction of knowledge, a key element of Vygotsky's ZPD. ZPD suggests that learning occurs within a social context, where more knowledgeable individuals support learners in reaching higher levels of understanding (Irshad et al., 2021; Ni, 2022; Vygotsky, 1978). P4's openness to learning from students demonstrates that, although being an 'expert' their recognises, through critical reflective teaching praxis, that their knowledge is not absolute. This humility enabled P4 to engage in deeper critical reflection, pushing their own ZPD as they expand their understanding

through interaction with students. Thus, critical reflective teaching praxis is most impactful when educators acknowledge their positionality and limitations, fostering a continuous process of growth and self-improvement (Morley and O'bree, 2021; Rolfe and Freshwater, 2020; Schoen, 1983).

Similarly, P6 reflected on their role as a teacher, framing it within the social system of learning:

"It's not, it's not about me, it's about the students... because you are a hygienist doesn't necessarily mean that you will be able to teach oral hygiene... but more than anything else, it's like parenting. Our classes are very small."
(P6)

P6's analogy of teaching as parenting, emphasises the nurturing aspect of the socialisation process in the praxis of critical reflective teaching. This sense of personal-level accountability has been found to be supportive in implementing the several critical reflective teaching in contexts where it is already being implemented, see for example the Australia and Singapore examples (Beamish and Williams, 2021; Irvine et al., 2024; Kwek et al., 2024). In line with SIT, which posits that individuals derive their sense of self from group membership (Tajfel and Turner, 1978; Turner et al., 1979), P6, above, recognised their responsibility in shaping students' professional skills and their professional identities. The small class sizes allow for stronger social bonds, fostering a sense of belonging among students as they are socialised into the norms and values of the Oral Hygiene profession. This mirrors the findings of Mbeve and Mhlanga (2022) as well as Mbeve et al. (2023), where smaller class environments promoted stronger social identities among learners, enhancing their professional identity development.

Furthermore, P6's recognition that being a hygienist does not automatically equate to being an effective educator aligns with the idea that teaching requires ongoing development, not only in subject knowledge but in pedagogical skills as well (Martinez, 2022). Through critical reflection, P6 acknowledged that teaching itself is a practice that must be continuously refined, underscoring the importance of lifelong learning (Bortz, 2023; Mlambo et al., 2021; Schoen, 1983; Şen and Yildiz Durak, 2022).

P1 also emphasised that critical reflective teaching is a process learned over time:

"I can't say it's often, I will be lying, I would just, because am doing it for so long like, it comes with experience and practice where you can quickly gauge where your issues are." (P1)

P1's reflection reveals that critical reflective teaching praxis is not an inherent skill but one developed through experience and consistent engagement. This ongoing process aligns with the ZPD framework, where educators, through reflective practice, push their own boundaries of understanding and competence. It also underscores the role of praxis as advocated by Freire (1970), highlighting the dynamic and iterative nature of learning as educators.

Overall, the participants' perspectives in this theme show that critical reflective teaching praxis is a gradual and ongoing process that requires intentional engagement. This engagement enhances individual growth as educators and also plays a crucial role in shaping the professional identities of both teachers and students within the Oral Hygiene field. In the next section, we explore participants' motivations for engaging in critical reflective teaching.

5.3 *Participants' motivation for reflection*

Teachers' motivations for critical reflective teaching praxis are relevant in helping us understand how they shape, and maintain their praxis, as we have reflected above, and in the next theme. Our findings indicate that educators were primarily motivated to engage in critical reflection for personal and professional growth. P4, for instance, highlighted personal development as a key motivator:

“...it stays with me just like I do it for my own personal growth.” (P4)

Similarly, P8 expressed enjoyment and a sense of fulfilment in the reflective process:

“Look, I do what I enjoy. I do what I like. It helps in terms of preparation, and it helps in terms of an approach.” (P8)

The above statements demonstrate that personal fulfilment and professional development are closely linked, motivating educators to refine their teaching practices. This individual motivation aligns with ZPD, as reflection facilitates personal growth by identifying areas where educators can advance their skills through self-assessment and learning from others (Vygotsky, 1978; Yaacob et al., 2020). Through critical reflection, educators can identify gaps in their knowledge or praxis, thus pushing the boundaries of their own ZPD.

Participants also reflected on how their teaching was influenced by specific events, both positive and negative. As P1 indicated, reflection often occurs in response to recognising gaps in teaching:

“...reflection is not something that just comes naturally I think, it is something that you almost have to be pushed or you have to realize that there is a gap somewhere that then now prompts you.” (P1)

Although previous research (Gün, 2011; Nocetti et al., 2020) criticises responsive critical reflective teaching praxis for being limited and lacking creativity, P1 highlights the benefits of its deliberately reactive nature, especially for educators without formal teaching qualifications. Many participants, including those not formally trained as educators, were motivated to reflect on their teaching practices to bridge knowledge gaps and improve their pedagogy. This intentional engagement is crucial for educators who teach specialised subjects like Oral Hygiene but may lack formal teaching training. By identifying gaps in their teaching, educators can actively seek to improve, moving toward higher levels of competence within their ZPD (Schoen, 1983). P6 echoed this idea but also highlighted that reflection does not only occur in response to challenges:

“...reflection doesn't necessarily have to always be negative, you know, but positive reflection also encourages you and motivates you to do better next time, you know, even better next time.” (P6)

Here, P6's perspective emphasises that positive reflection can be equally motivating, enabling educators to recognise their strengths and build on them. This reflects SIT, where individuals' sense of self is shaped by their group membership (Tajfel and Turner, 1978; Turner et al., 1979). In this case, educators derive motivation from their belonging to the professional group of Oral Hygiene practitioners. Positive reflection helps reinforce their professional identity, motivating them to continue improving for the benefit of their students and their profession.

Moreover, P3 linked critical reflective teaching praxis to the practical application of knowledge, a crucial motivator:

“Because uhm you know I get motivated I teach something we put it into practice, and they improve maybe they start slowly not getting the concept and as they keep on practicing the skills become better and better.” (P3)

P3’s statement highlights the role of reflection in reinforcing the connection between theory and practice. Through reflective teaching, educators can observe how students apply concepts in practical settings, which fosters a sense of accomplishment for both parties. This co-reflection with students aligns with ZPD, as educators not only guide students but also learn from observing their development (Mbeve et al., 2023; Vygotsky, 1978). The process of reflection thus becomes a collaborative endeavour that reinforces both the educator’s and the student’s growth.

In summary, educators’ motivations for engaging in critical reflective teaching praxis are multifaceted. Personal growth, the identification of gaps in teaching, and the recognition of strengths all serve as driving forces for reflective practice. These motivations are reinforced by the social context in which educators operate, including their professional identity within the Oral Hygiene field and the collaborative nature of teaching and learning. By consistently applying critical reflective teaching praxis, educators can enhance their teaching practices, foster professional growth, and better support their students in reaching their full potential.

5.4 *Adjustments and lessons about reflection*

In the preceding themes, we explore participants’ perceptions of critical reflective teaching, how they contextualised it, and their motivations for engaging in it. In the current theme, we focus on adjustments participants identified as necessary for improving their reflective teaching praxis. These insights offer important lessons for the participants themselves and potential future directions for other Oral Hygiene educators.

For P1, the need for a structured approach to reflection was central:

“...uhm for myself I do feel that I need a bit more structure in how I do it, I do need to keep more notes about it, I do need to you know find pointers... you need to be able to be contextual and come with the times, and that will only come with more self-development.” (P1)

The participants in this study were not required to engage in structured reflective praxis by their department. Instead, reflective teaching was an individual effort that educators took upon themselves, as noted in earlier themes. However, P1 recognised that implementing a more structured approach – such as keeping detailed notes and focusing on context – would enhance their critical reflective praxis. This echoes ZPD, where learning is supported through scaffolding (Mbeve et al., 2023; Vygotsky, 1978). In P1’s case, the desired structure would act as a form of scaffolding, helping educators progress toward more effective reflective practice.

Furthermore, participants, including P1, P10, and P9, emphasised that critical reflective teaching should not discourage educators but rather support their development. Criticism, whether from colleagues or students, should be constructive and aid in self-improvement. P10 explained:

“...it’s just making sure that if there’s any criticism, you use it constructively, don’t use this to or take it personally or anything.” (P10)

P10, above, suggested that critical reflective teaching, when framed constructively, positively contributes to professional growth. P10’s emphasis on not taking criticism

personally aligns with SIT, which posits that individuals' identities are shaped by their group memberships (Tajfel and Turner, 1979). In this case, educators' willingness to accept and learn from criticism strengthens their professional identity within the Oral Hygiene teaching community, allowing them to view feedback as an opportunity for development rather than a threat.

P9 added that the ultimate goal of critical reflective teaching praxis is to implement changes that enhance teaching practices:

"...the minute you start reflecting, the biggest thing is that you have to make changes... I'm one of those people who changes her lectures each and every year... maybe find other ways to give the lecture to ensure that they understand the information better. If it helps, I'm not quite sure, but I feel good, with the changes that I make every year." (P9)

P9's commitment to modifying their lectures annually demonstrates that reflection is not a static process but one that requires continuous dedication and adjustment. P9's willingness to experiment with new teaching methods to improve student understanding also highlights the importance of praxis (Ahsanu et al., 2020; Freire, 1970; Kemmis et al., 2020; Magill, 2021). This reflects how reflective teaching not only enhances individual educators' knowledge but also contributes to their students' learning experiences, as changes are made to accommodate diverse learning needs.

Moreover, the above changes are part of a longer-term commitment to critical reflective teaching praxis, especially for professionals who may not have formal teaching experience. P9's approach illustrates how critical reflection is a developmental process that requires time and effort to effectively implement. Educators who are content experts but lack formal pedagogical training can benefit from engaging in critical reflective teaching praxis, as it offers a way to bridge the gap between subject knowledge and teaching skills. This aligns with the concept of ZPD, as reflective teaching allows educators to grow within their professional capacity by continuously expanding their knowledge and abilities (Schoen, 1983).

Overall, in this theme participants' reflections reveal the importance of creating structures that support critical reflective teaching praxis, fostering constructive feedback, and implementing changes based on critical reflection. These adjustments, though individually driven, can significantly enhance teaching quality, professional identity, and the learning experiences of students. For Oral Hygiene educators, especially those without formal teaching qualifications, critical reflective teaching praxis serves as a vital tool for professional development and improved student outcomes.

6 Limitations of the study

This paper thoroughly explores educators' experiences in critical reflective praxis. However, there are some notable limitations that we discuss on this section. While we conducted interviews with all 13 educators in the department that we focused on, this overall number is limited particularly compared to all IHEs that teach Oral Hygiene in South Africa. In this regard, the findings for this paper have limitations in generalisation. Nonetheless, we note that qualitative research approach often relies on a small sample and rather the depth of the findings is more crucial than the number of the participants.

In the similar line with our limited number of participants, our ethics committee did not allow us to expand the scope of our sample to students in the department, for more nuanced findings. Therefore, the findings expressed in this study are bias to the educators, again, notwithstanding that qualitative research is inherently bias in all aspects of the research process. We further acknowledge that this study only used qualitative research methodologies, which could have been complemented by quantitative methodologies to be able to produce measurable findings. However, future studies, especially conducted in South Africa, can fulfil this aspect, building on from this paper.

7 Conclusions

This paper explores the perceptions, motivations, and critical reflective teaching praxis for oral hygiene educators. Findings illustrate that educators recognise critical reflection as crucial in improving their teaching methods and professional growth. Participants show an awareness that, although they take key agency-driven steps, critical reflective teaching is not merely an individual process but is influenced by the social context in which teaching occurs. In this paper we use Vygotsky's ZPD and SIT, to analyse the data, while we make necessary international comparisons. In this approach of data analysis, we find that educators realised that their reflections and growth are scaffolded by interactions with their students and peers. The study emphasises that critical reflection allows educators to challenge their existing knowledge, question their teaching practices, and adopt new strategies.

In alignment with SIT, the participants also noted that teaching is a co-constructed experience where their role, as educators, shapes and is shaped by the collective identity of the Oral Hygiene profession. Through reflective teaching, educators position themselves not only as transmitters of knowledge but as learners alongside their students. This creates a professional identity that embraces humility, adaptability, and continuous learning. Reflective teaching fosters professional growth over time, with changes made to teaching methods enhancing both the educator's self-confidence and the learners' understanding.

The study highlights several recommendations for future praxis and research. There is a need for formal structures within educational institutions to support critical reflective teaching. As participants noted, the absence of a structured approach can hinder or discourage effective praxis of critical reflective teaching. Institutions could implement reflective teaching workshops or create a framework that encourages educators to systematically engage in reflective practices, such as keeping reflective journals and engaging in peer reviews. In addition, professional development programs should focus on building reflective teaching skills, particularly for educators who are subject specialists but may lack formal training in pedagogy. This would help promote critical reflective teaching and bridge the gap between content knowledge as well as teaching expertise.

Furthermore, constructive feedback should be institutionalised as part of the critical reflective process, encouraging educators to see criticism as an opportunity for growth rather than a personal attack. Fostering a culture of openness to feedback and peer evaluation can enhance reflective practices, ensuring that educators continually improve their teaching methods. As the educators in this study demonstrated, critical reflection is essential not only for their own development but also for creating a learning environment

that benefits students. Implementing these recommendations can contribute to the advancement of critical reflective teaching practices in Oral Hygiene education and beyond, resulting in sustainable and better learning outcomes as well as stronger professional identities for educators, and professionals.

In South Africa there are no known national level policies that encourage and ensure critical reflective teaching in IHE. However, national level institutionalisation of critical reflective teaching has been recognised as relevant in other contexts such as in Australia, through the NQS policy and in Singapore through the STP model (Beamish and Williams, 2021; Irvine et al., 2024; Kwek et al., 2024). Both the NQS and the STP have been noted for being highly instrumental in promoting critical reflective teaching that encourages life-long learning, and real-life impact of education. With careful consideration of the current critical teaching praxis, as we reflect on this paper, the South African policy makers can develop and implement a nationwide policy for critical reflective teaching. This can improve the teaching and development of professional identities for the students. This is critical in enhancing education outcomes for the students, encouraging postgraduation creativity, continues learning, and being responsible citizens. While we offer these recommendations, they are based on findings from a study with its own limitations, therefore, further research to explore the strategies to implement critical reflective teaching remain critical.

References

- Adhikari, D.R. and Shah, B.B. (2021) 'Preparedness of higher education institutions for achieving Sustainable Development Goal 4: the case of Nepalese universities', *International Journal of Higher Education and Sustainability*, Vol. 3, No. 3, pp.207–230, <https://doi.org/10.1504/IJHES.2021.117892>.
- Agarwal, A., Poudyal, C.S. and Acharya, S. (2023) 'Strategic ways to incorporate sustainability as a working culture in tertiary education', *International Journal of Higher Education and Sustainability*, Vol. 4, Nos. 3–4, pp.177–194, <https://doi.org/10.1504/IJHES.2023.137500>.
- Ahsanu, M., Purwati, T. and Wardani, E. (2020) 'Unpacking reflective practice in the praxis of english language teaching in Indonesia', *Arab World English Journal*, Vol. 11, No. 4, pp.272–290, <https://dx.doi.org/10.24093/awej/vol11no4.18>.
- Ariya, P., Puritat, K. and Intawong, K. (2019) 'Knowledge expert co-creation-based conceptual framework for educational game', *Joint International Conference on Digital Arts, Media and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering (ECTI DAMT-NCON)*, pp.184–187, IEEE, <https://dx.doi.org/10.1109/ECTI-NCON.2019.8692289>.
- Beamish, P. and Williams, D.G. (2021) 'Critical reflection-impact and implementation considerations in early childhood education and care', *TEACH Journal*, Vol. 15, No. 1, pp.50–55, <https://dx.doi.org/10.55254/1835-1492.1485>.
- Bortz, J.H. (2023) 'Six cases to contribute to continuous professional development lifelong learning', *South African Radiographer*, Vol. 61, No. 2, pp.7–13, <https://doi.org/10.54450/saradio.2023.61.2.803>.
- Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, Vol. 3, No. 2, pp.77–101, <https://doi.org/10.1191/1478088706qp063oa>.
- Chelawat, A. and Sant, S. (2023) 'How e-learning can accelerate education for sustainable development in higher education: a thematic review of literature', *International Journal of Learning Technology*, Vol. 18, No. 2, pp.161–180, <https://doi.org/10.1504/IJLT.2023.132751>.

- Chibambo, M.I. (2024) 'Employability and open education resource policies development: critical reflections from selected SADC higher education institutions', *International Journal of Distance Education and E-Learning*, Vol. 9, No. 2, pp.1–15, <https://doi.org/10.36261/ijdeel.v9i2.3343>.
- Chuang, S. (2021) 'The applications of constructivist learning theory and social learning theory on adult continuous development', *Performance Improvement*, Vol. 60, No. 3, pp.6–14, <https://doi.org/10.1002/pfi.21963>.
- De Witt, A., Bootsma, M., Dermody, B.J. and Rebel, K. (2024) 'The seven-step learning journey: A learning cycle supporting design, facilitation, and assessment of transformative learning', *Journal of Transformative Education*, Vol. 22, No. 3, pp.229–250, <https://doi.org/10.1177/15413446231220317>.
- Dewey, J. (1910) 'What is thought?', in Dewey, J. (Ed.): *How we Think*, pp.1–13, D C Heath. Lexington, Massachusetts, <https://doi.org/10.1037/10903-001>.
- Diapopoulos, M.M., Gregory, K.H., Branyon, A. and Butler, B.M. (2022) 'Learning and living self-study research: guidelines to the self-study journey', *Studying Teacher Education*, Vol. 18, No. 2, pp.175–196, <https://doi.org/10.1080/17425964.2021.1992859>.
- Freire, P. (1970) *Pedagogy of the Oppressed*, translated by Ramos, M.B., Continuum, New York.
- Gün, B. (2011) 'Quality self-reflection through reflection training', *ELT Journal*, Vol. 65, No. 2, pp.126–135, <https://doi.org/10.1093/elt/ccq040>.
- Hakkola, L., Ruben, M.A., McDonnell, C., Herakova, L.L., Buchanan, R. and Robbie, K. (2021) 'An equity-minded approach to faculty development in a community of practice', *Innovative Higher Education*, Vol. 46, pp.393–410, <https://doi.org/10.1007/s10755-020-09540-8>.
- Hsu, J., Lin, L.C. and Stern, M. (2023) 'Curriculum co-creation: knowledge co-creation in an educational context', *International Journal of Knowledge-Based Organizations (IJKBO)*, Vol. 13, No. 1, pp.1–24, <https://doi.org/10.4018/IJKBO.317116>.
- Irshad, S., Maan, M.F., Batool, H. and Hanif, A. (2021) 'Vygotsky's zone of proximal development (ZPD): an evaluative tool for language learning and social development in early childhood education', *Multicultural Education*, Vol. 7, No. 6, pp.234–242, <https://doi.org/10.5281/zenodo.4940172>.
- Irvine, S.L., Barblett, L., Waniganayake, M., Hadley, F., Andrews, R., Hatzigianni, M., and Davis, B. (2024) 'The quest for continuous quality improvement in Australian long day care services: getting the most out of the assessment and rating process', in *Frontiers in Education*, Vol. 9, p.1207059, Frontiers Media SA, <https://doi.org/10.3389/feduc.2024.1207059>.
- Jarvis, J. (2021) 'Empathetic-Reflective-dialogical restorying for decolonisation: an emancipatory teaching-learning strategy for religion education', *British Journal of Religious Education*, Vol. 43, No. 1, pp.68–79, <https://doi.org/10.1080/01416200.2020.1831439>.
- Jarvis, J. and Mthiyane, N. (2022) 'Using empathetic-reflective-dialogical re-storying as a teaching-learning strategy to confront xenophobic attitudes in a context of higher education', *Journal of Education (University of KwaZulu-Natal)*, No. 88, pp.107–126, <https://doi.org/10.17159/2520-9868/i88a07>.
- Jung, H.Y. (1987) 'Being, praxis, and truth: toward a dialogue between phenomenology and Marxism', *Dialectical Anthropology*, pp.307–328 [online] <https://www.jstor.org/stable/29790243> (accessed 23 September 2024).
- Kemmis, S., Edwards-Groves, C., Jakhelln, R., Choy, S., Wärvik, G.B., Gyllander Torkildsen, L. and Arkenback-Sundström, C. (2020) 'Teaching as pedagogical praxis', in *Pedagogy, Education, and Praxis in Critical Times*, pp.85–116, https://doi.org/10.1007/978-981-15-6926-5_5.
- Kwek, D., Wong, H.M., Bhardwaj, D., Hassan, W.B., Lim, S. and Goh, H.H. (2024) 'Instructional core and the Singapore teaching practice: understanding teaching and learning in singapore's primary and secondary classrooms', in *Developing Future-ready Learners for a Global Age*, pp.23–40, Routledge, Singapore.

- Landreman, L.M. (Ed.) (2023) *The Art of Effective Facilitation: Reflections from Social Justice Educators*, Taylor & Francis, New York.
- Liu, K. (2015) 'Critical reflection as a framework for transformative learning in teacher education', *Educational Review*, Vol. 67, No. 2, pp.135–157, <https://doi.org/10.1080/00131911.2013.839546>.
- Magill, K.R. (2021) 'Identity, consciousness, and agency: Critically reflexive social studies praxis and the social relations of teaching', *Teaching and Teacher Education*, Vol. 104, p.103382, <https://doi.org/10.1016/j.tate.2021.103382>.
- Marshall, T., Keville, S., Cain, A. and Adler, J.R. (2022) 'Facilitating reflection: a review and synthesis of the factors enabling effective facilitation of reflective practice', *Reflective Practice*, Vol. 23, No. 4, pp.483–496, <https://doi.org/10.1080/14623943.2022.2064444>.
- Martinez, C. (2022) 'Developing 21st century teaching skills: a case study of teaching and learning through project-based curriculum', *Cogent Education*, Vol. 9, No. 1, p.2024936, <https://doi.org/10.1080/2331186X.2021.2024936>.
- Mbeve, O. and Mhlanga, S. (2022) 'Tutor-student relationship and its role in promoting first-year students' adaptation to university', *International Journal of Higher Education and Sustainability*, Vol. 4, No. 2, pp.134–151, <https://doi.org/10.1504/IJHES.2022.128681>.
- Mbeve, O., Mhlanga, S., Ngidi, S.N., Ngwenya, L.N., Khumalo, G., Makongoza, M., Pendehama, S. and Malatji, H. (2023) 'Considerations for higher education to enhance economic security and sustainability in South Africa and beyond', *International Journal of Higher Education and Sustainability*, Vol. 4. Nos. 3–4, pp.153–176, <https://doi.org/10.1504/IJHES.2023.137490>.
- Mlambo, M., Silén, C. and McGrath, C. (2021) 'Lifelong learning and nurses' continuing professional development, a metasynthesis of the literature', *BMC Nursing*, Vol. 20, pp.1–13, <https://doi.org/10.1186/s12912-021-00579-2>.
- Morley, C. and O'bree, C. (2021) 'Critical reflection: An imperative skill for social work practice in neoliberal organisations?', *Social Sciences*, Vol. 10, No. 3, p.97, <https://doi.org/10.3390/socsci10030097>.
- Nagatani, Y., Imafuku, R. and Nakai, Y. (2022) 'Broadening the dental hygiene students' perspectives on the oral health professionals: a text mining analysis', *Dentistry Journal*, Vol. 10, No. 9, p.160, <https://doi.org/10.3390/dj10090160>.
- Ni, L. (2022) 'Application of the zone of proximal development in college English teaching', *Adult and Higher Education*, 4 (7), 49–54, <https://doi.org/10.23977/aduhe.2022.040709>.
- Nocetti, A., Otondo, M., Contreras, G. and Pérez, C. (2020) 'Attitude towards reflection in teachers in training', *Reflective Practice*, Vol. 21, No. 3, pp.330–343, <https://doi.org/10.1080/14623943.2020.1748879>.
- Pentón Herrera, L.J. and McNair, R.L. (2021) 'Restorative and community-building practices as social justice for English learners', *TESOL Journal*, Vol. 12, No. 1, p.e00523, <https://doi.org/10.1002/tesj.523>.
- Rolfe, G. and Freshwater, D. (2020) *Critical Reflection in Practice: Generating Knowledge for Care*, Bloomsbury Publishing, London.
- Sandri, O. (2022) 'What do we mean by 'pedagogy' in sustainability education?', *Teaching in Higher Education*, Vol. 27, No. 1, pp.114–129, <https://doi.org/10.1080/13562517.2019.1699528>.
- Saric, M. and Steh, B. (2017) 'Critical reflection in the professional development of teachers: challenges and possibilities', *CEPS Journal*, Vol. 7, No. 3, pp.67–85, <https://doi.org/10.25656/01:14908>.
- Schoen, S.F. (1983) 'The status of compliance technology: Implications for programming', *The Journal of Special Education*, Vol. 17, No. 4, pp.483–496, <https://doi.org/10.1177/002246698301700410>.

- Schoole, C.T. and Phatlane, R. (2020) 'Two decades of internationalizing higher education in South Africa', in *The Bloomsbury Handbook of the Internationalization of Higher Education in the Global South*, Vol. 493 [online] <https://www.torrossa.com/en/resources/an/5213034#page=508> (accessed 23 September 2024).
- Şen, N. and Yildiz Durak, H. (2022) 'Examining the relationships between English teachers' lifelong learning tendencies with professional competencies and technology integrating self-efficacy', *Education and Information Technologies*, Vol. 27, No. 5, pp.5953–5988, <https://doi.org/10.1007/s10639-021-10867-8>.
- Shava, S., Makokotlela, M.V. and Hebe, H. (2020) 'Role of SDGs in reconceptualising the education for sustainable development curriculum in higher education in South Africa', in *Scaling up SDGs Implementation: Emerging Cases from State, Development and Private Sectors*, pp.169–179, https://doi.org/10.1007/978-3-030-33216-7_12.
- Souza, K.R.D. and Santos, M.B.M.D. (2024) 'Pedagogy of democracy: the education of the working class in the first writings of Paulo Freire', *Pro-Posições*, Vol. 35, e2024c0905BR, <https://doi.org/10.1590/1980-6248-2023-0089EN>.
- Stets, J.E. and Burke, P.J. (2000) 'Identity theory and social identity theory', *Social Psychology Quarterly*, pp.224–237, <https://doi.org/10.2307/2695870>.
- Stewart, M. (2021) 'Understanding learning: theories and critique', in *University Teaching in Focus*, pp.3–28, Routledge, London.
- Tajfel, H. and Turner, J.C. (1978) 'Intergroup behavior', *Introducing Social Psychology*, Vol. 401, No. 466, pp.149–178.
- Tajfel, H. and Turner, J.C. (1979) 'An integrative theory of inter-group conflict', in Austin, W.G. and Worchel, S. (Eds.): *The Social Psychology of Inter-Group Relations*, pp.33–47, Brooks/Cole, Monterey, CA.
- Torres, C.A. (2024) 'Paulo Freire: a thinker of praxis, an itinerant thinker, a universal thinker', *Globalisation, Societies and Education*, Vol. 22, No. 1, pp.7–23, <https://doi.org/10.1080/14767724.2023.2289164>.
- Trepte, S. and Loy, L.S. (2017) 'Social identity theory and self-categorization theory', *The International Encyclopedia of Media Effects*, pp.1–13 [online] <https://doi.org/10.1002/9781118783764.wbieme0088>.
- Tripp, T.R. and Rich, P.J. (2012) 'The influence of video analysis on the process of teacher change', *Teaching and Teacher Education*, Vol. 28, No. 5, pp.728–739, <https://doi.org/10.1016/j.tate.2012.01.011>.
- Turner, J.C., Brown, R.J. and Tajfel, H. (1979) 'Social comparison and group interest in ingroup favouritism', *European Journal of Social Psychology*, Vol. 9, No. 2, pp.187–204, <https://doi.org/10.1002/ejsp.2420090207>.
- Vygotsky, L.S. (1978) *Mind in Society: The Development of Higher Psychological Processes*, Harvard University Press, Massachusetts.
- Wainwright, J. (2022) 'Praxis', *Rethinking Marxism*, Vol. 34, No. 1, pp.41–62, <https://doi.org/10.1080/08935696.2022.2026749>.
- Weinberg, A.E., Balgopal, M.M. and Sample McMeeking, L.B. (2021) 'Professional growth and identity development of STEM teacher educators in a community of practice', *International Journal of Science and Mathematics Education*, Vol. 19, pp.99–120, <https://doi.org/10.1007/s10763-020-10148-9>.
- Wenger, E. (1999) *Communities of Practice: Learning, Meaning, and Identity*, Cambridge University Press, England.
- Yaacob, A., Mohd Asraf, R., Hussain, R.M.R. and Ismail, S.N. (2020) 'Empowering learners' reflective thinking through collaborative reflective learning', *International Journal of Instruction*, <https://doi.org/10.29333/iji.2021.14143a>.
- Ziada, H., Webberson, M., Sharma, R. and Abubakr, N.H. (2024) 'Qualitative analysis of student reflections on preclinical dental implant education', *Dentistry Journal*, Vol. 12, No. 9, p.293, <https://doi.org/10.3390/dj12090293>.