EXPLORING ORAL HYGIENE EDUCATORS` USE OF REFLECTIVE PRACTICE ON THEIR TEACHING.

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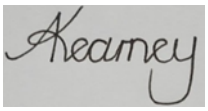
A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Masters in Health Sciences Education.

Johannesburg, 31st of July 2024

DECLARATION

I, Angelique Kearney, declare that this Research Report is my own, unaided work. It is being submitted for the Degree of Master of Health Sciences Education at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



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ABSTRACT

Reflecting on teaching helps educators develop an understanding which will enable them to assess their growth, develop informed decision-making skills, as well as become proactive and confident in their teaching. However, there is a gap in literature concerning the use of reflection by professional oral hygiene and dental therapist educators. For educators who aspire to elevate their teaching standards to enhance students' learning outcomes, a comprehensive understanding and correct implementation of reflective practice is imperative. Therefore, it is important to explore the current application of reflective practice by oral hygiene educators. This study's aim is to explore oral hygiene educator`s use of reflective practice on their teaching. The study uses a qualitative approach with an exploratory descriptive design. The research population consists of professional oral hygiene and dental therapists who were teaching oral hygiene at a South African higher education institution. Data collection was conducted through semi-structured interviews and analysed using Braun and Clarke's six steps of thematic analysis. Findings reveal that educators had superficial to moderate levels of reflection on their teaching practices. While they acknowledged the benefits of reflection for personal and professional development, they lacked prior knowledge on how to reflect or access resources for reflective practices in teaching. Additionally, educators believed that the department in which they taught was under-valuing reflection, as a learning strategy. This study recommends the department, where the educators taught, to prioritise reflection by offering formal learning opportunities for educators and establishing clear guidelines for its practice.

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CHAPTER 1

INTRODUCTION TO RESEARCH

1.1. Introduction

This chapter discusses the operational definitions, background of the study, problem statement, research question, aim, objectives, justification.

1.2. Operational Definitions

For this study, the following definitions will be employed:

Calibration – a process of reaching standardised criteria or consensus among educators when supervising different skills performed by oral hygiene students during clinical sessions.

COVID-19 – Coronavirus Disease 2019.

Educators – professional oral hygienists and dental therapists who teach undergraduate oral hygiene students in an academic institution.

Perceptions – how the professional oral hygienists and dental therapists, as educators, interpret and understand their use of reflection in teaching.

Professional oral hygienist and dental therapist – qualified oral health professionals in oral hygiene and dental therapy.

Reflective practice – what educators learn from and through personal experiences while teaching. Reflective practice leads to a better understanding and insight into themselves and how they teach oral hygiene students (13).

Students – those studying for a three-year bachelor's degree in oral hygiene at a South African higher education institution.

Teaching – any manner of imparting information or skills to oral hygiene students. Teaching assists students in gaining knowledge, skills, competence, or virtue.

1.3. Background

Reflective practice is "…learning through and from experience towards gaining new insights of self and practice" (1). As the future of dental hygiene education develops, the significance of reflective practice among educators appears more evident. Across various health sciences research underlines the benefits of reflective practice in professional development and pedagogy (2,3). In South Africa developing and using reflective practice by educators and qualified professionals are an important skill encouraged by The National Department of Education (DoE) and Health Professions Council of South Africa (HPCSA).

In the Government Gazette of 2000 for Norms and Standards for educators, the DoE states that, " The educator will achieve ongoing personal, academic, occupational and professional growth through pursuing reflective study and research in their learning area, in broader professions and educational matters, and in their related fields." (4). In 2020 the HPCSA proposed to implement the Maintenance of Licensure (MOL), wherein all practitioners registered with the HPCSA would be issued a license to practice their professions. The MOL proposal mandates that practitioners registered with the HPCSA provide evidence of their ongoing competence. This is done by submitting assessment and performance data, which includes reflecting on their practice to enhance their knowledge, skills, and conduct. The ultimate goal is to improve patient outcomes. (5) . Therefore, knowing how to use reflection correctly is an important skill to acquire for both educators and their students.

The teaching environment is also important because if it fails to validate reflective practice as a learning strategy, reflection may not be effectively employed, resulting in the loss of its potential benefits (2,6–8). Self-reflecting on teaching enables oral hygiene educators to critically assess their approaches, adapt to socioeconomic and cultural contexts, and introduce different pedagogical techniques. Therefore, reflecting results in enhanced quality of education which benefits oral hygiene graduates (1,2,6,7).

Literature lacks a comprehensive exploration of how oral hygiene educators use reflective practice in their teaching. Yet it is important to explore oral hygiene educators' use of reflective practice, to understand how it may enhance their teaching and make them better educators.

1.4. Problem Statement

Reflection is acknowledged as a powerful learning strategy, yet it seems to be under-utilised and under-researched in Oral Hygiene (1,7–9). Based on the reviewed literature, there are few published studies on reflection and reflective practice among oral hygiene educators who teach undergraduate students in South Africa.

It is important to note that the word "oral hygienist" is unique to South Africa. In the rest of the world the same profession is referred to as "dental hygienist." In South Africa, oral hygiene educators play a crucial role in shaping the future of oral healthcare professionals. Therefore, effective teaching is fundamental (7,10). In addition, oral hygiene educators should be trained to effectively articulate their reflection to act as reflexive models for their students (8–10). Educators who proficiently model reflection render their experiences more transparently, to address emotions and foster interaction between students and themselves (6,9). Reflection is not intentionally guided, and educators who are key role players in facilitating reflection, may not recognise their responsibility or feel adequately equipped to promote reflection and reflective practice (1,7,9,10).

The current study's researcher, who is also an oral hygiene educator, received formal training in reflective practice and witnessed its positive impact on her personal and professional growth. As a researcher, she often wondered if oral hygiene educators reflected on their teaching. The researcher's interest to conduct this study was motivated by three factors: (1) The lack of literature on the topic, (2) her curiosity about educators' understanding and use of reflection on their teaching. Factor number (3) is that to her knowledge, the department where the study was conducted, did not have documented professional guidelines for reflection and reflective practice for educators. Therefore, the study was guided by the following, research question, aim, and objectives:

1.5.Research Question

How do oral hygiene educators use reflection and reflective practice as it relates to their teaching?

1.6.Aim

The study's aim is to explore how oral hygiene educators use reflection on their teaching.

1.7.Objectives

The objectives of the study are:

- To explore where in the teaching practice, oral hygiene educators used reflection.
- To gain insight into oral hygiene educator's knowledge and motivation influences related to the use of reflection on their teaching.
- To understand how the culture of the organisation impacts on faculty members practice of reflection.

1.8. Justification

As highlighted above, the DoE and HPCSA expect oral hygiene educators to practice and teach reflection as part of professional behaviour and competence. If oral hygiene educators fail to comprehend or appropriately utilise reflection it directly affects the quality of their teaching, leading to a negative impact on the type of oral hygiene graduates (8). Educators' poor reflective practice can result in un-reflective oral hygiene students, which would affect their capacity to enhance their knowledge, skills, and professional behaviour (11). This downward spiral can lead to a decline in oral hygiene professionals' patient care standards. The current study explores the utilisation of reflection by oral hygiene educators in their teaching practices. The study identifies factors such as knowledge, motivation, and organisational influences that affect the use of reflective practice in oral hygiene educators' teaching methods. The findings are used to generate recommendations that can be employed to improve teaching and learning for greater impact on students' learning outcomes.

1.9. Summary

This chapter introduced the study, by discussing its background, importance and key components such as the research problem, question, aim, objectives, and justification. Chapter 2 is a literature review, followed by Chapter 3 which discusses the methods that were used to conduct the study, Chapter 4 discusses the findings, and Chapter 5 concludes the study.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

This chapter provides an overview of existing literature on the current study's topic. It outlines data that was collected by previous studies on educators' reflective practices. The chapter also discusses existing knowledge while identifying gaps in our understanding. Although numerous studies have explored reflective practice among educators, the researcher found limited data regarding the use of reflection among oral hygiene educators.

Some studies that relate to dental, dental hygiene, and reflection highlight student attitudes, knowledge, and practice of reflection for learning. However, there is no research on oral hygiene educators' use of reflection on their teaching. There are a few studies on dental and dental hygiene educators and reflection.

In the South African context, a study by Cloete (16) explores attitudes towards and understanding of reflection and reflective practice of dental students. The study's secondary outcome demonstrated the important influence a dental educator had on students' reflective practice. Asadoorian (12) also emphasised the dental hygiene students' experiences on reflective practice and mentioned the importance of educators as tools for modelling, teaching, and assessing reflection.

However, in the field of health sciences education, that is; medical and nursing, in higher education, there are more current studies on educators and their reflective practice. A study that was conducted in South Africa by Lubbe et al. (7) explored how nurse educators self-reflected on their own teaching. The study discussed the positive, individual- and collective-level, impact on their teaching. Fragkos (9) gave an umbrella review of reflection in healthcare education, Hargreaves (1), and Jorwekar (3) researched reflection in medical education, and Grech (13) on reflection in nursing education. All investigated the influence of reflective practice of healthcare educators on a medical faculty's professional growth and found that engaging in reflective activities facilitated continuous improvement in teaching methodologies and fostered a culture of lifelong learning among educators and students. The findings show that integrating reflective activities into the current curricula enhances educators' ability to critically evaluate their teaching approaches, address student needs, and adapt instructional strategies accordingly.

Other studies on reflection in teaching higher education, Sharita (14), Ambady (15) and Uygur et al (16), highlight the positive impact of reflective teaching practices on educators' instructional methods and student learning outcomes. While existing research provides some insights into the benefits of reflective practice in medical education, there remains a gap in understanding the specific experiences and challenges faced by oral hygiene educators in South Africa. By focusing on the context of South Africa, the current study contributes to the growing body of knowledge on reflective practice in hygiene education within diverse socio-cultural settings.

To understand the current study's research topic, it is essential for the reader to understand "reflection." Therefore, this literature review begins with defining reflection and reflective practice. It then delves into the benefits of reflecting. The chapter then discusses specific levels, types, and models of reflection to provide readers with a comprehensive understanding of reflection in an educational context. Lastly, the chapter explores how educators reflect to enhance teaching and emphasises the importance of instilling a culture of reflection within a department.

2.2. Reflection

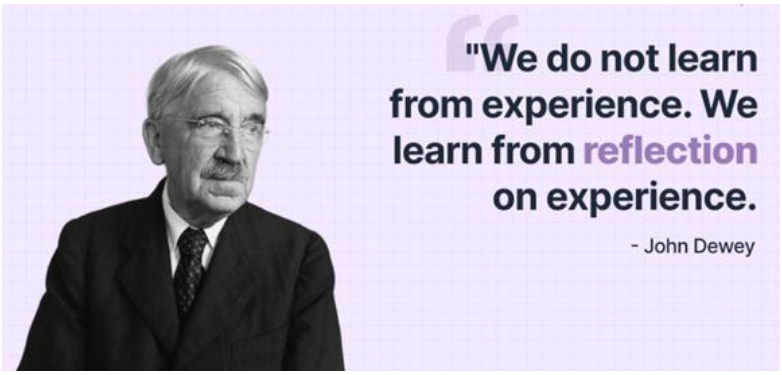

Figure 1: John Dewey's Understanding of reflections in learning and teaching

Reflective practice is currently among the key discussions in teacher education, and it can signify professional competence (17,18). The development of reflection in teaching and education is not a recent phenomenon. It can be traced back to John Dewey in 1910 (19,20) who defined reflection as "…turning a subject over in the mind and giving it serious and consecutive consideration, thereby enabling us to act deliberately and intentionally. Reflection involves active, persistent and careful consideration." Dewey asserts that reflection requires attitudes that value one's and others` personal and intellectual growth. He further explains that there is no intellectual growth without some restructuring, reconstruction, or remaking.

Therefore, reflection is, a process by which an educator may review their teaching day and contemplate what could have been done differently.

2.2.1. Reflective practice

Reflective practice aims to make educators aware of their professional knowledge and action, by challenging their practice assumptions and critically evaluating their responses to teaching situations (17,18,21,22). Reflective practice enables educators to grow and deepen their own understanding and teaching solutions. Teachers aim for improved learning outcomes and a holistic understanding of their teaching approaches (17,18). Reflective practice has a significant impact on two main areas of educators' professional life (17,18):

- Teacher Identity: Understanding oneself as a teacher, including personal and professional aspects.
- Teacher Quality: Enhancing teaching practices and solutions.

Reflective practice is an active process that requires individuals to clarify implicit aspects in their teaching (2,7,22). Thus, it is crucial to acknowledge that reflection is problem centred. Only by acknowledging this can individuals effectively frame and reframe their actions or experiences to discover specific solutions (2,17,18). The rationale of reflective practice is that experience does not necessarily lead to learning, but consciously reflecting on a teaching experience is an important element for deep understanding and knowledge (21,23). Experience shapes who you are, but learning from experience is not enough for personal growth and becoming a better educator. Hence, an action plan is needed to address weaknesses and become better over time (21,22).

In summary, reflective practice empowers educators to continually improve their teaching, understand their identities as teachers, and enhance their overall teaching quality. It is a dynamic process that contributes to professional growth and effective teaching practices (17,18,24).

2.2.2. Benefits of reflecting educators

Educators have several gains when they reflect on their teaching. All the benefits were similar in all the reviewed articles (2,7,8,17,18,24). These benefits are:

- Improved self-awareness of understanding their teaching strengths, weaknesses, and values.
- Effectively adapting their teaching strategies to create an active learning environment.
- Prompting educators to assess students` individual differences, and diverse needs. This will enable them to adapt and modify methods to enhance students' learning outcomes.
- Enabling educators to implement strategies that establish a productive learning environment where students feel safe, respected, and motivated to learn.
- Encourages educators to engage in self-reflection, seek feedback from peers, attend workshops or conferences, conduct Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis and explore new teaching approaches, which fosters professional development and a commitment to lifelong learning.
- Connects instructional practices to student learning outcomes. This encourages educators to analyse students' progress, identify areas for improvement, and adjust their teaching accordingly. By reflecting on student learning, educators can employ evidence-based instructional strategies, provide timely feedback, and differentiate instruction to meet individual student needs and better results.
- Prompts educators to critically examine their assessment methods and their alignment with learning objectives. This enables them to better understand each student's strengths and learning style. Therefore, educators can modify their assessment and evaluation methods to accurately measure each student's understanding and provide accurate and holistic evaluation.
- Reflective practice highlights the significance of building positive and nurturing relationships with students. It encourages educators to reflect on their communication style, listening skills, and responsiveness to students' needs. This allows educators to build a healthy and supportive learning environment where students feel valued, respected, as well as motivated to actively engage in their learning process.
- It promotes the development of a growth mindset in educators and their students. It involves reflecting on challenges, setbacks, and failures as opportunities for learning and growth. By modelling a growth mindset and encouraging students to embrace effort, resilience, and continuous improvement, they foster a positive learning culture that nurtures curiosity, risk-taking, and a belief in the power of perseverance.

- It also emphasises the importance of collaboration and professional learning communities by encouraging educators to engage in dialogue with colleagues, share experiences, exchange ideas, and learn from each other's perspectives. By actively participating in collaborative learning communities, educators can expand their knowledge, gain new insights, and contribute to a collective effort towards educational excellence.

2.2.3. Levels of reflective practice

Reflection is typically viewed as occurring on a continuum: where the first level is least sophisticated and purely descriptive. The second level, which is moderate involves self-awareness and analysis of experiences. The third and last level is advanced, in which a new perspective on one’s knowledge and practice is acquired, while learning. At this level, beliefs are transformed and can be further validated in practice (2,8,15,25–27). The different levels of reflective practice are described in table 1, below:

Table 1: Levels of reflective practice

Level	***Description***	***Application***
1. *Superficial (non-reflectors)*	= descriptive reflection	Reflection at this level is very basic i.e. descriptive. It should not only be of what happened but should include a description of why certain things happened. This level of reflection makes reference to an existing knowledge base but does not make any comment or critique of them.
2. *Medium reflectors*	= dialog reflection	At this level a person takes a step back from what has happened to explore thoughts, feelings, assumptions and gaps in knowledge as part of the problem-solving process. The person reflecting makes sense of what has been learnt from the experience and what future action might need to take place.
3. *Deep critical reflectors*	= critical reflection	This level of reflection has the most depth. It's at this level of reflection that the experience has changed the person – how they view themselves, relationships, community of practice, society etc.

2.2.4. Types of reflection

When educators have an in-depth reflection on how their students learn and how they teach them, they improve their knowledge about students and their learning (2,7,9,17,18). Reflection-for-action is a way of reflective thinking that enhances the effectiveness of an educator`s teaching and learning processes. It is a proactive form of reflection which is commonly referred to as, 'closing the gap.' It entails making changes based on reflections, which can occur in two distinct time frames: (1) during the class or clinical session, where reflection happens while teaching. This is referred to as "reflection-in-action." The reflection that happens after class, clinical session, or teaching, is a "reflection-on-action" (19,28,29).

Reflection-in-action refers to contemplating actions and adjusting in real-time. It involves the educator`s ability to engage in conscious thinking during the execution of tasks. Reflection-on-action refers to contemplating actions and making adjustments after they have been performed and assessing the results and consequences. It involves an educator's ability to engage with explicit knowledge after the execution of tasks. This enables them to get insights from their experiences and strategies to use for enhancing their future performance. Therefore, they can be able to effectively navigate intricate and unpredictable circumstances or requirements. The difference between Reflection-in-action and Reflection-on-action is demonstrated in table 2, below:

Table 2: Differences between reflection-in-action and reflection-on-action

Aspect	Reflection-in-action	Reflection-on-action
Timing	Occurs during teaching	Occurs after teaching
Nature	Immediate and ongoing	Deliberate and retrospective
Focus	In-the-moment adjustments	Evaluation and analysis of past events
Outcomes	Enhancing real-time decision-making and results	Improving future practice and results
Process	Quick and spontaneous	Introspective and systematic
Examples	Adapting lesson plans on the spot	Reviewing recorded class sessions

2.2.5. Models of reflection

There are several reflective models (22,26,30–32), as outlined in table 3. These models are effective for the self-evaluation of teachers in health science education.

Table 3: Models of reflection

Theory	***Background***	***Applicability***
Gibbs' reflective cycle (33)	This model was developed by Graham Gibbs to provide a structured approach to reflection. It consists of six stages: description, feelings, evaluation, analysis, conclusion, and action plan.	This model is particularly useful for teachers who are seeking a structured approach to self-reflection and want to identify areas for improvement in their teaching practices.
Schön's reflective practice (34)	Donald Schön's model of reflective practice emphasises the importance of reflective thinking in professional development.	This model focuses on the connection between theory and practice. It encourages teachers to reflect on their experiences to improve their teaching practices.
Boud, Keogh, and Walker's reflective practice (35)	This model provides a cyclical approach to reflection, using three stages: description, critical analysis, as well as linking to personal learning and development.	This model is useful for educators who want to examine the emotional and personal aspects of their experiences. These are educators who are also interested in exploring the impact of their experiences on their personal growth and development.
Kolb's experiential learning cycle (36)	This model was developed by David Kolb, based on the idea that learning is an experiential process that involves four continuous circular stages: concrete experience, reflective observation, abstract conceptualisation, and active experimentation.	This model is particularly useful for educators who want to focus on the connection between theory and practice and are interested in exploring the impact of their experiences on their professional development.

While different models (table 3) facilitate the reflective process, researchers caution against bundling reflection as a set of automatic competencies and using a process that follows rules to teach reflection (7,10,22). Overall, there is no “correct” way to reflect. Some educators may prefer a structured approach, such as Gibbs' reflective cycle, while others may prefer a more personal approach, such as Boud, Keogh, and Walker's reflective practice. The most effective reflective theory for self-evaluation by educators in health science education will depend on

individual needs and preferences. The key is to find a reflective theory for the individual educator to use consistently as a tool for self-reflection and professional development (2,7,12,22).

2.2.6. How to reflect on teaching

Reflection that is action-oriented is an ongoing process which refers to the methods that educators employ to prepare and teach (2,17,18). In the field of education, reflective practice is considered cyclical and a systematic inquiry where educators collect evidence about their teaching practice, analyse, interpret, and evaluate their experiences, with the intention to improve their future teaching (2,17,18). This process can be done through a constant systematic self-evaluation cycle which involves a written analysis or an open discussion with colleagues (2,17,18). Cyclical reflective practice entails identifying a problem, exploring its root cause, modifying action plans based on reasoning and evidence, as well as executing and evaluating the new action and its results. Within this cyclical process, action is considered as a deliberate change which is the key to effective reflective practice, especially in the field of education. This cyclical process involves action, observation, analysis, presentation, and feedback (2,17,18).

2.3. A culture of reflection

In a South African study, Cloete (11) recommended that the encouragement and support of educators is essential if the potential of reflection is to be fully understood. Educators should be supported by faculty, through staff development initiatives, to improve reflective practice and use of feedback. Therefore, support intensifies reflection, which facilitators need to value the process (11,22). If a faculty values quality teaching, their educators should know what to teach, how to teach, and how to make rational decisions. Through reflective practice, these decisions should inform theory and research by examining and assessing alternatives and applying criteria to select a given option or course of action (2,10).

Literature suggests that a department implements practical and honest reflections by providing adequate time for reflective activities and insisting upon respectful and supportive treatment of others when reflecting in a group (7,37). Additionally, it is important to express and acknowledge any bias and a tendency to present an expected rather than an actual character. It is also important to ensure that in the beginning, the purpose and who will access the reflection, are indicated. It is also important to indicate in the beginning, who will give feedback, and whether the assessment will be formative or summative (7,17,18,37).

Educators should also be empowered with the knowledge and skills that relate to reflection first, before promoting it among their students (38). Reflection is an essential education strategy that needs to be considered and incorporated into the curriculum by dental programme developers (11).

2.4 Summary

Chapter 2 reviewed the available literature surrounding the topic of the current study. It explained the definitions of reflection and reflective practice. Preceded by the benefits to educators when they reflect on their teaching. The chapter also discussed different levels, types and models of reflection used by educators as well as how educators can reflect on their teaching. The literature review demonstrates the influence that a positive and negative culture of reflection in a department has on teaching and learning outcomes.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the research methodology that was employed to answer the research question and provides details regarding the research setting, population, and sample. It also explains the process of data collection and analysis, ethics approval, the assurance of research quality, and the researcher's role in the study.

3.2. Research design

The study employed a qualitative technique with an exploratory descriptive design. Qualitative research involves conducting studies within the participants' natural context. The researcher is the primary data collection tool. Qualitative research emphasises on participants' subjective viewpoints and meanings. It also employs a holistic approach (39). The current study adopted qualitative approach due to the lack of detailed information in the literature regarding how oral hygiene educators apply and comprehend reflection in their teaching.

The research instrument employed for data collection was semi-structured interviews. Given the importance of the participants' perspectives, interviews were considered the most appropriate approach and is already often employed in exploratory research (39). The current study's aim is to explore oral hygiene educators' use and understanding of reflection in their teaching. Semi-structured interviews facilitated informal interaction while providing the researcher an opportunity of gaining in-depth information by probing.

Research setting refers to the environment where the study is conducted. It includes the physical location and conditions where data collection occurs (40,41). The current study was conducted in a natural setting, on campus in a department for oral hygiene and dental therapy, within a South African university.

3.3. Population

The study population consisted of all educators who were employed in a full- or part-time basis in the department of oral hygiene and dental therapy and were responsible for teaching the oral hygiene programme. In the research setting, there were thirteen educators who were involved in teaching; hence, the research population was 13.

3.4. Sample

Purposive sampling was used to select the sample. It allowed the researcher to deliberately choose oral hygiene educators who gave insight that could not be obtained from any other populations (39). The total sample for this study was 11. Two educators, that is the researcher, and one candidate, who did not give consent, were excluded from the sample. Total population was interviewed; therefore saturation was reached.

Educators were reminded prior to the commencement of interviews that they had the right to withdraw from participating at any point without any consequences and that all data collected was kept confidential and safe. All the signed documents also mentioned confidentiality and safe keeping of information.

3.5. Data Collection

After obtaining permission from the institution and the Head of the School, the researcher approached the oral hygiene educators. The researcher handed the following documents to the prospective participants: information sheets (Annexure 1), consent forms (Annexure 2), and permission to be recorded (Annexure 3). The researcher made a follow up with the prospective participants and personally collected the completed forms. After receiving completed consent forms, arrangements were made for online or face-to-face interviews.

All interviews were conducted in English. One interview was via conducted Microsoft Teams. The video of the interview was recorded. All other interviews were conducted face-to-face and took place in an available office at research setting. Only the researcher and participant were present during the interviews. These face-to-face interviews were audio recorded. All recordings and transcriptions were saved on a laptop protected by a password. All signed consent forms were collected and kept for safe keeping in a locked filing cabinet. During each interview the researcher made notes to help with recall of any important points.

3.5.1. Interview guide

No previous study specifically examined how oral hygiene educators use and understand reflection on their teaching. Therefore, the researcher and her supervisor formulated their own questions for the interview guide. The interview guide was piloted with an educator to determine the clarity and quality of the open-ended questions, and to verify the estimated length for the interview. The educator that was interviewed for the pre-test had extensive experience

in teaching undergraduate programmes within the university's nursing department. Feedback from both the interviewed educator and researcher's supervisor, who listened to the pilot interview, provided recommendations for refining the flow of the questions and identifying areas that needed strengthening and improvement in the interviewing process. The suggestions were implemented before data collection, to finalise the interview guide (Annexure 4).

The exploratory technique collects data though probing participants on their experiences as related to the study's subject and interpreting the significance of these experiences from the participant's perspective (39,40). A list of questions served as a guide, yet educators could steer the conversation to different other necessary directions. The researcher used follow-up questions to redirect the discussion, when necessary, to ensure a comprehensive exploration of all important topics. Granting participants the freedom to direct the conversation and probing them facilitated a more diverse and richer data (39).

3.5.2. The interviews

The researcher, being a novice at qualitative research, piloted her interviewing skills with an educator who had an extensive experience in research and teaching undergraduate programmes within the university's nursing department. The interview was conducted via Microsoft Teams, using the finalised interview schedule. The researcher`s supervisor was present in the pilot interview. Feedback from both the interviewed educator and researcher's supervisor, provided recommendations for refining the researcher's interviewing techniques. The researcher studied literature on how to conduct qualitative interviews and made notes to review before, during and after each interview(39).

The interviews with participants were conducted in-person or virtually on Microsoft Teams. Interviews that were conducted via Microsoft Teams commenced with educators receiving an invitation to the scheduled timeslot. The in-person interviews were arranged with educators via e-mail or telephonically for a suitable date. The audio-recorded individual interviews were conducted after obtaining ethical approval. Each educator's involvement in the study and their consent to be audio-recorded were secured prior to the interviews. The researcher followed the interview guide for all the interviews to maintain a structure and ensure data consistency. The audio-recorded interviews were transcribed verbatim by an outsourced transcriber. The transcripts were checked by the researcher and her supervisor for accuracy. In addition, three

transcribed interviews were sent to individual educators who checked for accuracy. Checking transcribed interviews for accuracy ensured credibility and minimised researchers' bias.

3.6. Data Analysis

The researcher was solely responsible for data analysis, and she immersed herself in the data to understand its meaning (39,40). No matter the analytic approach of the qualitative data, logical steps should be used to organise the data for enhanced understanding. Employing logical steps in data organisation is essential, to arrive at a comprehensive meaning from the collected data (39). Data analysis commenced after the completion of the first transcription using Braun and Clarke's six-step thematic analysis. The researcher employed Braun and Clarke's thematic analysis, since it is an accepted and recognised qualitative data analysis method with clear steps, making it an easy process to use (40,42).

To support intercoder reliability, independent thematic analysis was performed by the supervisor and the researcher on two different transcripts. They both agreed on the themes and subthemes that resulted from the independent analysis of the transcripts. Thereafter, the researcher completed subsequent analysis of the rest of the transcripts. Furthermore, data analysis followed an iterative process on printed transcripts. To explore emerging themes, MAXQDA software was employed for coding the same transcripts which were later printed. In working with MAXQDA, the researcher's focus was only on the presented information and had no influence on any variables (43).

During data analysis, the verbatim transcripts were first read to assist in comprehending data and to absorb the tone and content of the educators' narratives. The researcher followed three stages, namely: deconstruction (focused on the educator's narrative), interpretation (focused on meanings behind what was said) and reconstruction (using thematic analysis) (44). The analysis involved reading through all the interview transcripts and identifying themes or patterns of meaning (44). Additionally, unique, or novel responses were recorded.

3.6.1. Analysing the Data

The researcher followed Braun & Clarke's (45) six-step guide. The framework that was employed for conducting the current study's data analysis is in figure 2, below. The transcripts were read several times to interpret and comprehend the data. The goal for using thematic analysis was to identify themes, that is, the important or interesting patterns in the data, and use them to address the research questions. The researcher progressed through the steps, although

not always in a linear way. At times, she moved forward, backward and between them as necessary. The steps followed are described in figure 2 below.

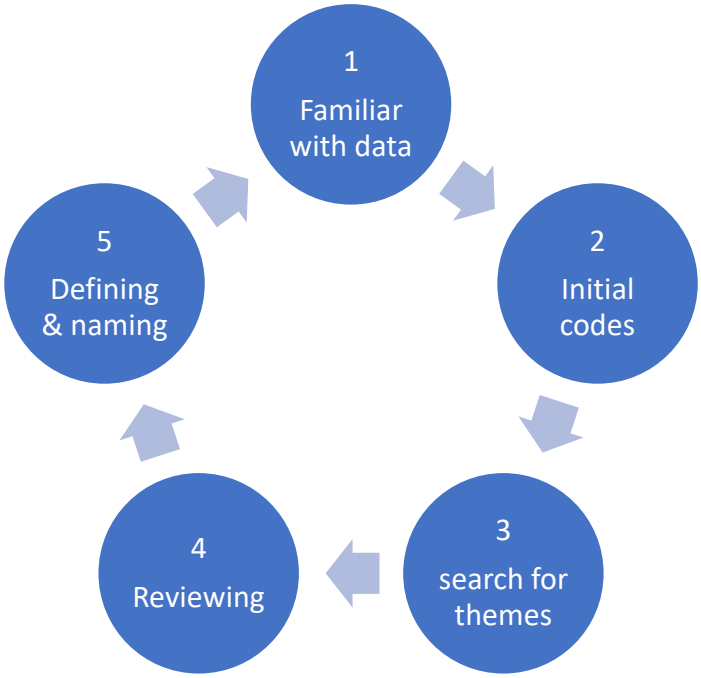

Figure 2: Steps of thematic data analysis followed in the current study

3.6.1.1. Step 1: Becoming familiar with the data

The researcher actively engaged in reading and re-reading the transcripts until fully acquainted with all the data. During this process, she made notes and reviewed the field notes which consisted of her impressions of each interview. In this step, the transcriptions were uploaded into MAXQDA software.

3.6.1.2. Step 2: Generating initial codes

Once familiar with the data, the researcher made notes of ideas and comments that were repeated in the transcripts. These similar ideas and comments were grouped to make initial codes. The supervisor and researcher independently coded a transcript each. Subsequently, they compared their codes, discussed them, and modified them before the researcher independently proceeded to analyse the remaining transcripts. At this step, MAXQDA software facilitated the qualitative data analysis process.

3.6.1.3. Step 3 and 4: Searching for themes and reviewing them

Themes were initially linked to the research questions. Braun & Clarke (2006) explain that there are no set rules for what constitutes a theme. However, a theme should have significance and capture something meaningful or interesting about the research question. Once all data was coded, the researcher identified themes that the codes fitted into. Codes with similar meanings were grouped under the same theme. The themes were scrutinised by the researcher. She combined those that had similar meanings and analysed them to ensure that they accurately reflected the collected data. Step 5: Defining and naming themes

Step 5 involved defining and naming the themes before writing the report. The goal for step 5 is to "…. Identify the 'essence' of what each theme is about" (45). The defining and naming of themes was developed by the researcher while gained a better understanding of the data, to ensure that themes aligned with the meaning of the collected data. The research supervisor, who served as an independent coder, was consulted on themes' appropriateness and helped the researcher finalise them to improve the quality of analysis.

3.7. Ethics

Ethical approval was obtained from: the Human Research Ethics Committee (HREC-Medical) (Annexure 5), the Head of School (Annexure 6), and the Head of Department (Annexure 7). Educators read and signed the participant information sheet (Annexure 1), informed consent to participate (Annexure 2), and a consent letter for audio recording (Annexure 3). The consent forms described the measures for anonymity, permission to participate, and recording. The data generated in this study adhered to the criteria outlined by HREC-Medical.

The consent forms that were signed by the participants explained how the researcher ensured confidentiality of the collected data and that their identities were protected. Voluntary participation and withdrawal at any time, without consequences, were discussed with participants and described in the information sheet and consent forms. Before the start of each interview participants were reminded that it is voluntary and that they could withdraw from the interview at any time. All recordings and transcriptions of interviews conducted were kept on a password protected laptop. Signed informed consent forms were locked in a filing cabinet.

3.8. Research quality

The four criteria applicable for assessing the quality of research are credibility, transferability, dependability, and confirmability (39,46). Credibility refers to trustworthiness and believability of the findings as perceived by the reader. To mitigate credibility three educators were provided with their transcribed interviews to verify the accuracy of the study. Further credibility was ensured throughout each interview, by researcher seeking clarity and comprehension of educators' interpretations by asking, "If I understand you correctly..."

Transferability pertains to the potential for the research to be replicated with comparable individuals in a similar context. The research write-up included a comprehensive methodology and clear interview instructions. Dependability refers to the consistency of a study's findings with the context. 10 out of 12 individuals were interviewed in the department. Dependability was enhanced by interactive data processing. The researcher retained recordings of the interviews and transcripts for auditing.

Confirmability refers to the extent to which a study's findings are derived from the educators' interviews and the data collection environment, rather than being influenced by the researcher's prejudices. Confirmability was ensured by the researcher's supervisor, who reviewed the transcripts and provided guidance during the thematic analysis process. Additionally, the researcher employed reflexivity to avoid introducing her own bias during interviews and data analysis. The researcher must maintain neutrality throughout the study procedure to accurately and objectively understand the educators' experiences without being swayed by their attitudes or beliefs (39,44).

3.9. Role as researcher

The researcher holds a part-time position as a clinical supervisor and lecturer in the oral hygiene and dental therapy department, where she works with students from first to final year of their study. She is familiar with the department's staff and regularly interacts with them in various teaching environments. The researcher facilitated the interviews with reflexivity, setting aside her own beliefs and opinions to capture participant's true experiences and perceptions (39,44). Being an insider researcher fostered credibility and rapport with participants, which facilitated easy contact for participation. Being an insider researcher also made the collection of forms and scheduling interviews easier as well as time saving. Moreover, the researcher's familiarity with the organisation's context and culture proved to be valuable during the interviews.

The study had a transformative effect on the researcher. It made her more conscious of how, when, and why educators used reflection in their teaching. Resultantly, the findings enabled the researcher to see reflection from the participants' perspective and compare it with her own reflective practice as an educator. This experience prompted the researcher to be more thoughtful on how reflective practice is taught, learnt, structured, and implemented to ensure effective teaching and learning by oral hygiene educators.

3.10. Summary

This chapter outlined the research process. The chapter focused on discussing the study's setting, population, sample selection, data collection, and analysis. The chapter also explains the study's ethical approval process. Furthermore, the chapter discusses the measures that were taken to ensure this study's quality and provides insights into the researcher's role. The next chapter presents and discusses the research findings.

CHAPTER 4

RESEARCH FINDINGS AND DISCUSSION OF FINDINGS

4.1. Introduction

This chapter presents and discusses the study's findings. The chapter commences with describing the participants' demographic data, which is followed by themes and subthemes that were generated from data analysis. A summary of the findings is also provided at the end of the chapter. In the summary, the findings are compared to the available literature on the subject. Direct quotations from the transcripts are used to highlight the themes and subthemes, showcasing that the results directly stem from the participants' narratives. To ensure confidentiality, the educator`s quotations are indicated with a letter "P" followed by the number given to the participant, for example, P1.

4.2. Educators' demographics

Years of teaching experience

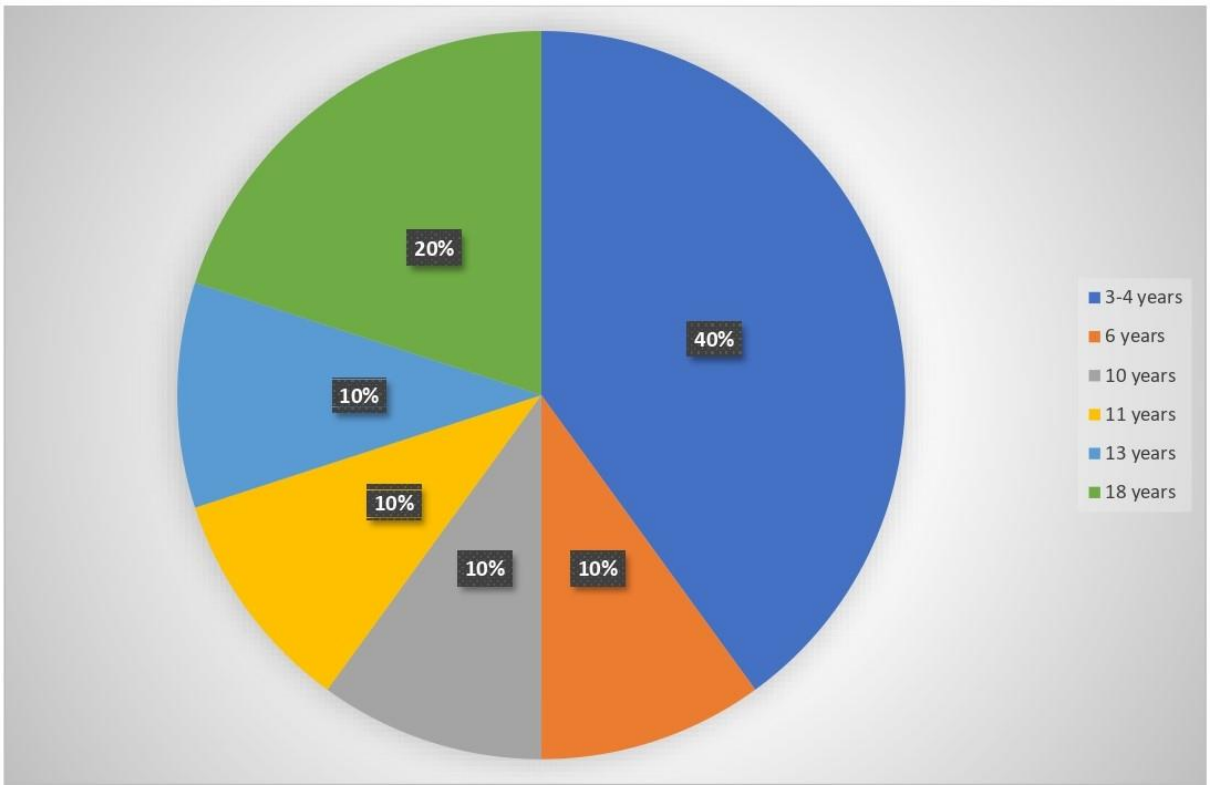

Figure 3: Years of teaching Oral Hygiene students

Below are the qualifications or workshops that educators had or attended:

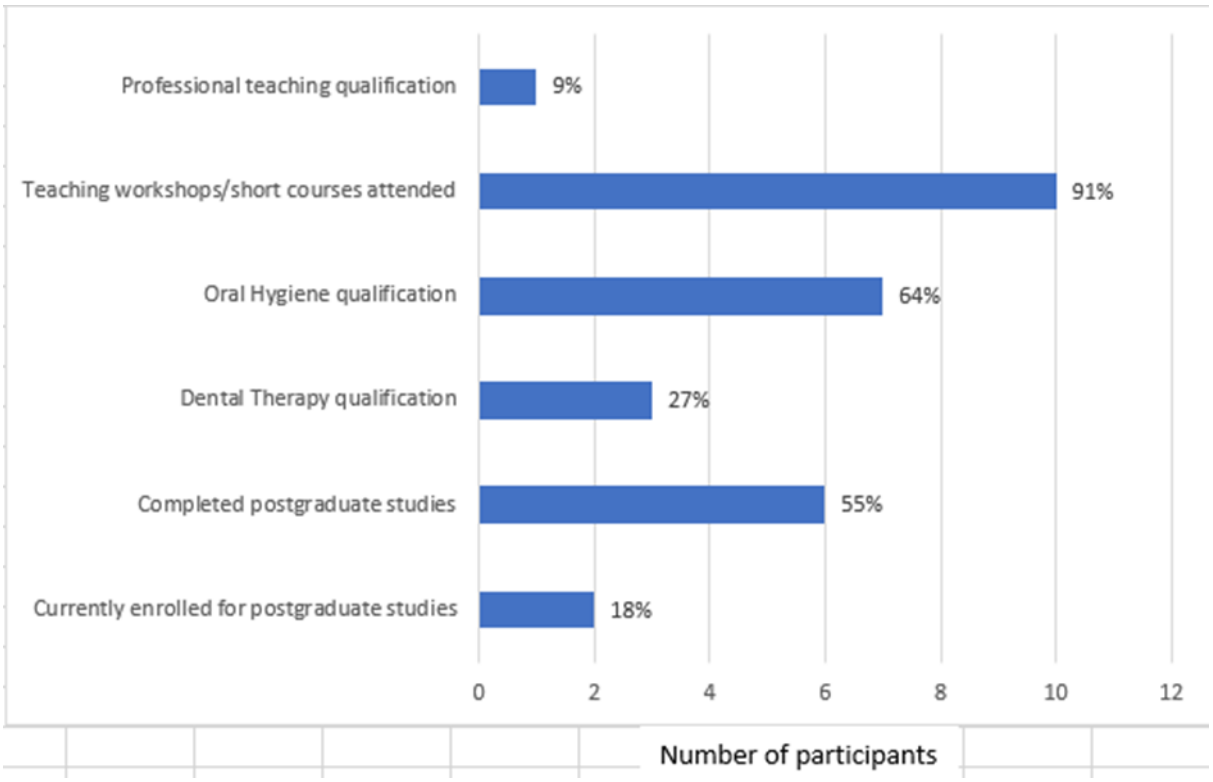

Figure 4: Qualifications and attended workshops/conferences

All educators were qualified oral hygienists or dental therapists by profession. They possessed teaching experience ranging from 3 to 18 years (figure 3). 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 4). 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, the following quotations exemplified the educators' qualifications or training:

> *"...yes, I have had some teaching related courses but they were for, I think the first one was for 3 days which was organized by the faculty the other one by CLTD I think it was for two weeks where afterwards we'd have sort of assessments you write and then you get a certificate"* (P4).

> *"a diploma of oral hygiene, and a postgraduate university diploma in oral hygiene from the University of Pretoria"* (P7).

The teaching environments in which educators facilitated learning of oral hygiene where: lectures (on-line and in-person), pre-clinical teaching in the technical skills laboratory, clinical

supervision in the clinic and specialised clinics, outreach supervision and one-on-one mentoring sessions.

4.3. Themes and subthemes

Table 4: Themes and subthemes from the findings

Themes	***Subthemes***
Theme 1: Experiences relating to reflection on teaching	Educators' definition and understanding of reflection
	Value of using reflection
	Motivation
	Barriers
Theme 2: Use of reflection by educators in their teaching	How educators reflect
	What educators reflect on
	When educators reflect
	Self-reflection
Theme 3: Experiences relating to the department culture of reflection	Departmental attitude
	Learning opportunities
	Suggestions for change

4.3.1. Theme 1: Experiences relating to reflection on teaching

This theme relates to the experiences of educators` reflection on their teaching. It has 4 subthemes namely: educators` definitions and understanding of reflection, the value of reflecting on their teaching, what motivates educators to reflect and what barriers they experience regarding reflection.

4.3.1.1. Subtheme 1.1: Educators` definition and understanding of reflection

All educators defined reflection according to their own beliefs and experiences. They described it as a broad concept that involves conscious and sub-conscious contemplation of their teaching day. Reflection was seen as a continuous daily revision and recalling personal experiences to assess what worked and what did not work while teaching, participants said:

> *"…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).

> *"…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).

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

The educators' understanding of reflection was similar in that for it to effectively enhance their teaching and their student`s learning outcomes, they needed to be aware or conscious of both successful and unsuccessful aspects of their teaching. Subsequently, they had to deliberately plan how to address any issues and then apply the necessary changes, as demonstrated by P2, *"You know sometimes when you are doing and you don't think about it, you might end up repeating the same mistakes"* as well as P4, *"…you need to reflect on what you have been doing so that you will be able to improve."*

4.3.1.2. Subtheme 1.2: Value of using reflection

All educators described the importance of reflecting on their teaching for personal and professional growth. They believed that it improved their communication skills, confidence, and interactions with students, which was emotionally fulfilling for them. P2, explained, *"…when you reflect, you gain confidence, number one."* Additionally, P3 said, *"My reflection basically on my interaction with students personally I feel it's quite fulfilling."* P6 also reported, *"I think it's the self-reflection has helped a lot with my communication skills."*

Educators highlighted that reflecting with students in a teaching environment, enabled them to improve teaching and learning outcomes. Thus, P1 reported that, *"…they learn how to reflect as well from me because I am reflecting…"* Other educators further reported:

> *"…the whole reason you actually thinking about your teaching, and teaching, and them connecting with the clinic is so that you have a much better student. Or professional at the end of the day"* (P5).

> *"…reflection for me is beneficial. Because I'm, I'm getting to learn how to treat students in different ways"* (P9).

Reflecting helped all educators to identify gaps in their teaching, which enabled them to make changes for improvement, as reported by P7, *"…I think it helps in improving and developing yourself as a teacher. And also, it helps you also to go back and identify gaps and be able to close those gaps."* Additionally, daily reflection on their teaching helped many educators better prepare for coping with days whose planning was not successful, P6 said, *"Were you having a*

bad day? It helps you get on cruise control, and you know, you're able to get on with it, because then you, you have done your reflections, you're not doing things mindlessly.

4.3.1.3. Subtheme 1.3: Motivation

Some educators had internal self-motivation to reflect. They described themselves as having a passion for teaching, they described it as their calling. Many educators were motivated to reflect so that they could grow on a personal level, as demonstrated by P4, *"…it stays with me just like I do it for my own personal growth"* as well as P8, *"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."* Furthermore, all educators were motivated to reflect when positive or negative events occurred in a teaching environment. This would be involving educators or their students:

> *"…reflection is not something that just comes naturally I think, it is something that you almost have to be pushed or you have to realise that there is gap somewhere that then now prompts you"* (P1).

> *…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).

Students' feedback also motivated educators' self-reflection on their teaching, P5, reported that, *"…if I don't reflect, then I wouldn't know where I am going wrong, and I wouldn't know if there are issues with the students"* P9 also said, *"So, student feedback actually helps..."* Furthermore, all educators were motivated to reflect by their desire for students to understand the material which they taught as well as integrate knowledge into clinical practice:

> *"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 practising the skills become better and better"* (P3).

> *"So that, for me used to be a huge reflection point, did they get the concepts?"* (P6).

Additionally, insecurities in their teaching and supervision abilities motivated educators to reflect, prepare and improve their teaching methods. P6 reported, *"…before I think it came from a place of insecurity as well. I don't know what I am doing."* Some educators had role models during their own years as students. They admired their admired their role models and sought to

emulate them in their own teaching approaches, as P6 said, *"...you know, and that was the thing, those are the things that stuck with me, you know, and now I grew up, and I have to be that person that role models that passion and role models that."*

4.3.1.4. Subtheme 1.4: Barriers

Participants experienced barriers to reflection, which included insufficient time, incomplete buy-in from all staff members, and a lack of formal training or structured reflective practices. These barriers are described by below participants:

> *"...oh, dear I probably just don't have time to think about it... it is more about just the team kind of working out how to do it, or how to have these sessions... as educators in this department design our own kind of reflection module type of thing, that we then will benefit from but also there is no time for that"* (P1).

> *"I don't know whether it's because people don't want to do it, or they are less knowledgeable about it"* (P7).

> *"...depending on whether people have time or have the interest"* (P10).

Most educators felt that reflective practice was not encouraged by their colleagues.

> *"But if it's not encouraged, it's one of those things that can fall by the wayside very quickly"* (P6).

> *"There was nothing pushing me to keep on writing. I didn't have to submit anywhere. I just stopped"* (P8).

Some educators mentioned that ego or lack of motivation to teach prevented them from reflecting, for example P6 and P9 said:

> *"...taking it personally, which is not what is being said, you know, so I think that that becomes a barrier for a lot of teachers, especially with teachers that have been in the field for many years, I am experienced, I know what I'm doing"* (P6).

> *"...the minute you start reflecting, the biggest thing is that you have to make changes. And taking time to make those changes might be a thought process that maybe somebody doesn't want to go through..."* (P9).

Educators felt demotivated when their efforts to improve their teaching were not recognised:

> *"…it's very hard for staff members, or employees to be reflected about the work, when everything that they're doing is sort of just going unnoticed"* (P6).

After the COVID-19 pandemic, there was a reintroduction of the regular group reflection sessions (calibration). These had been used before the COVID-19 period, but stopped owing to the regulations that were related to the pandemic. Calibration activities were reintroduced because they had a positive effect on teaching, supervision and communication with colleagues and students: *"…I think with all the disturbances in terms of COVID and people doing online learning people were not on campus. It took the department back into the factory settings, you know* (laughing)*"* (P6).

4.3.2. Theme 2: Use of reflection by educators in their teaching

This theme discusses educators' use of reflection in their teaching. It has 4 subthemes namely, how participants reflect, what participants reflect on, when do educators reflect, and self-reflection on their teaching.

4.3.2.1. Subtheme 2.1: How educators reflect

The educators primarily engaged in informal reflection through observations. Reflection mainly occurred individually, and sometimes in groups, as described by below educators:

> *"…it's like a verbal one that I do, like I kind of think about what is happening in a clinic"* (P1).

> *"…your reflecting is thinking and sharing it, with the students"* (P3).

> *"I love observing, I am always, am observant in a way"* (P7).

> *"Whether it is written, whether it is mental, but it should be happening all the time…"* (P8).

> *"…the method that I usually use is ask the class actually to let me know how you feel about how the lectures went? So, I take student feedback. And I also reflect on my own…"* (P9).

All educators were actively engaged in self-reflection. They asked their students to tell them about what worked and what did not work in a teaching session, below educators reported. *"…now that for me becomes you reflecting and accepting feedback in a group scenario"* (P6).

"…you ask questions. You are trying to get feedback whether they were walking with you on this path or not it is about that and it's also about" (P8).

Few educators informally chatted with their colleagues to reflect on their teaching day, for example, P1 said, *"I reflect in a way that I am kind of almost debriefing with the other colleagues."* Two educators expressed their intention to implement changes in their future teaching. One educator noted being taught at another South African University to keep a reflection journal where she wrote necessary and potential changes. The participant said, *"…we were told or we were taught that we should keep a journal so that you note what you are doing"* (P2). In addition, P6 also used a journal to reflect on their teaching experience. P6 reported that, *"But sometimes I also remember, but most of it is I do write down."*

All educators reported that they used students' feedback and interactions to reflect on their own, as well as students' understanding and performance in the course. This is seen in P2's quotation, *"…as we are reflecting with students, they are also reflecting giving you back what you are doing"* (P2), as well as the following participant:

"…they are doing it in different ways. I mean, different people some staff members make students write their experiences or some staff members sit with them or during some mentoring session, they just give them to, to reflect give their input and all that information… Each teaching environment they adapt their reflection to help the students, to make them see or understand that they get what you taught them, or what was the experience in a specific teaching environment?" (P10).

4.3.2.2. Subtheme 2.2: What educators reflect on

Most educators reflected on the students' understanding of the material that they taught and their ability to integrate it during their practical sessions. Such reflections were as follows: *"I would think it is more on, say after teaching, you know that when I go back and sit and think. I think it is more on my reflection on the knowledge that I have been trying to impact on them, and also will they be able to practise what I have told them"* (P5).

> *"The questions the students asked you, the words that you use to answer those questions, how you deliver the lecture, did the students get it. But also, especially with us in clinical teaching, were they able to take it from the lecture to the clinic and apply to the clinic, did that happen?"* (P6).

Educators considered the context in which they taught and the characteristics of their students when adapting their teaching approach, as P6 said, *"…it was a lot of finding myself and finding my feet, finding my personality in class, those kinds of things… there's people that will reflect on their behaviour."*

Educators reflected on the students individually as well as a group, regarding their emotional, mental, and physical well-being. P3 explained, *"My reflection basically on my interaction with students personally. Yeah, that is what mostly I am reflecting on."* P6 also said, *"If I don't reflect here, as to what kind of product I'm taking out into the world."* Educators reflected on the students` performance, skills, and abilities during pre-clinical, clinical, outreach sessions, and after formal assessments. They also reflected on the content of their lectures, both in-person and on-line,. They also reflected on the feedback that they received from the students regarding the lecture's delivery and students' understanding of the lectures, examples of the participants' narratives on this finding are below:

> *"…I go and find other real-life examples, and then I redo the lecture, so that is how I do it, I just think about what they have told me"* (P1).

> *"When I say teaching, I am including both clinically teaching and then the outreach like yes, how it went, how to improve it and so on"* (P4).

> *"I do think about it? I do think about the content. I do think about the context, I do think about the type of students I'm teaching. I do think about approach. And I prepare myself around that"* (P8).

Educators also reflected on how they could improve their own teaching methods and assessment. In this reflection they focused on their positive and negative experiences in teaching:

> *"…and sometimes if something positive happens, and then I would bring it back, I mean you have got to reflect about both"* (P1).

"…at some point I get a bit of disappointed because sometimes they don't come seemingly not prepared. But then I would reflect on that" (P3).

"You reflect on your maybe how you have been assessing the students your teaching methods, are they working what is it that went wrong what is it that you did well and so on" (P4).

"And I look at all my lectures. And I look at all the tests that students wrote. And I look at all the assignments that the students did. And I recall what happened in the clinic that year. And I make notes of certain topics that I think were not done properly" (P6).

Most educators reflected on how more frequent departmental calibration sessions could enhance clinical outcomes for students and improve supervision performance. Additionally, educators reflected on the performance of their colleagues while they sat in their lectures.

"I haven't sat in most of them teaching, but the few that I would sit in a lecture and listen to them teaching, sometimes I feel like I can say to them, don't you think you can make it more interactive" (P5).

"You find that there is a bit of disconnection or maybe the calibration should be done on a frequent so that we all on one page…" (P3).

Reflecting on the latest trends in teaching and technology, educators aimed to keep themselves and their students updated with global trends. They also considered engaging in collaborations with other universities to share knowledge and experiences, thereby improving overall standards within the profession and among students, as described below:

"I would, my ideal situation would be having the lecturers collaborating with other universities and also having exchange students… So, exchange that information it will lift us and they take what we have it lifts them… I realised do you know what we have to readjust to the current trends because they are here, and they are improving and making life easier" (P3).

Educators observed distinctions in their reflection across clinical, outreach, and lecture settings. During clinic and outreach activities, educators engaged in continuous reflection on the student`s performance throughout the session. In lectures, they mostly reflected on their own preparation and presentation of the material, with input from students afterwards.

"So, I would identify the gaps or where I went, I don't want to say wrong on that day, but where I fumbled a bit, and then I will do a reflection on that, then try and maybe fix or maybe modify my teaching" (P7).

4.3.2.3. Subtheme 2.3: When educators reflect

Most educators reflected either before, during or after a teaching session:

"…during lectures you must reflect and maybe when you are in the clinics after the procedure you must reflect" (P2).

"…pre-sort of priming in my head, before the lectures, are they going to get… And then it will be post, used to happen post my teaching where I'm thinking" (P6).

"…reflection that I believe it should be happening every day" (P8).

"I try to reflect, especially when they come into the clinical session, because that's where you kind of see how they integrated with the information" (P9).

Other educators reflected continuously on their teaching, such educators where P7 for example, who said, *"I'd say, every day, because at times after delivering a lecture, I tend to, I like critiquing myself."* As well as P8, who reported that, *"…reflection it is about thinking about what you will be doing. It is about thinking while you are doing it… It should be happening all the time…"*

Educators informally reflected with colleagues during breaks such as lunch or in the corridors, where they discussed their teaching experiences for the day: *"…when we have our meetings or during certain sessions or during lunch because that is the time when people will say this went well. This didn't go well"* (P10). Most educators reflected about when they observed students who were not performing a skill correctly in the clinic or in outreach activities, as well as when there were misunderstandings about the taught subject, as is explained below:

"…so yeah, that will trigger normally where I could see that uhm there is just a general lack of understanding" (P1).

"…in the clinic I do it whenever I see students not performing when I am supervising… so, if they perform very bad, I get worried then I start reflecting on the previous block, why did this happen?" (P4).

There was a perception that reflection occurs often in the clinic and skills laboratory sessions than during a lecture, as was reported by P9, *"In the clinic is about the then and the now what's happening then. And what are you saying to the students at that moment…"* Furthermore, before and after students' assessment, educators reflected on their marks and gathered information to adapt their teaching methods or support students who were not performing well.

> *"I would mostly reflect around the time where they start writing test, or I see that, you know when I start giving them the tips, so those will be the times"* (P1).

> *"I have figured out that during assessments that is very important that I reflect…it makes me identify and maybe look for more information maybe up skill myself to be able to manage to manage how could I help them do better"* (P3).

Educators felt that they had reflected more on their teaching earlier in their careers, due to a lack of confidence and knowledge, since they felt as novice.

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

> *"Initially, I think when I started, it was more. You know, I thought about teaching all the time"* (P6).

4.3.2.4. Subtheme 2.4 Self-reflection

Participants were sincere on their self-reflection on their journey as educators. There were some educators who wanted to improve in their reflective skills, these included the following:

> *"…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…* (laughing) *you need to be able to contextual and come with the times, and that will only come with more self-development"* (P1).

> *"…because you are a hygienist doesn't necessarily mean that you will be able to teach oral hygiene"* (P6).

> *"So, you have to commit yourself"* (P8).

"…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, with the changes that I make every year" (P9).

"…it's just being making sure that if there's any criticism, you use it constructively don't use this to or take it personal or anything" (P10).

Educators also highlighted that they were learning from their students. For participants, teaching a small group of oral hygiene students felt as parenting than educating:

"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).

"It's not, it's not about me, it's about the students… but more than anything else, it's like parenting. Our classes are very small" (P6).

4.3.3. Theme 3: Experiences relating to the departmental culture of reflection

This theme discusses educators' experiences of their department's culture of reflection. It has three subthemes namely departmental attitude, learning opportunities and suggestions for change.

4.3.3.1. Subtheme 3.1: Departmental attitude

Most educators felt that there was not enough buy-in from their colleagues and the department regarding reflective practice. Additionally, educators believed that their department did not support reflective practice. The narratives that demonstrate this finding are below:

"I think people don't even know what that is and it is probably no-existence but more because there is, it happens informally so it is not like something that people would talk about, I think it is not something that is out there, people just do it informally and some subconsciously by now, but that is not something that is supported or spoken about, it doesn't really exist" (P1).

"…will have be honest with you, since arriving here as a department it has never been done. To be honest I don't remember even one as a department" (P4).

Participants wanted involvement and commitment from staff members, managers, and leadership to encourage reflective practice within the department:

> *"…yeah! I wish we could reflect more because it really helps…. when they come back and reflect, we have a clear picture of what is happening and what they learn I wish it could be like that"* (P2).

> *"Only if we are reflecting then we will correct there and there"* (P4).

> *"But if you don't, if you're in an environment that is not supporting the staff, that is not building the staff morale, that is not encouraging"* (P6).

4.3.3.2. Subtheme 3.2: Learning opportunities

As a group, there were calibration sessions that were taking place, which all educators deemed beneficial. However, educators felt that calibration sessions were not sufficient enough.

> *"So, what I think console frequent calibrations did, they took away the, the distrust amongst us. And the relations between staff members became a lot more chilled, a lot more relaxed and a lot more open…And I think if we could go back to that, it would help everybody"* (P6).

> *"…we used to have those times we used to have those camps, especially before the pandemic, we used to have those times, because calibration, it is part of it simply means we reflected and we saw what is happening at the table, trying to correct that we want it to be standardised. But after the pandemic, I cannot say it has been happening, because everything has been online"* (P8).

Educators generally agreed on the necessity to allocate time for group reflections in all teaching environments and to create opportunities of formal training on reflection for staff members and students. The formal training would enhance reflection, as noted by P2, *"…because I think that everybody reflects it's just that content is not structured"* as well as P4:

> *"We need to permit maybe opportunities to assist us to reflect even for ourselves even if maybe we say each and every block when the students are away, we seat down we reflect. That I think will assist us as a department to grow and to do better"* (P4).

Educators highlighted that they would like to be more informed about the use of reflective practice in teaching, particularly due to the department's small size, which presents an opportunity for such initiatives:

> *"But I think you do need departmental reflection, and you do need individual reflection. And you will see it in the departmental reflection if someone hasn't reflected individually"* (P6).

> *"Because actually, in all, in medicine, and dentistry, most of the lecturers, they don't have a teaching training. They don't have a teaching training; they learn they learn as they go. And as they teach, you know, unless it is a formal course or a short course that is offered, then one will go, they don't come to the institution ready to teach, they don't come. So, it should be there"* (P8).

Educators felt that there were no past opportunities, such as workshops that were made available for them to learn about reflection on teaching. However, they acknowledged that there are currently emerging opportunities within the department, as the below educators reported:

> *"…like there is no specific course that you know uhm that we could say let's all as oral hygiene go on that… I think it should probably be uhm something that when we have our meetings, we should be talking about it and talking how to do it better because in that way we could improve how we are teaching uhm, so I think there are opportunities"* (P1).

> *"And yes, stuff can be re-motivated. COVID happened, a lot of things fall by the wayside. It's okay. You know, it doesn't it's not the end of the world yet"* (P6).

> *"I think there is considering that this is not a big department, you know, I think that will actually help a lot, I think there is an opportunity"* (P5).

4.3.3.3. Subtheme 3.3: Suggestions for change

There was a suggestion to incorporate reflection into the current curriculum for both educators and students to emphasise its importance. P2 suggested, *"I would suggest that we have maybe something like reflection added in our curriculum."* P2 further highlighted that formal reflective practice could improve communication among staff members and students, thereby, creating a more positive teaching environment for all. P2 said, *"I think they should teach reflection and*

we should all reflect." Additionally, P1 suggested that educators should have a more positive attitude towards reflecting, by saying, *"I think people need to develop themselves individually within this department to be able to reflect more."*

Some educators also suggested that further research by lecturers on teaching and learning could benefit the department by creating a buy-in attitude. The following quotations show how they explained:

> *"I think that will also come from the department uplifting themselves and people actually studying more and doing more research and doing more study like that, that will improve on their reflections, I don't think there is one training that anyone can go for"* (P1).
>
> *"...If reflection was taught and more structured and then you can also get a clearer picture etc."* (P2).
>
> *"...if we can have more of researches like these it will be good because this going to improve us as lecturers, improve the department as a whole... Maybe there is someone who is a professional in that who will teach us then show us this is how you do it, this is how you do that, that might assist" (P4)*.
>
> *"...so, I think everyone actually, everyone in the teaching institution should go through that... I think if we can have maybe like a coach, or something along those lines that can teach us to say, you know for reflection, this is what you look out for, these are some of the questions that you should be asking yourself, and these are some of the interventions that you can put in place, I think it can be taught"* (P5).
>
> *"I think that they need to do more they are not supporting it. 100% you know we need to structure it so that we are able to know what is wrong what is right"* (P6).
>
> *"I think if, if we could change our attitude towards some of the things or our behaviour, I think it will improve... I think that goes to issue of organizational culture, because people have got their own beliefs, their own values, their own behaviour, attitudes, so if some people don't feel it is important to them to do it, then it ends up affecting the entire department, because the other one will be doing it, doing it and won't see the importance of doing it. Why along the way, you are fumbling as well. So, if we could have a common goal on reflection, I think that will be better"* (P7).

"…we all need to be taught how to reflect. And that should also go to students and staff. Not just individually and as a group as well. So, I think we need to have I don't know if it's a workshop of a lecture or if its an interactive session, but we need to have that type of thing" (P9).

DISCUSSION OF FINDINGS

4.1. Participants` definition and understanding of reflection.

Educators' definitions and understanding of reflection on their teaching were based on their personal experiences and beliefs. No educator made reference to any formal definitions of reflection. In literature, definitions of reflection are often debated and not exact. Nonetheless, in the current study, educators' definition of reflection concurs with that in literature which is, "…it is an active way of thinking and a purposeful effort to evaluate professional and practical knowledge in a teaching environment" (7,8,10,19,47,48).

All educators highlighted that reflecting on their teaching enabled them to identify gaps and make appropriate changes to their teaching and behaviours. They wanted to improve their teaching to create a better learning experience for students. The educators' intentions to use reflections aligns with previous studies' findings that shows that reflection contributes to improved learning outcomes (17,18). As was experienced and valued by some educators in the current study, Lubbe (7) asserts that reflection on teaching contributes to overall personal and professional effectiveness as well as promotes professional growth through inner-directed learning.

However, educators did not distinguish the common usage of the term, reflection, from its specific usage as a concept which is associated with important educational outcomes. While insights are still gained, despite explicitly understanding reflection as a concept in teaching and learning, it will not lead to deeper inspection, questioning, and re-evaluation, which is needed for transformative learning. Transformative learning refers to evaluating and challenging assumptions as well as beliefs that are often unconscious, possibly leading to new assumptions, beliefs or change (7,8,37,49). Educators learned from their experience, but no measures or tools were employed to ascertain if learning occurred. As Mezirow (48) outlined, critical reflection is an activity of scrutinising, asking questions, and rethinking a teaching event to justify changes that need to be made, for the primary purposes of learning to improve practice. If reflection is to transform an educator's teaching (7,12,23,37), critical reflection must delve deeper by

questioning fundamental theoretical backgrounds and power dynamics. However, only few educators in the current study engaged in this level of reflection. All educators valued reflecting with students individually or as a group, because it assisted them in identifying their teaching gaps. Research aligns with the notion that when educators are compelled to change their teaching practice and behaviour, such as when receiving feedback from students or peers, it has the potential to create "transformative knowledge" (12,23). However, giving educators feedback on their teaching does not prove that learning has occurred (26). Studies suggest that what educators do with constructive feedback leads to change (26,28,50).

In the literature, the motivation to change behaviour often begins with the awareness that something is amiss and requires careful attention (12,17,18). Educators acknowledged making changes, but they did not mention critically examining their reflections or being motivated to develop and evaluate different options. Literature suggests that educators who understand their teaching practice should be able to express, critically examine, and compare their views against alternatives, when faced with challenges (8,10,17,18). Previous studies assumed that oral healthcare professionals were adequately experienced in teaching students because of their expert knowledge, technical skills, and experience, a theory found to be incorrect (7,8). This is supported by the current study's findings that educators were motivated to reflect and improve, on their professional abilities as well as their insecurities.

The barriers to reflection, as expressed by educators, such as a lack of time, knowledge, and support as well as additional workload, concurs with previous studies' findings (2,10,12). However, previous studies suggests that if an educator's goal is to develop and nurture students` learning, which was the goal of educators in the current study,, they must find time to reflect on their teaching, knowledge and experiences (19). Furthermore, to understand the concept of reflective thinking and to use it in their teaching, educators need to be given sound knowledge base of the activity, although this develops over time (2,10). Furthermore, if reflection is to be effective, educators need to address barriers that they experience, by investing time and effort. They also must be willing to question their own actions, underlying beliefs, and values, as well as ask for different viewpoints (8,9,21,37).

4.2. Use of reflection by participants on their teaching

All educators who participated in the current study reflected on their teaching. Few of them engaged in continuous reflection throughout their teaching day. This is positive because educators should constantly question what they do and how they can improve their reflective

practice (21,22). However, in their practice of reflection, educators did not mention having learned, to use formal reflective theories, or any structured framework, which are discussed in the current study's literature review. It is possible that through their teaching experience (ranging from 3 to18 years), their everyday understanding of reflection had developed into basic and medium level of reflection. Despite the diversity in the understanding of reflection, researchers agree that there is no single correct way to reflect. However, when considering the components of "good" critical reflection (37), educators in previous studies linked experiences from the past, present, and future. They integrated intellectual aspects but could have included more emotional experiences. Additionally, educators could have reflected on their teaching using more strategies such as discussing with colleagues, expressing their reflections in writing, and voicing what they learned more often.

Educators in the current study primarily "thought" about their teaching day. Yet, an important part of the learning process in both formal and informal contexts involve not just "thinking" about teaching, but critically examining their behaviours, attitudes, beliefs, and values. Lubbe (7) suggests that to address weaknesses and improve teaching over time, educators must know how to effectively use reflection and develop an action plan. This can be achieved through various methods such as interaction, structured experiences involving specific questions, group discussions, oral dialogue, reflective journals, or portfolios (2,10,21,22,37). However, educators did not use all the suggested tools for effective reflection. They mainly engaged in informal individual reflections, occasionally with students, and rarely with colleagues. Oral reflection by educators in the current study occurred in all teaching environments, particularly during surprising or troubling experiences, which aligns with existing literature (2,7,19). They reflected by observing students in the clinic and lectures as well as asking for feedback from them. Importantly, all educators asked students for feedback, which is supported by literature which suggests that feedback can be individual, group, faculty, or peer-based, any of the feedback that is generated from these sessions is valuable (1,8,10,37,51). Reflection is recognised at all levels of medical education (1).

In addition, educators could benefit from discussing their reflections with colleagues more often because shared thinking tends to be more effective than individual reflection (10,37,51). Most educators in the current study felt uncomfortable with asking for help when they encounter challenges during their teaching, due to the fear of being viewed as weak, which has concurred before, as reflected in literature(10). Literature suggests that shared reflection with peers or mentors is more beneficial because they mentors provide different viewpoints in exploring

alternative explanations and behaviours. Contrary, individual reflection, is less beneficial because self-assessment is often inaccurate (2,37).

Educators in the current study highlighted that reflecting with others is not always practical due to dissimilarities in the required time and energy commitments between colleagues. Literature suggests that educators should be taught how to scaffold their underlying values, attitudes, thoughts, and emotions so that they can be able to solely critically challenge as well as evaluate their assumptions of everyday practice (2).

According to the literature review, educators' reflection levels were superficial to medium. They expressed their thoughts verbally which also happened after they observed the students' practice in the clinic. According to Rossouw (10), written feedback, on reflection, is more effective than just orally presented feedback. If educators were encouraged to write their reflections, it would stimulate a deeper level of reflection. Furthermore, educators can revisit written reflections for future reference and editing (2,7,10). Educators should reflect on all levels, at different times because superficial approaches may lead to superficial thinking in their teaching (7,10,17,18,37,38). Therefore, reflective thinking is achieved easier through intentional and planned procedures.

The use of reflection by the current study's educators can be best described as Schon's reflection-in-action and reflection-on-action. They subconsciously reflected without being aware of the different models of reflection. Educators often highlighted reflecting on student's performance and behaviour during clinical, outreach, and skills laboratory sessions. This is a form of reflection-in-action. Reflecting on a learning experience in the clinical setting is essential due to many unstructured learning tasks, and the complexity in each patient engagement (1,31,52).

In medical education, reflection is mostly reflection-on-action, which occurs after the teaching event (2,7,52). This was described by all educators in the current study. They reflected directly after a teaching event or delayed their reflection until they receive their assessment results. Writing exercises and digital records are advantageous to reflection-on-action (2,7,37). However, most educators did not utilise writing exercises and records. If educators documented their reflections, it was going to promote critical thinking and demonstrate commitment to learning and ownership of their experience (14,37).

Educators could all benefit from engaging more in researching their teaching as reflective practitioners, being open to analysis and critical evaluation by their peers, as well as relating theory to practice. By doing so, they could improve their practice (10,53). Further research will assist participants in developing deeper self-awareness regarding the nature and impact of their performance. Self-awareness creates opportunities for professional growth and development, which many educators were striving for (10,12,22).

4.3. Experiences relating to the departmental culture of reflection

All educators believed that their department and colleagues did not consider reflection as an important strategy. All educators individually reflected on their teaching but did not have structured guidelines or support from the department. Yet, literature suggests that reflection is an effective learning strategy. Therefore, it is essential for educators to learn how to use reflection and how to facilitate it when assessing students' own reflections (1). If not guided and provided with appropriate knowledge about reflection, in advance, educators' reflections become mostly narrative and empty of learning (2,7,8). Additionally, if the teaching environment does not support, value, and validate reflective practice as a learning strategy, reflection may not be adequately employed, and potential benefits may be lost (6,10). This could explain why many educators in the current study did not seem to sufficiently value reflection, felt unprepared, and unsure if it truly assisted learning.

Literature further suggests that there should be routine engagement in reflective practice for educators to fully understand the effects of reflections (7,23,37). Evaluation of reflection is essential since it motivates learning and proves that the educators and institution values the exercise (6,37). Therefore, regular group reflections could encourage better reflective practice among educators. Most educators did not report that they assessed their reflection. Yet, literature suggests that occasional summative reflection evaluation should be part of any program to cultivate reflective skills (9,37).

Educators in the current study were unaware of the department's learning opportunities for reflective practice. Therefore, they all highlighted an urge to learn more about reflection through workshops or short courses. Literature asserts that reflective practice is not a spontaneous activity, and it is challenging to teach. It is also a skill that develops over time and needs guidance and patience, but can be taught in an encouraging, safe environment (8,9,23).

Educators in the current study thought that it was important for students to learn about reflection, which, as mentioned before, is a prerequisite by the HPCSA to be an effective dental professional. Many educators expressed a desire to encourage reflection among their students, yet they themselves lacked knowledge of how to reflect or effectively assess reflection. Literature indicates that educators should be trained to articulate their reflections, to emphasise modelling to students. Modelling makes educators' experience more explicit, it engages their emotions and encourages interaction (7,9). Hence, once educators are taught how to reflect and assess reflection, only then students can be effectively taught to reflect on their learning. Reflection must also be incorporated into the curriculum because it cannot happen naturally (2,7,8,10).

In conclusion, all educators and students should be guided and assisted in becoming reflective practitioners. Oral hygiene education should not be limited to mastering knowledge and clinical skills only (9). If the department exhibited a more transparent and unified understanding of the concept of "reflection" and its application, educators would be better equipped to engage in critical reflection to transform their teaching practices. Strategies such as reflective practice should be promoted and supported to encourage educators to think about their teaching or supervision activities and why they do them. This will enable educators to justify their decisions and actions in the teaching environment (2,6,10). This chapter presented and discussed the study's findings. The next chapter is an overview of the main findings. It also provides the recommendations, and discusses the limitations of the study.

CHAPTER 5

SUMMARY OF MAIN FINDINGS, LIMITATIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter provides a summary of the study's main findings, limitations, and research recommendations.

5.2. Summary of main findings

This study's findings revealed that, while most educators could articulate the meaning of reflection, not all were able to translate their understanding into formal practice. Nevertheless, they regarded reflection as an educational method. Findings show that every educator reflected on their teaching, consciously and subconsciously, across all teaching environments. Educators exhibited varying levels of reflections, that ranged from shallow to moderate. They primarily conducted reflections on their own teaching informally.

The department did not offer many opportunities for educators as individuals or groups, to engage in reflections on their teaching practices. There were no seminars or classes that were provided to learn about reflection within the department. Overall, the department did not consider reflection to be an approach to potentially enhance teaching and learning. Consequently, reflections were not explicitly valued or encouraged by the department.

5.3. Limitations

Given that the researcher was also an oral hygienist and also worked as a sessional employee at the department, there is a possibility that bias could have influenced her data collection process. However, the researcher tried to mitigate this potential bias by providing a detailed and fair account of positive and negative outcomes, with the aim of accurately illustrating the overall comprehension and experiences of the individuals who were interviewed. One of the scheduled interviews with an educator did not take place since they were unavailable. Despite, this one interview that did not take place, the study was limited to oral hygiene educators only. Therefore, it is possible that only a small number of educators from the department participated in the study. Furthermore, due to the limited size of the sample, the results of this study cannot be generalised to other educators working in the school of dentistry or to educators working in other institutions.

5.4. Recommendations

The primary recommendation is for the department to prioritise reflection by offering formal opportunities for educators to learn about reflective practice. This will ensure that reflective practice is implemented collectively, and guidelines are documented for clarity, to address the concerns that were raised by the educators. Additionally, the significance of reflection in educational environments and practice requires further validation to support its utilisation, particularly in dental hygiene settings where less research has been conducted.

The current study suggests that reflection should be integrated in a meaningful and productive manner into the in-service training of educators, to enhance their effectiveness. Reflection should also be considered an essential practice in teaching and life-long learning. These suggestions would foster a culture that values reflection as a strategic tool for enhancing and directing future planning as well as teaching.

Furthermore, a larger sample size, including all educators that teach dental students in the school of Oral Health Sciences, could have been utilised to better achieve the current study's objectives and conduct outcome comparisons. The study could also be expanded to other universities in South Africa for comparative analysis and identification of commonalities.

5.5. Conclusion

Educators had superficial to moderate levels of reflection on their teaching practices. While they acknowledged the benefits of reflection for personal and professional development, educators lacked prior knowledge on how to reflect or access resources for reflective practices in teaching. Additionally, educators believed that the department in which they taught was under-valuing reflection, as a learning strategy. Introducing formal reflective learning opportunities for educators and establishing clear guidelines for its practice will enhance the overall quality of instruction in an oral health department at a university in South Africa.

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ANNEXURE 1: PARTICIPANT INFORMATION SHEET

PARTICIPANT INFORMATION SHEET

Title of Research: Exploring Oral Hygiene educators' use of reflective practice on their teaching.

Principal Investigator: Angelique Kearney, Department of Oral Hygiene, University of the Witwatersrand.

Introduction and Study purpose: I, Angelique Kearney, am a Master's student in health sciences education at the University of the Witwatersrand. As an educator teaching the Oral Hygiene students in the BOHSC programme, I invite you to participate in an interview.

As I researched the topic of reflection, I realized that I am not the only one regularly thinking about what happened in the classroom or about my teaching. Through my research, I will explore the reflective practice of Oral Hygiene educators on their teaching and how the faculty supports, influences, and impacts their use of self-reflection on their teaching. Through reflective practice, faculty members may harness and even develop insights about the impact of their teaching methods.

The study objectives are:

1. To explore where Oral Hygiene educators use reflection in the teaching practice.
2. To gain insight into oral hygiene, educator's knowledge and motivation influences related to the practice of reflection.
3. To understand how the organization's culture impacts faculty members' practice of reflection.

Procedures

The study will be conducted as an individual Microsoft Teams interview.

The interview will take approximately 30-60 minutes and at a time that we agree upon. The interviewer will use a laptop to record your responses during the interview.

The purpose of recording the interview is to facilitate data entry and accurately capture all the information given. The interview will be transcribed verbatim, that is put into written text. The recording will be destroyed two years after the study is complete if the research has been published or six years after the study is complete if there is no research publication. The information that I receive through recording the interview will be processed so that no unauthorized persons can access them.

I will not record any personal information like your name, ID, or the answers; you give, as I want your responses to be anonymous. This means that we will not be able to identify you from their answers.

Participant rights and alternatives

Your participation in this research is entirely voluntary. You can ask me to stop the recording and the interview at any time. If you choose not to participate or want to cancel your participation, you do not need to state why. Not participating in the study or withdrawing from the study will have any negative consequences for you.

Outputs

I plan to provide feedback on our findings through my Master's research project submission. All results can be shared with you if requested.

Who to contact?

This study has been approved by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg ("Committee"). A principal function of this Committee is to safeguard the rights and dignity of all participants who agree to participate in a research project and the integrity of the research.

If you have any concerns over the way the study is being conducted, please contact :

Principal Investigator: Mrs. Angelique Kearney Contact details: telephone number 082 454 9987, or by email at angelique.kearney@wits.ac.za

Ms. Abigail Dreyer, Supervisor, email Abigail.Dreyer@wits.ac.za

Dr. C.B. Penny, Chairperson of the Human Research Ethics Committee (Medical) at the University of Witwatersrand, telephone no.011 717 2301, or by email at Clement.Penny@wits.ac.za.

Ms. Z Ndlovu or Mr. Rhulani Mkansi, Committee Secretariat, telephone nos.: 011 717 2700 or 27 1234, or by email at: Zanele.Ndlovu@wits.ac.za or Rhulani.Mkansi@wits.ac.za

A copy of the signed form will be given or emailed to the participant for perusal.

Date: _____

ANNEXURE 2: INFORMED CONSENT TO PARTICIPATE IN THE STUDY

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

Good Day,

Study title: Exploring Oral Hygiene educators' use on reflective practice in their teaching.

Consent to participate in the study:

1. I have been given a Participant Information Sheet which explains the nature and processes involved in this study, which is attached hereto;
2. I was given time to read it,
3. I was given time to ask any questions I wanted to and found any answers given to me to be reasonable and satisfactory.
4. I believe I fully understand why the study is being conducted and what the intended outcomes will be;
5. I understand that there will be no immediate benefit to me, should I agree to participate, nor will I receive any payment; conversely, participation will not cost me anything but my time;
6. I understand that, even if I initially consent to take part in the study, I may subsequently withdraw at any time and would not be required to give any reasons; if that happened, any data collected about me for the study would immediately be destroyed, unless I give consent for it to be retained.
7. I have been given the contact details listed below. If I require further information or become concerned about any aspect of this study, I am free to speak to any of these contacts.

_____ _____

Participant name (Please print) Date and time

_____

Participant Signature

_____ _____

Interviewer name (Please print) Date and time

_____

Interviewer Signature

This study has been approved by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg ("Committee"). A principal function of this Committee is to safeguard the rights and dignity of all participants who agree to participate in a research project and the integrity of the research.

If you have any concerns over the way the study is being conducted, please contact :

Dr. C.B. Penny, Chairperson of the Human Research Ethics Committee (Medical) at the University of Witwatersrand, on telephone no.011 717 2301, or by e-mail at Clement.Penny@wits.ac.za.

Ms. Z Ndlovu or Mr Rhulani Mkansi, Committee Secretariat, telephone nos: 011 717 2700 or 24 1234, or by e-mail at: Zanele.Ndlovu@wits.ac.za or Rhulani.Mkansi@wits.ac.za

Principal Investigator: Mrs. Angelique Kearney Contact details: telephone number 082 454 9987, or by e-mail at angelique.kearney@wits.ac.za

Ms Abigail Dreyer, Supervisor, email Abigail.Dreyer@wits.ac.za

A copy of the signed form will be given or e-mailed to the participant for perusal.

ANNEXURE 3: CONSENT FORM FOR AUDIO RECORDING THE INTERVIEW

ANNEXURE 4: INTERVIEW GUIDE

INTERVIEW GUIDE

_____	_____
Date of Interview	Participant Identifier (for record purposes only)

My name is Angelique and for this interview I will be asking you a few questions. I have already explained the study and received your consent to participate and record the interview. I have explained that you have the option of withdrawing from the interview at any point without any consequences and you understand that. Do you perhaps have any questions before we start?

Educator and individual practice:

1. What is your highest qualification?
2. Can you tell me about any teaching related training or courses that you have completed?
   Probes: What was the course? Duration, when did you complete the course?
3. How long have you been involved in teaching oral hygiene students specifically?
4. In which teaching environments do you teach oral hygiene students?
5. Where do you spend most of your time teaching oral hygiene students?
6. Do you teach any other students?
   Probes: Who are these students? Where do you teach these students?

Understanding of reflection:

7. What do you know & understand about reflection? How would you define reflection?
8. What experience do you have on reflecting on your teaching?
   Probes: have / haven`t done (where have you reflected on your teaching before?)
   Explain why or why not? How do you reflect? What happened? Any benefits?
   No: How often do you think about your teaching day? What do you think about?
9. Can you describe a teaching day that did not go as planned? / One that did go as planned?
10. Where have you observed the practice of reflection in your teaching with the oral hygiene students?

Understanding of institutional ethos:

11. How do you feel the oral hygiene department supports the culture of reflection on teaching?
12. What are the opportunities in the oral hygiene department to learn about reflection?
    Probes: If Not: explain further and should there be? What would your suggestions be?
    If there is: Explain further, How has it assisted you?
13. What further training or support do you think the oral hygiene department can provide?

Closing and concluding comment

We have come to the end of the interview. Thank you so much for your contributions to the questions. We have come to the end of the questions I had planned to ask. Is there anything else you would like to add at this point?

ANNEXURE 5: ETHICAL CLEARANCE CERTIFICATE

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG	HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

Office of the Deputy Vice-Chancellor (Research and Innovation)

TO:	Ms A Kearney School of Clinical Medicine Department of Medicine Division of Family Medicine Medical School University E-mail: Angelique.Kearney@wits.ac.za
CC:	Supervisor: Ms A Dreyer <Abigail.Dreyer@wits.ac.za> and <HREC-Medical Research Office@wits.ac.za>
FROM:	Mr Iain Burns Human Research Ethics Committee (Medical) Tel: 011 717 1252 E-mail: Iain.Burns@wits.ac.za
DATE:	2022/05/03
REF:	R14/49
PROTOCOL NO:	**M220206** (This is your ethics application reference number. Please quote it in all enquiries, oral or written, relating to this study.)
PROJECT TITLE:	*Exploring Oral Hygiene educator's use of reflective practice in their teaching*

Please find attached the Clearance Certificate for the above project. I hope it goes well and that an article in a recognized publication comes out of it. This will reflect well on your professional standing and contribute to Government funding of the University.

MSWorks2000/Iain0007/Clearscan.wps

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

R49 Ms A Kearney

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M220206

NAME: (Principal Investigator)	Ms A Kearney
DEPARTMENT:	School of Clinical Medicine Department of Medicine Division of Family Medicine Medical School University
PROJECT TITLE:	*Exploring Oral Hygiene educator's use of reflective practice in their teaching*
DATE CONSIDERED:	2022/02/25
DECISION:	Approved unconditionally
CONDITIONS:	
NOTE:	If contact information regarding student study participants is required, please contact the Registrar's office - <Nicoleen.Potgieter@wits.ac.za>
SUPERVISOR:	Ms A Dreyer
APPROVED BY:	CB Penny Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	2022/05/03

This Clearance Certificate is valid for 5 years from the date of approval. An extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office secretariat on the 3rd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated from the research protocol as approved, I/we undertake to submit details to the Committee. **I agree to submit a yearly progress report**. When a funder requires annual re-certification, the application date will be one year after the date when the study was initially reviewed. In this case, the study was initially reviewed in **February** and therefore reports and re-certification will be due in the month of **February** each year. Unreported changes to the study may invalidate the clearance given by the HREC (Medical).

Signature of Principal Investigator _____ Date _____

ANNEXURE 6: PERMISSION FROM HEAD OF SCHOOL

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

FACULTY OF HEALTH SCIENCES

School of Oral Health Science

Department of Oral Biological Sciences, 7 York Road, Parktown, 2193. Tel: 011 717 2110 Email: Mervyn.Turton@wits.ac.za

6 May 2022

Mrs A. Kearney
Community Dentistry Department
Faculty of Health Sciences
University of the Witwatersrand
Johannesburg

RE: PERMISSION TO CONDUCT RESEARCH

REFERENCE: HRRC/May/07/2022

It is my pleasure to grant final approval to conduct your research at Wits Oral Health Centre titled "Exploring Oral Hygiene educators' use of reflective practice in their teaching".

The Hospital Research and Risk Committee allocated a unique reference number to this application – Kindly quote this reference number in all future correspondence regarding this research.

Please note that the Hospital Research and Risk Committee should be informed of the estimated date the research will commence, as well as regular status reports until the research has been concluded. Within a month after conclusion of the research project, a written report must be submitted to the Head of School/CEO, summarizing the final result/outcome as well as the recommendations made based on the research concluded.

Regards,

Dr P. M Molokomme
Acting CEO
Date: 09/05/2022.

Joy Shackleton

Prof J. Shackleton
Acting Head of School
Date: 10-5-2022

ANNEXURE 7: PERMISSION FROM HEAD OF DEPARTMENT

University of the Witwatersrand - Johannesburg
Faculty of Health Sciences, School of Oral Health Sciences,
Wits Medical School, Room 4B09, Johannesburg

7 York Road, Parktown
2193, South Africa

+27 11 717 2631
Fax: 0865535743
e-mail: tshakane.ralephenya@wits.ac.za

05th May 2022

Dear Mrs Kearney

RE: Letter to support request by Mrs A. Kearney to conduct research in the OHAT Department

This letter is to support the written request submitted by Mrs A. Kearney to conduct research and collate data from staff members involved in the teaching of Oral Hygiene students.

Study title is: Exploring Oral Hygiene educator`s use of reflective practice in their teaching

The study objectives are:

1. To explore where in teaching practice, Oral Hygiene educators use reflection.
2. To gain insight into oral hygiene educator`s knowledge and motivation influences related to practice of reflection.
3. To understand how the culture of the organisation impact on faculty members practice of reflection.

The results will be essential in improving the Teaching and Learning practice in the Department and will improve the research output.

Yours sincerely,

.....
T.R.M.D. Ralephenya
Supported / ~~Not Supported~~
Head: Division of Oral Hygiene

.....
Dr T.E. Mushungwa
Approved / ~~Not Approved~~
Head: Department of Oral Hygiene and Dental Therapy

ANNEXURE 8: PERMISSION FROM UNIVERSITY DEPUTY REGISTRAR

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

OFFICE OF THE DEPUTY REGISTRAR

25 May 2022

Angelique Kearney
Staff Number (1283971)
School of Oral Health Sciences

TO WHOM IT MAY CONCERN

"Exploring Oral Hygiene educator's use of reflective practice in their teaching."

This letter serves to confirm that the above project has received permission to be conducted on University premises, and/or involving staff and/or students of the University as research participants. In undertaking this research, you agree to abide by all University regulations for conducting research on campus and to respect participants' rights to withdraw from participation at any time.

If you are conducting research on certain student cohorts, year groups or courses within specific Schools and within the teaching term, permission must be sought from Heads of School or individual academics.

Ethical clearance has been obtained. (Protocol number: M220206)

Research Expiration: (03 May 2027)

Nicoleen Potgieter
University Deputy Registrar

ANNEXURE 9: CONFIRMATION OF LANGUAGE EDITING

ONCE'S RESEARCH SOLUTIONS
COPY EDITING & COACHING

The tenacity and innovation in our clients' research work keeps us humble and strongly dedicated to excellence as well as professionalism!

01/04/2024

To Whom it May Concern

RE: Confirmation of editing

This letter serves to confirm that I have edited a master's dissertation for **Angelique Kearney**.

The **title** of the dissertation is: *Exploring oral hygiene educators` use of reflective practice on their teaching.* **Submitted** to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Masters in Health Sciences Education.

In this dissertation, I conducted language and structure editing.

Note: The author may have made further inputs after my editing.

If there are any questions, do not hesitate to contact me.

Kindest Regards
Oncemore Mbeve

Founder & Research Consultant, Once's Research Solutions: Copy Editing & Coaching (ORS)
Researcher, Wits, African Centre for Migration and Society (ACMS)
MA Psychology Research and Coursework, Wits University BSW, Wits University
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Cell/WhatsApp: +27622028278
Web: https://onces.online/