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THE PROFESSIONAL IDENTITY OF DENTAL TEACHERS: PERSPECTIVES ON TEACHING AND THE IMPLICATIONS FOR PROFESSIONAL DEVELOPMENT

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THE PROFESSIONAL IDENTITY OF DENTAL TEACHERS: PERSPECTIVES ON TEACHING AND THE IMPLICATIONS FOR PROFESSIONAL DEVELOPMENT

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BDS, MSc

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Abstract

With the increasing professionalisation of teaching within higher and professional education and calls for educational reforms, dental teachers and educators increasingly face challenges of changing roles and identities during a time of decline in clinical academic dentistry. The main purpose of this thesis is to explore dental teachers' experiences of teaching and development as teachers from dental teachers' perspectives. More particularly, the research explores the tensions that might arise among commitments to dental practice, research, and education, and the role these commitments play in shaping their professional identities and orientation. This study investigates issues that arose out of concern and interest about how dental teachers develop their educational identities in the context of a decline in clinical academic dentistry and increased dependence on part time dental practitioners. Central to this study is the question of "How do dental educators describe their professional identities in contemporary dental education?"

This is a single-site case study that was conducted in a United Kingdom-based dental institute using a qualitative interview approach to explore dental teachers' perceptions and experiences of their professional educational practices. Semi-structured interviews with dental teachers and educators from various backgrounds were conducted to explore their perceptions of their experiences of teaching and professional development in teaching. This study was a response to the need for an in-depth understanding of the complex professional identities of dental teachers and educators within this specific sociocultural context of current practice in higher education. The main findings were that for dental educators, their identity as teachers is secondary to their identities as clinicians or clinical academics. Their teaching practices are strongly shaped by their identities as professionals in a clinical role. For these and other reasons that are explored in this study, there are tensions evident in the development of educator identities amongst this group of professionals. This study helps to advance understanding of, and provide a framework for, dental teachers' professional development.

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I dedicate this thesis to Omar, Lujaina, Bayina and Yusuf.

Abbreviations

Abbreviation	Meaning
ACF	Academic Clinical Fellow
ADEE	The Association for Dental Education in Europe
AoME	Academy of Medical Educators
ATI	Approaches to Teaching Inventory
BDA	British Dental Association
CA	Clinical Academic
COPDEND	The Committee of Postgraduate Dental Deans and Directors
DSC	Dental Schools Council
EBD	Evidence-Based Dentistry
FTCT	Full-Time Clinical Teacher
GDC	General Dental Council
GMC	General Medical Council
HCT	Hospital Clinical Teacher
HEA	Higher Education Academy
IAT	Integrated Academic Training Pathway
ICT	Information and communications technology
NHS	National Health Services
NIHR	The National Institute of Health Research
PGCAP	Postgraduate Certificate in Academic Practice
PTCT	Part-time Clinical Teacher
RCSEd	The Royal College of Surgeons of Edinburgh
RTF	Research Training Fellowship
TA	Traditional Academic
TLR	Teaching and Learning Regimes
TTP	Teacher-Training Programme
UCEA	The Universities and Colleges Employers Association
UKPSF	UK Professional Standards Framework

Introduction

The main purpose of this thesis is to explore dental teachers' experiences and perspectives in relation to their development as teachers and educators. More particularly, the research explores the tensions that might arise among their commitments to dental practice, research and education, as well as the role these commitments play in shaping their professional identities and orientation. This study investigates issues that have arisen out of concern and interest about how dental teachers develop their educational identities in an era of decline in academic dentistry and of increased dependence on part-time dental practitioners.

This introductory chapter presents an overview of the study by setting out the research questions, providing the background for contextualising these questions and setting the context for the research, which leads to a more focused discussion of the current issues in dental education and dental practice. It also indicates a summary of the adopted research approach.

The objective of dental education, much like that of other practice-based education programmes, is to prepare students for a specific career, with its accompanying commitment to a professional identity, its specific codes of practice and its competencies. As teachers of such a practice-based course of study, dental teachers may have to deal with particular tensions between, on the one hand, fulfilling the requirements of professional regulatory bodies regarding quality assurance and the protection of patients' interests and, on the other hand, supporting active learners during their period of enrolment in academic institutes. In addition to these already complex issues, dental academics are also commonly viewed as responsible for improving the oral health of the general public through conducting their own research and educational programmes (Field, 1995). The literature has documented these competing commitments and how they have created barriers and challenges for many dental professionals in pursuit of an academic career (Goldacre et al., 2000; McGrath et al., 2005; Rushton and Horner, 2008).

Despite an increase in the number of dental undergraduate students in the UK, the number of academic dental staff members has declined (Dental Schools Council, 2013; Dental Schools Council, 2016; Rushton and Horner, 2008). This decline can be explained by the increased pressure on dental academics, which have made it less attractive to potential dental academics (Kay and O'Brien, 2006; Murray, 2002; Rushton and Horner, 2008). With the increase in the pressure and complexity of academic dentistry, demands to provide quality in research, teaching and clinical services have introduced an alternative pathway for clinical teachers (Dental Schools Council, 2013; Dental Schools Council, 2016). Added to that, there is an increasing dependence on part-time practitioners to deliver dental education (Davies et al., 2013).

With the increase in the professionalisation of teaching, calls for reform have argued the need to transform health education and have indicated the need for informed teachers and educators who can promote evidence-based practice in teaching (Murray, 2002; Petersen, 1999; Rushton and Horner, 2008). Dental teachers face increasing challenges resulting from changing roles and identities during a time of decline in clinical academic dentistry. The calls for the increasing professionalisation of teaching and recent changes in dental education have raised questions regarding the impact of these changes on dental teachers' identities and their teaching practices.

In the next sections, I review the current state of dental education as well as the relevant literature that can help set the context for my research. In doing so, I first describe the context of my research and then proceed to support my inquiry with evidence from the examined literature. To establish the context, my review question is: What are the recent changes in dental education and dental practice and how have they shaped the roles and responsibilities of dental teachers?

1.1 Understanding the Context: Contemporary Dental Education

Dentistry is an applied health science that has a strong scientific grounding. Although it relates strongly to other biomedical sciences, it also includes the study of dental materials, which is related to the physical sciences. Furthermore, the issues of public dental health and oral medicine intersect with the social sciences. Dental education thus includes the study of various sciences that interact for a particular purpose to make dentistry a unique profession. What, then, is the purpose of dental education?

The UK General Dental Council (GDC) policy document entitled 'The First Five Years' states that the 'purpose of undergraduate dental education is to produce a dentist who has demonstrated, on graduation, that he or she has met the outcomes required with the GDC' (General Dental Council, 2008: 4). Although the main purpose of dental schools is to expand students' knowledge and improve their skills, their most central aim should be making sure that students are attaining and manifesting the virtues of professionalism—virtues that are the building blocks of the dental professional (Masella, 2007). However, most of these professional elements are concealed within dental education, and dental students may graduate without ever being made aware of what it truly means to be a dental professional (Masella, 2007). Dental education as a professional course has a set of predetermined outcomes, and professionalism must be asserted as one of these outcomes.

It is clear that each dental school is part of an institution, and every institution has its own regulations and policies that the dental school must accordingly follow. However, dental education is strictly regulated by the GDC, which provides accreditation to dental schools in the UK so that dental graduates can be eligible for GDC registration as dental practitioners.

1.1.1 General Dental Council (GDC)

The GDC regulates the dental profession and dental education in the UK, and this in accordance with the 1984 Dentists Act and the related regulations of the GDC through their current guidance documents (General Dental Council, 2011). Through these guidance

documents, GDC aims to protect patients and regulate the profession (General Dental Council, 2005). To fulfil these aims, one of the GDC's responsibilities is to 'assure the quality of dental education' (General Dental Council, 2005: 2). The GDC has set out the requirements for all dental educational programmes. It has also published three sets of guidelines that are directly concerned with dental education (General Dental Council, 2011; General Dental Council, 2012; General Dental Council, 2015). The most current document is 'Preparing for Practice: Dental Team Learning Outcomes for Registration'. Some of the basic science contents in this current document have been cut out in comparison to the previous document (the first five years) (General Dental Council, 2008). This reduction in content received some criticism from the Dental Schools Council (Holland, 2011). The current learning outcomes document are categorised into four main categories in addition to the required knowledge:

Clinical: the technical skills required to deliver treatment.

Communication: the skills required to interact competently with patients and colleagues.

Professionalism: the skills required to place the patient first and to behave ethically.

Management and leadership: the skills required to lead a dental team and work effectively as a dentist.

Knowledge of the underpinning basic sciences and clinical evidence base to inform their clinical decision making. (General Dental Council, 2011)

The GDC also provides quality assurance for programmes that permit graduates to apply for registration, stating whether they are 'sufficient' for registration with the GDC. GDC quality assurance inspectors monitor all dental courses that are eligible for registration with the GDC. This monitoring is provided through inspection panels that include a member of the GDC's quality assurance team. Inspectors also carry out assessments of newly proposed courses. As per the second standard for education laid out by the GDC, schools must be assessed through thorough internal and external quality assurance measures.

The GDC has published a set of Standards for Education (General Dental Council, 2012) that are used as a regulatory framework to ensure that a programme is fit for the purpose. The standards cover four areas that education programmes are expected to meet, and these are central to the GDC's quality assurance process; these areas are patient protection, quality evaluation and review, student assessment, and equality and diversity.

GDC also regulate the standards of dental practice and, in particular, issues related to the professional development requirements of dental professionals to make sure that they are fit for practice. Dental professionals are committed to lifelong professional development through continuous learning and reflection on their practice (General Dental Council, 2013).

As does the medical profession, dentistry ultimately serves the public; therefore, as stated in all GDC standards and guidelines documents, patient-centredness is a key priority of dental education.

1.1.2 Patient centredness

Dentistry is constantly changing and evolving to become an increasingly patient-centred practice. According to the GDC, there is an even greater need today to protect patients (General Dental Council, 2005). To achieve this, the GDC has increased the number of lay people on its panel (<http://www.gdc-uk.org>), and currently, informed patients are more involved than ever in the making of evidence-based clinical decisions (Pitts, 2004b).

Although dentists insist on the highest standards when it comes to their technical treatment, the quality of aesthetic and functional treatments is affected by the existing pathology, which needs to be managed as a priority (Holt, 2012). The Tattersall Report (cited in Holt, 2012), published in 1964, introduced the fee-per-item system and did not promote a patient-focused approach in which the dentist gives time to his or her patients to help them maintain their oral health. Its focus was solely on the technical side of service delivery, resulting in greater attention to technical skills in dentistry and dental education. This change required policy-makers to reconsider their approach to dental services. In 2009, the Steele Report (2009) asserted that it was a mistake to apply the fee-per-item system to dentistry and argued for the need to redirect dentists' focus towards their patients' health as their main priority. Holt (2012) argued that the conduct of the dental profession as a whole does not justify its professional status; he attributed this to the Tattersall Report and the subsequent picture of dentistry as a money-making business. He emphasised the importance of moving from the 'technical-rational' approach to a

more comprehensive patient-centred approach. This, he argued, would allow the dental profession to progress in the 21st century.

This is similar to calls in the United States in a book published by the committee on the future of dental education (Field, 1995). The dental education community is becoming more and more aware of the widening gap between the moral aspects of patient care and the profession of dentistry. After the professionalisation of dentistry and its separation from medicine, the isolation of dentistry from medicine and its various branches has created a gap that could be bridged only by reversing this phenomenon and integrating dentistry more closely with medicine as a whole. This was also one of the main recommendations made in Field's report on dental education in the United States: 'Dentistry will and should become more closely integrated with medicine and the health care system on all levels' (Field, 1995: 3). Establishing such proximity between dentistry and medicine is considered important to deepening the patient-focused approach to dental practice. However, it is also considered threatening to a dental profession that enjoys its independence and separation from the medical sector (Jerrold and Karkhanehchi, 2000; Richards, 1971).

How is the issue of patient centredness relevant to this literature review? First, patient centredness is a key issue in the field of dentistry and dental education, which has made the dental educator's teaching role more complex. Second, this ongoing shift towards patient centredness corresponds to an increase in the external control of regulatory organisations on dentistry, and this may increase the pressure on the profession's members to meet these demands. Third, changes in an ageing society require students of dentistry to have more awareness of complex patient health needs, which require even the curriculum to be more patient centred (Field, 1995). Finally, with increasing calls for dentistry to be brought closer to the medical profession at large, there is a growing need for dentists to acquire inter-professional skills.

A patient-centred practice demands the best health care decisions for patients; this can be accomplished by adopting an evidence-based practice (Sackett et al., 1996). Evidence-based practice is defined as 'the integration and interpretation of the available current research evidence, combined with personal experience' (Hackshaw et al., 2006: 1).

1.1.3 Dentistry as evidence-based practice

Evidence-based practice emerged in the 1990s (Trinder and Reynolds, 2000), when the Cochrane Collaboration became the first to call for the organisation of evidence. Since then, the importance of the evidence-based approach in health care and treatment has only grown. Although it is now a common approach in medicine, it is less developed in dentistry; however, it has been gaining attention over the last 10 years, especially since the Cochrane Library created an oral health database.

Evidence-based dentistry is characterised by a combination of the best available research data and the high expertise level of clinicians (Hackshaw et al., 2006). Who is responsible for assessing dental literature and deciding what is and is not relevant? Unfortunately, no formal organisation is responsible for interpreting literature for dental practitioners (Hackshaw et al., 2006). In 1996, the Cochrane Collaboration established Cochrane Oral Health Group to produce systematic reviews of existing literature (Eaton and Fernandez, 2006). The Royal Colleges also provide some reviews and evidence-based guidelines to dental professionals. However, it is still primarily the dental practitioner's responsibility to analyse the available research to inform his or her practice. This is especially important due to increasing patient awareness, which requires dental practitioners to have the necessary knowledge and understanding of the latest dental literature to be able to answer their patients' questions.

Pitts (2004a) illustrates how primary research data goes through the research, education and implementation matrix. He divides the evidence-based dentistry (EBD) process into three stages: conducting research and publishing its findings in peer-reviewed journals; reviewing, evaluating and disseminating the findings of various studies; and implementing research

evidence in practice. In the first stage, clinical studies are mainly conducted by university researchers. In the second stage, the research findings are reviewed and evaluated by professional organisations. This is the most important step, as research findings must be cumulatively reviewed and evaluated to provide the best evidence (Sutherland, 2000). Such systematic reviews then create a solid foundation for clinical guidelines. The Cochrane Collaboration is an example of one such organisation that conducts and posts systematic reviews on its website, making them freely available to clinical practitioners. In the United States, the American Dental Association (ADA) established an online centre for EBD that provides clinical guidelines to dental practitioners. In the third stage, dental professionals are required to implement evidence in their practice.

The implementation of EBD is still in its early stages. Most dentists today acquire their EBD updates through continuous professional development. Individual dental practitioners have varying levels of awareness when it comes to sources of evidence. For instance, there is only limited awareness about the Cochrane Library among American orthodontists (Madhavji et al., 2011). Dentists who are involved in teaching are more likely to incorporate evidence into their practice (Madhavji et al., 2011). Barriers to incorporating evidence in practice have been identified at three levels: the level of the patient, the health service supplier team, and the health service establishment (Spallek et al., 2010).

The prevention of disease in dentistry has been central to EBD in modern dental practice. This paradigm shift in oral health practice has led to the transformation of the dental teaching curriculum. However, Garcia and Woosung (2012) consider this paradigm shift incomplete. To establish a complete paradigm shift, which would involve the complete implementation of evidence-based practice, they suggest that clinicians need to develop skills to assess the available evidence critically and to employ it in sound decision making. Additionally, with rapid changes in the available scientific evidence, clinicians also need to acquire 'self-learning' skills.

Other challenges in establishing EBD lie, for instance, in dental education, in which the implementation of evidence has been challenged by dental teachers resistant to change and by the limited number of trained teachers and clinical teachers in EBD, as well as by the inflexibility of the curriculum (Garcia and Sohn, 2012). The increase in biological science research and advances in epidemiology have improved the understanding of disease. Although progress has been made towards incorporating evidence-based research in dental education and practice, the gap in implementing this knowledge is still apparent (Garcia and Sohn, 2012). The implementation of EBD is determined by the practitioner's ability to critically evaluate the available research (Garcia and Sohn, 2012). It is extremely important to teach these critical appraisal skills in dental education. However, implementing EBD requires more than just adding a subject to the curriculum; it requires merging EBD in the pre-clinical and clinical curriculum with consideration for evaluation and assessment.

It is important for dental programmes to produce dental graduates who are able to interpret dental literature, critically analyse the available evidence, and then explain their findings to their patients or apply it in their practice. It is in the imparting of these skills that dental educators can play a critical role. The increase in shift towards evidence-based dentistry has increased the pressure on dental schools to produce high-quality research and to teach future dentists how to analyse and implement the dental literature in their practices.

1.1.4 The dental team in contemporary practice

In recent times, the GDC has paid more attention to professionalising other members of the dental team (e.g. nurses, therapists and technicians) by providing them with more structured training and registration (General Dental Council, 2013). Thus, more and more tasks can now be delegated to members of the team other than dentists.

This has potential impact on dental education in two ways. First, there is now an even greater need for dental students to develop inter-professional skills, which will require changes to the curriculum. Second, it increases the demands placed on dental schools to provide training to all

members of the dental team, which may in turn have an impact on the setting and the delivery of dental education.

1.2 Challenges of Contemporary Dental Education

One of the most significant current discussions in dental education is the decline in traditional academic dentistry and how this may shape the future of dentistry and dental education (Goldacre et al., 2000; Murray, 2002; Kay and O'Brien, 2006; Dental Schools Council, 2013).

1.2.1 Workforce changes in dental schools

At the start of this century, the number of dental clinical academics dropped to its minimum level (Smith and Sime, 2001). Smith and Sime (2001) described academic dentistry as being in a critical position with this decline, suggesting the necessity for reform. Goldacre et al. (2000) investigated the views of junior academic dentistry through a postal questionnaire survey; the respondents experienced difficulty in balancing the competing roles of teaching, research and clinical services and difficulty in obtaining research grants, and they wanted to spend more time on research than teaching and clinical services. As a result of this survey, the Academic Careers Sub-Committee of Modernising Medical Careers, UK Clinical Research Collaboration (2005), undertook the 'Walport's report'; They identified three barriers to doctors and dentists choosing an academic career:

- 1- a lack of both a clear route of entry and a transparent career structure;
 - 2- a lack of flexibility in the balance of clinical and academic training and in geographical mobility; and
 - 3- a shortage of properly structured and supported posts upon the completion of training.
- (2005: 4)

As a result of this report, some key changes have been made, including the establishment of the National Institute of Health Research (NIHR) and the Integrated Academic Training Pathway (IAT). The government also introduced 'Walport posts' to achieve the proposal made by Walport' report by providing a structured academic pathway for a successful clinical academic career. Academic foundation doctor or dentist posts were introduced whereby juniors were exposed to research for a 4-month period. Then a doctor/dentist could proceed to the Academic Clinical Fellow (ACF) post to begin specialty training with a designated research time. After

completing a PhD, the trainee could then proceed to a clinical lecturer phase and he or she could complete the speciality training. This career pathway involves both primary care (general dentistry) and secondary care (specialities) (Aggarwal et al., 2011). The first group was undertaken in 2006. The key promising aspects about this career pathway are that it allows the trainees to earn a clinician's pay while undertaking their PhD, to receive 25%–50% protected research time during their speciality training (25% of protected research time during the NIHR Academic Clinical Fellow, or ACF, level and 50% of protected research time during the NIHR Clinical Lectureship level), and to have flexibility and structure for a long, daunting clinical academic career pathway (Dental Schools Council, 2016). However, the application of this programme varies among different deaneries and specialities (Patel and Petersen, 2015). Fulfilling the requirements of speciality training and finding time for research is still a challenge for clinical academic trainees (Dental Schools Council, 2016). The success of this programme depends largely on the ability of the trainees to secure funding for their PhD through externally funded research training fellowship (RTF), and through the support provided by their institution to help trainees protect their research time as they progress to an academic position (Patel and Petersen, 2015).

With these initiatives, some hope has been regained that academic dentistry may become more attractive to dental graduates in pursuing an academic pathway (Hobson, 2009). Patel and Petersen (2015) investigated the views of young clinical academics through an online questionnaire. The study showed an increase in clinical academic trainees' satisfaction with their career pathway, as 73% of participants recommended a clinical academic pathway. The authors suggested that this represented a progressive change in the culture of clinical academics. The survey results also showed other positive changes, such as an increase in the number of women who joined the programme. However, some trainees complained that their research time was not protected as promised and that their time was taken up by increasing teaching loads (Patel and Petersen, 2015). The issue with teaching commitments that may compete with research is related to the fact that the primary role of clinical academic dentists is to teach dental students. This highlights the complexity of undergraduate dental education, as teaching relies mainly on clinical academics, and less help is coming from the National Health Service (NHS) (Dental Schools Council, 2016).

The Dental Schools Council recently reported an increase in the total number of clinical academics (Dental Schools Council, 2016); see Figure 1. In this report, they included clinical teachers, researchers and active-research clinical academics in their survey as being part of clinical academics. However, the report showed an additional decline in research-active clinical academics (i.e. professors, readers, senior lecturers and lecturers), and the levels were the lowest level in recent years. In comparison, the number of senior clinical teachers and clinical teachers, who constitute 29% of the full time-equivalent (FTE) clinical academics, increased. The majority of them work as part-time teachers (92%), and 59% of the clinical academic team are professors, senior lecturers and lecturers. Their numbers have been falling by 5% yearly since 2007, and this corresponded with a yearly expansion of 11% in senior clinical teachers, clinical teachers and researchers, who represented the highest percentage (41%) of members on the clinical academic team in 2015 (Dental Schools Council, 2016). This increase in recruiting senior clinical teachers and clinical teachers has been accompanied by the recent recognition of these roles as alternative clinical academic career pathway; this had a significant impact on the delivery of research and teaching within UK dental schools (Dental Schools Council, 2016). This report only captured the clinical academics who had substantive contracts with the dental school, but did not cover clinicians who had substantive contracts with the NHS, though they represented a minority of clinicians.

Although dentistry is considered a small profession in comparison with medicine, academic dentistry in universities is greatly specialised. There are about 13 specialities that are recognised by GDC, in addition to oral and maxillofacial surgery, which are recognised by the General Medical Council (GMC) (Dental Schools Council, 2016).

Dental schools have raised concerns about the ability to recruit clinical academics with research-active roles (Dental Schools Council, 2016). Despite the implementation of the Integrated Academic Training Pathway (IAT), recruiting suitably qualified research-active clinical academics is still falling (Dental Schools Council, 2016). Other initiatives have been recently

employed to target dental students and inspire them to undertake a research-active clinical academic pathway (Patel and Petersen, 2015).

With the decline of academic dentistry and the increased number of students, there is an increased dependence on part-time clinical teachers (PTCTs) from general dental practice (i.e. primary dental care) to deliver undergraduate teaching (Dental Schools Council, 2016). The increased dependence on PTCTs is considered a challenge for dental schools in ensuring the recruitment and training of high-quality clinical teachers (Puryer et al., 2015). For these PTCTs, there is no recognised career pathway in comparison with full-time clinical academics (Puryer et al., 2015). However, these PTCTs have shown great interest in teaching (Puryer et al., 2015).

This change in the dental education workforce may have a positive aspect, since there are now clinical teachers whose main role is to provide teaching and clinical services. However, how can these clinical teachers develop their academic identities and how do they identify with their roles and responsibilities? Furthermore, the number of clinical academics who are actively conducting research has declined over the past 14 years. What impact has this had on dental research and teaching? The hiring of part-time teachers has increased to cover the decline in academic dentists; this means there is shortage of full-time staff available to offer the required support to ensure the quality of teaching (Martin et al., 2010). Pressure from competing commitments add extra burdens on full-time staff to cover the managerial and administrative load in addition to their research, teaching and clinical services; this has contributed to the decline in academic dentistry, owing to the pressure and absence of autonomy (Martin et al., 2010).

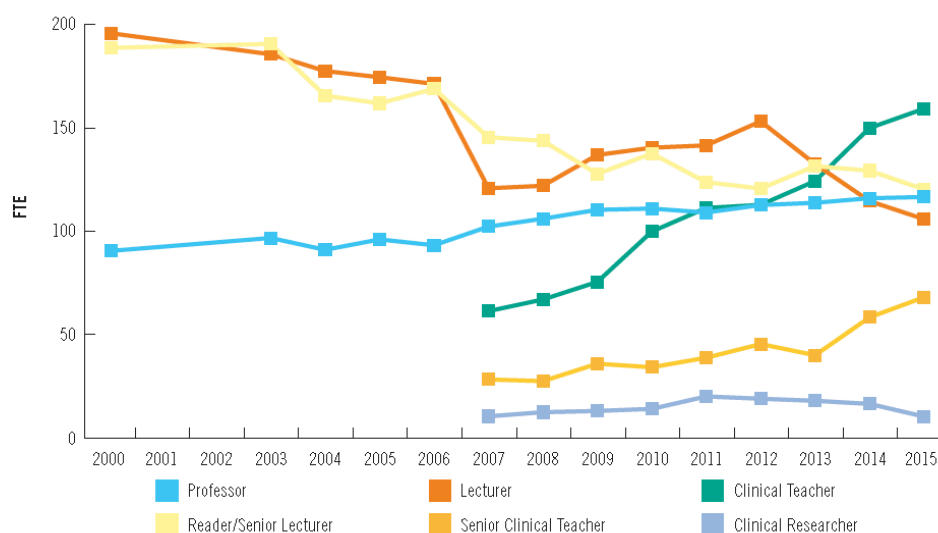


Figure 1: Timeline of clinical academic staffing levels by academic grade (FTE = full-time equivalent); (Source: (Dental Schools Council, 2016: 10))

Another important aspect of the dental workforce is the proportion of women to men. According to a recent report submitted by the Dental Schools Council, women constitute 41% of clinical academics and only 20% of professors, 40% of readers and senior lecturers, and 57% of lecturers (Dental Schools Council, 2016). This shows a significant increase in the number of women academics compared to 2005, when only 32% of clinical academics, 12% of professors, 27% of readers and senior lecturers, and 41% of lecturers were women (Dental Schools Council, 2016). Other academic posts, including senior clinical teachers, clinical teachers and researchers, have a better gender balance than in 2004. Women now constitute 42% of these posts. The majority of hired staff since 2004 have been female, as women constitute 99% of the total increase in academic staff compared with 10 years ago (Dental Schools Council, 2016). However, it is a challenge for women in lecturer posts to proceed to higher levels; the dental and medical school councils attribute this to such factors as the challenge of balancing work and life commitments in a less clear academic pathway; other reasons, such as taking career breaks to raise children, also have long-term effects on progression in academia (Speight and Cameron, 2013). Even with this great progress, men constitute 80% of surgical specialities, while women constitute 70% of paediatric dentistry, as an example (Dental Schools Council, 2016).

Dental clinical academic posts in the United Kingdom receive more funding from Higher Education Funding Councils (74%) in comparison with medicine (43%) (Dental Schools Council, 2016). The NHS funds only 20% of dental clinical academics posts, and other sources fund 5% (Dental Schools Council, 2016). This makes it clear that the main role of dental schools is teaching future dentists, while in the realm of medicine, the teaching role is distributed more evenly across medical schools and NHS hospitals (Dental Schools Council, 2016).

1.2.2 Meeting students expectations and needs

Dental education in the United Kingdom faces many challenges, including an increase in student numbers in established schools and the opening of three additional new schools. According to a recent survey by the Dental Schools Council, the number of dental students has increased through establishing three new UK schools at the University of Central Lancashire (UCLAN), Peninsula and Aberdeen (Dental Schools Council, 2016). Student numbers have increased by an estimated 25%–29% over the last eight years, and they are still increasing (Martin et al., 2011; Hobson, 2009; Department of Health, 2012).

The nature of students is changing in terms of age, gender and ethnicity; dental undergraduates comprise more mature students now than before. The recruitment process itself has undergone many changes during the last few years (Hobson, 2009). Dental schools have more students from other ethnic groups (40%), mostly with Asian backgrounds (British Dental Association, 2005), whereas 73% of dental clinical academics are white (Dental Schools Council, 2016). How will dental academics deal with this change in the nature of dental students?

Due to increases in university course fees, students have higher expectations from their courses, and with the shortage of resources, the pressure has increased on dental academics to deliver high-quality teaching (Puryer et al., 2015). Also students in a digital age now seek more practical applicable knowledge and delivered in a speedy manner.

All these changes have added pressure to the existing academics and resources, hence, the fact that clinical academics are in decline (Hobson, 2009; Dental Schools Council, 2016). Dental schools have had to hire high-quality clinicians from general dental practice to cover undergraduate teaching. Although these PTCTs are experienced in their clinical knowledge and skills, they may have not been trained to be teachers.

The increase in student numbers and the lack of resources means depending on more traditional ways of teaching, such as lecturing. It also means more reliance on the traditional student-tutor relationship for the delivery of clinical teaching (Sweet et al., 2008a).

1.2.3 Changes in Higher Education

Significant advancements in how teaching and learning is understood have been made (O'Sullivan, 2010); in addition, changes in student demographics and an increase in student numbers have affected both academics and students (Harris, 2005; Knight and Trowler, 2000; Wilkerson and Irby, 1998; Lea and Callaghan, 2008). The effects on a dental academic are felt on different levels, from government through higher education legislation (Trowler and Cooper, 2002; Lea and Callaghan, 2008) and GDC regulation to the professional community; all these factors affect dental academics' teaching practice and how they perceive teaching.

With the increase in course fees, students demand more from their courses and teachers. There is increased pressure in terms of auditing dental academics' performance and productivity at different levels and from different parties, including higher education institutes, the NHS, and the GDC. Universities demand increased research input, the ability to bring in grants, and competitive scores on the national students' survey (Barnett, 2003; Behar-Horenstein et al., 2008). The GDC audits dental schools on their dental training performance to meet GDC outcomes. In addition, clinical academics are required to fulfil the requirements of GDC registration. NHS providers have service targets and must pass an auditing procedure to meet service standards. The expectations for dental academics are increasing and changing in terms of increased performance and productivity.

1.2.4 Changes in Dental Curriculum

Dental education in general and dental curriculum in particular are complex and unique (Radford et al., 2014; Sweet et al., 2008a; Sweet et al., 2009). Dental students take early responsibility for the treatment of their patients, under the supervision of their clinical teachers. They are required at early stages to be able to communicate effectively with their patients and to be able to treat them with irreversible and invasive treatments in their mouth. For that, dental students are required to develop a set of skills in their early years to manage their patients and understand their needs. Students need to have the technical skills to be able to perform procedures, and they need to be able to assess risk and treatment outcomes (Sweet et al., 2008a). The main skills required by a graduate dentist are summarised in three simple words: *head*, *heart*, and *hands*. These key skills have been translated into Bloom's Domains of skill: 'hand' for 'psychomotor', which involves technical and clinical skills, 'heart' for 'affective understand', which involves communication skills with patients, and 'head' for 'cognitive critical', which involves understanding the underpinning science and evidence, clinical reasoning and judgement (Manogue et al., 2011; McHarg and Kay, 2009; Radford et al., 2014). 'Chairside teaching' in dental education can be described as a complex form of situated learning (Sweet et al., 2009; Lave and Wenger, 1991).

There have been more frequent curriculum reforms today than before, with the aim to save money, resources and time (Islam, 2012). The combined effect of the increased complexity of dentistry and the shortage of resources for dental education requires an increased focus on strictly dental-relevant sciences. This may require shaving many parts of basic science and restricting the requirements to basic techniques (Islam, 2012). This would definitely have an effect on the graduate dentist, but today's graduate dentist is not the same as graduates 10 years ago (Islam, 2012). The changes for graduate dentists require further experience and training in vast practical aspects and knowledge, hence, the introduction of two additional foundation years after qualification.

There are many questions raised in this regard: The ongoing reforms in dental curriculum will lead to changes in learning outcomes, and there is some fear, for several reasons, that dental education will turn towards training more than actual education (Kay, 2014).

In summary, the challenges that face dental teachers require an in-depth and qualitative understanding of how dental teachers understand their teaching role and how they perceive teaching compared to other roles. In addition, educators need to reflect on how dental teachers are developing as professional teachers and what barriers and challenges may hinder the development of their professional identities as teachers.

1.3 Focus of the study

The central argument in this thesis is that numerous profession-specific factors may influence or hinder the professionalisation of dental educators' teaching practices and that these have not been explicitly explored in the examined literature. My main research question is: How do dental teachers and educators describe their professional identities in contemporary dental education?

The following questions are also raised:

1. How do they perceive their teaching role?
2. How do dental teachers understand effective teaching? How do their professional identities influence their conceptions of teaching?
3. How do dental teachers approach professional development?
4. How do dental teachers reflect on their professional development through their experience of teacher training programmes?
5. What are the tensions they perceive in developing their teacher and educator identities?

This is a single-site case study that was conducted in a UK-based dental institute using a qualitative interview approach to explore dental teachers' perceptions of and experiences with their professional educational practices. Semi-structured interviews with 42 dental teachers and educators from various backgrounds were conducted to explore their perceptions of their

experiences with teaching and professional development. This study took an interpretive/constructivist theoretical perspective, and thematic analysis was chosen to analyse the transcribed interviews.

This study is based upon the assumption that dental teachers' practices are shaped and affected by profession-specific factors that may involve a combination of professional knowledge structure, epistemology and socio-cultural aspects. With the increase in the complexity of dental education, the professionalisation of teaching may require more than teaching accreditation. There is a need for an in-depth understanding of the complex professional identities of dental teachers within this specific socio-cultural context of current practices in higher education. Enhancing the understanding of dental teachers' professional identities will also offer important knowledge and insights into the continuous professional development of dental teachers. Illuminating dental teachers' lived experiences will inform career pathways to support dental teachers. The primary audience is professionals within the health care system and higher education and educational developers who develop and deliver staff professional development activities in teaching.

This study was a response to the need for an in-depth understanding of the complex professional identities of dental teachers within this specific socio-cultural context of current practice in higher education. This study helps to advance the understanding of, and provides a framework for, dental teachers' professional development.

Thesis Structure

The thesis is structured in the following manner:

Chapter 2 presents an evaluation of the relevant literature on professionalism, professional identities, conceptions of teaching, professional development and the impact of university teacher training on staff development.

Chapter 3 further details the adopted research approach and sets out the ontological and epistemological assumptions that underpin this project, focusing on my position as the researcher within the study. It also describes the quality and ethical issues that have been considered.

Chapter 4 presents the first main theme of analysis related to the interview transcripts on how dental teachers perceive their teaching role in comparison with other roles. Chapter 5 presents the second main theme on how dental teachers conceptualise effective teaching. Chapter 6 presents the third main theme of data analysis on approaches to professional development. Chapter 7 presents an analysis of the findings related to dental teachers' experience of their participation in teacher training programmes (TTPs).

Finally, Chapter 8 provides a discussion of the findings, the conclusion, implications and my reflections. The findings of my research could be useful for professional staff development curricula and have important implications for the literature on professional education.

Chapter 2 Review of Relevant Literature

At the core of my research is an in-depth investigation of dental teachers' perceptions of their experiences of teaching and professional development in teaching. My literature review therefore needed to reflect the professional aspects of dental teachers identities. My approach to the literature review therefore consisted of these levels of inquiry:

- How can we define the notion of professionalism in dentistry and dental education? How has dentistry evolved as a profession?
- How can we define the emerging professional identities in dentistry and dental education?
- What does the literature say about the professionalisation of teaching within and beyond dental education?
- How can we describe dental educators' teaching practices?
- How are conceptions of teaching in higher education represented in the literature?
- What is the impact of professional development activities for teaching?

Because of the similarities between dental education and medical education, I also included medical literature in my search. However, dental education does have certain unique features, which will be taken into consideration later in this chapter.

In the previous chapter I showed how the role of traditional academic dentistry has been diminished in the last two decades; and many research-active clinical academic posts have been replaced by part-time clinical teachers (Dental Schools Council, 2013; Kay and O'Brien, 2006; Murray, 2002). The transformations of roles and identities in dental education in the current context of professions in contemporary societies may create barriers to educator identities in dental education. In this chapter, I make an argument that there might be tensions between the various professional identities of dental educators, in a context in which dentistry and dental education are facing an increased public accountability. With the increase in the complexity of dental education, there is an increased pressure on the stewards of dental

education –‘dental teachers’ who train the next generation. As I presented in the previous chapter, the literature documents the increased pressure on academic dentistry; however, far too little attention has been paid to the experiences of dental teachers within this challenging context of dental education and how this may impact on their roles.

2.1 The Notion of Professionalism in Dentistry and Dental Education

Dental practitioners in the UK are referred to as ‘dental professionals’. The description of a ‘professional’ varies in the literature, depending on the context in which the term is used. This explains why almost every recognised occupation claims to be a ‘profession’. Dentistry is no exception to this. Although many occupations claim to have professional values, there is no clear definition of what a ‘professional’ is. Therefore, I begin this chapter by discussing how dentistry evolved as a profession, and then I will begin to explore the ‘professional’ as a theoretical construct and the meaning of a professional in contemporary dentistry.

2.1.1 Dentistry as a profession

A common question posed about the dental profession is why the mouth and teeth were separated from the rest of the body in terms of their care, and how dentistry gained independence from medicine (Richards, 1971; Nettleton, 1988). This section seeks to answer these questions by exploring how dentistry evolved as a profession. Richards (1971) described two main requirements for a specialty to claim a professional position—a group of people must demand the position, and the public must be willing to honour it.

Dentistry went through a pre-professionalisation process before it became well-known and recognised as an independent profession. Indeed, it took quite a long time for dentistry to be established as a fully autonomous profession in the UK. Medicine had been recognised as a prestigious occupation by the nobility in comparison to dentistry. Dentistry is comprised of manual work; for that, dentistry was considered as a second-degree occupation (Kang and Hwang, 1997) and remained under the guidance of medicine, and was governed by the same

regulations as the medical profession until it separated from medicine in 1956 when the Dentists' Act authorised complete autonomy (Richards, 1971). Over the course of the 20th century, professional bodies came into being, each with its own official training and specific admission criteria for new members. Although dentistry as an occupation started long before this, being rooted in the medieval era with its barber-surgeons, it is considered a contemporary profession and did not acquire a distinct identity until the 1900s (Richards, 1971). From 1921 to 1956, dentistry was under the control of the General Medical Council (GMC); one can thus infer that dentistry as a profession is a descendent of medicine. The GDC was then established in 1956, following which the dental profession achieved full self-governance.

In comparison to other specialties under medicine, why did dentistry develop into a separated profession? This can be mainly attributed to the mechanical manual nature of dentistry (Kang and Hwang, 1997). In UK, the first call for separation came in 1841, when George Waite wrote a paper that argued the need to separate dental surgery from medicine (Nettleton, 1988). In 1878, the first Dentists' Act was administered to restrict the practice of dentistry only to people qualified to do so (Richards, 1971). After the Act, the dentist community established the British Dental Association (BDA) in 1880. Even so, the GMC assumed all responsibility for registering eligible dentists until 1956.

Studying the evolution of dentistry as a profession clearly shows how it is indeed distinct. According to Carr-Saunders and Wilson (cited in Richards, 1971), the distinctiveness of dentistry lies in the time that lapsed between its emergence and the establishment and accreditation of its practitioners—nearly a century. Dentistry has thus had a long struggle to achieve full professionalisation.

2.1.2 The professional as a theoretical construct

Attempting to describe the concept of a profession in modern times is a complex task. In approaching the subject, there are two bodies of literature: First, the sociology literature, which focused on the characteristics of evolving professions. Second, the medical ethics literature that

focused at the professional as codes of ethics that regulate the relationship between the profession's member and the patient.

From the 1930s to the 1970s scholars such as Talcott Parsons (1939) and Goode (1957) employed a functionalist approach that considered professionals evolving as experts and the development of the professions as the product of a division of workforce that helped preserve the social order. In defining the term 'profession', many authors studied the development of the two oldest professions—medicine and law—on the basis of which Parsons (1939) formulated the functional meaning of professions. This approach focused on identifying key professional attributes or traits that distinguished the professions from other occupations. He proposed that the notion of professionalism originated in medicine on the basis of its attributes of autonomy, expertise, integrity, and morality. Parsons (1939) considered the professional to be a member of an organisation who engages in unrestricted and shared relations with other members of the organisation as well as with other professional societies.

Goode and Parsons (1939; 1957) identified the features of a profession in terms of the ties that connect its members, such as their shared values and language. Goode (1957) outlined the three elements of a profession: a base of applied knowledge; an appraisal of elements, that is, an ethical base; and, finally, a service element related to the segment of the public that it benefits. Goode (1957) examined and defined the associations and identifications of the professionals in relation to social relationships; he identified these characteristics of a profession:

- (1) Its members are bound by a sense of identity.
- (2) Once in it, few leave, so that it is a terminal or continuing status for the most part.
- (3) Its members share values in common.
- (4) Its role definitions vis-a-vis both members and non-members are agreed upon and are the same for all members.
- (5) Within the areas of communal action there is a common language, which is understood only partially by outsiders.
- (6) The Community has power over its members.
- (7) Its limits are reasonably clear, though they are not physical and geographical, but social.
- (8) Though it does not produce the next generation biologically, it does so socially through its control over the selection of professional trainees, and through its training processes it sends these recruits through an adult socialization process.

(Goode, 1957: 194)

Beginning in the 1960s, the literature moved from the functionalist approach of studying professions to accusing old professions like medicine of misusing their monopoly position and for failures in self-regulation (Johnson, 1972; Larson and Larson, 1979; Freidson, 1970). Medicine's prestige has diminished in the public's eye and many authors took a more critical approach towards the profession (Mechanic, 1985); this has been considered by some to be a crisis in terms of moral position and power (Cruess and Cruess, 1997).

Eraut (1994) studied medicine and law as well-established professions, on the basis of which he identified 'professionalism' as an ideology and as a means by which occupations work towards gaining a significant position. Professionalism-as-ideology has also been seen in the work of many other authors who have studied the concept of power and status in various professions (Foucault, 2003; Larson and Larson, 1979). These authors largely identified professionalism as a social construct employed to obtain an authoritative status and autonomy by gaining public confidence. However, this view has been questioned due to shifts in the power relationship from practitioner to regulatory bodies (Dent and Whitehead, 2002). These changes in power relationships can be seen in the increase in accountability and regulation of professions, with growing emphasis on standards and guidelines to regulate them (ibid.). Furthermore, the relationship between members of some professions and their professional organisations have weakened (ibid.).

Direct government involvement can be clearly seen through the increase in the presence and power of organisational bodies, which led to a shift in the power and structure of professions (Boulding, 1953). This shift is quite different from what professional communities had formerly undergone. On the other hand, Weber (1978) believed this shift occurred mainly due to a change in the relationship between authority and legitimacy—just as an organisation can demand legitimacy from the public, it can also demand authority. Another explanation of the shift in the authority-legitimacy relationship has been provided by Weingart (1982), who attributed the shift in the relationship to the increase in the influence of science on the community. Beck (2005) described this great shift in the relationship between professionals and their professional organisations as 'an assault' on the professions, which he attributes to two

main reasons: direct government involvement and the indirect effect of 'marketisation'. In summary, members of many professions do not enjoy autonomy in the same way they did when their professions first evolved in the modern era. However, professions as organisations and individuals still enjoy a relative level of autonomy which is entirely dependent upon the obligation of the individual professional to be both trustworthy and competent and that of the profession to meet all its commitments of self-regulation to protect the public (Cruess and Cruess, 1997).

A considerable amount of literature has been published on codes of ethics as characteristics of professions (Cruess and Cruess, 1997; Kultgen, 1988; Pellegrino and Thomasma, 1981; Beauchamp and Childress, 2001). The medical ethics literature can be linked to the Hippocratic Oath, which has functioned as a code of professional (ethical) principles in medicine for centuries (Cruess and Cruess, 1997). Lunt (2008) suggests that codes of ethics serve two functions: they are motivational (guiding professionals towards optimal conduct), and they define standards that the public can expect and counter malpractice. Indeed, professions depend on such codes of ethics to maintain high standards of conduct and regulation and show that they can regulate themselves without interference from the government. In other words, professional self-regulation also depends on the existence of codes of ethics. Failure on the part of members of a profession to comply with its codes of ethics may endanger their professional status through punishments that extend in scope to permanent removal from the register.

While the ethical code of a professional constitutes a source of the values, attitudes and beliefs that inform practitioners' moral and ethical behaviour, however, diverse sources of professional values may cause conflicts and lead to ethical dilemmas. Thus, codes of ethics are not sufficient to ensure that courses of action taken are actually morally appropriate (Lunt, 2008). Another critique of codes of ethics is that they are based on positivist perspectives that ignore other perspectives, paradigms and cultures (Koehn, 2006). This makes them less flexible to complex, changing contexts and situations of increased uncertainty (Eraut, 1994).

Although the codes of ethics literature has focused on a wide range of aspects that regulate the relationship between the professional and patients, ethicists have changed their focus and begun to encourage the development of individuals worthy of their professional status (Kultgen, 1988; Brody and Doukas, 2014). Ethicists consider that both the individual professional and the profession must be dedicated to public good (Kultgen, 1988). As Lunt (2008: 94) states, 'Ethics codes have been used as the basis of the trust accorded to professionals by the public and the state; this trust must be shown to be earned and deserved.' Thus, Lunt (2008) argues for the need to develop a modern ethical professionalism with ongoing support by professional bodies for the development of 'ethical intelligence' through encouraging a dialogic approach to problem solving, reflective practice and peer support.

In summary, being a modern professional today requires a complex set of skills and abilities to work through uncertainties in an ever more complex professional context.

2.1.3 A professional in dentistry and dental education

In the past two decades, there has been an increasing interest in finding a working definition for professionalism in medicine (Swick, 2000; Royal College of Physicians of London, 2005; Cruess and Cruess, 2010) and, few years later, in dentistry (Welie, 2004a; Welie, 2004b; Welie, 2004c; Fricker et al., 2011; Newsome and Langley, 2014). However, a generally accepted definition of professionalism in dentistry is lacking. The apparent purpose of the health professions is to put patients' interest first and ensure their trust in the profession (Royal College of Physicians of London, 2005; General Dental Council, 2005; General Dental Council, 2008; General Dental Council, 2011; General Dental Council, 2012; General Dental Council, 2013). Based on this purpose, I define professionalism as a complex system of behaviours, values and skills needed to ensure the patients' interests come first in the current context and practice. These behaviours and values may come in the form of standards from the regulatory bodies but collective input from the profession members is needed. However, much of the literature questions the professional status of the dental profession (Welie, 2004a; Welie, 2004b; Welie, 2004c).

In much of the North American literature on professionalism, there has been discussion about whether dentistry is a profession or a business, although this is not being explicitly questioned in Europe (Zijlstra-Shaw et al., 2012; Welie, 2004a; Welie, 2004b; Welie, 2004c; Fricker et al., 2011; Newsome and Langley, 2014). In Europe, the focus was more on generating lists of competences as the Association for Dental Education in Europe (ADEE) considers professionalism to be a competence that includes a professional attitudes and behaviours in conjunction with ethics and jurisprudence (Cowpe et al., 2010). However, some authors questions the value of using lists as a way to boost professional values and professional learning (Hager and Hodkinson, 2011).

Welie (2004a; 2004b; 2004c) has proposed the presence of two models of dentistry: one as a profession and one as a business. Dental education converts dental students into dental professionals, but due to the influence of the market on dental practice, after graduation the professional identity of graduated dental professionals blurs (Gillis and McNally, 2010). Although dentistry is still within a healthcare system, the majority of dentistry is within general dental practices; patients pay for dental treatments that give more sense of business (Trathen and Gallagher, 2009). With the increased demands on aesthetics from the public, the profession is moving towards a business model focusing more on serving those who demand and can pay than helping those in need (Trathen and Gallagher, 2009). Even though working with NHS or privately requires generating profit, according to Trathen and Gallagher (2009), a balance can be created between the two models: 'We can then defend a dentist who is both a professional and a business person on the grounds that keeping the business working well is part of the social corporate responsibility to the benefit of all the patients treated there' (p.252).

Holt (2012) argues that dental professionals as a group are not worthy of the status of 'professionals' unless they are able to provide evidence to claim this status. He also highlights the need for deeper thought and analysis with regard to a person's identity as a practitioner or member of a professional faculty. As such, the search for a definition should cover all aspects of

a profession, with a special focus on its ethical aspect. Holt (2012) further claims that there is a need to evaluate the position of dental professionals in relation to all dental professional bodies across the UK, such as the GDC and BDA, as well as in relation to the government. He proposes that they need to find a comprehensive approach to encourage 'a profession-wide reflection' to define their professional identity in the present century.

Extensive work was undertaken by the Royal College of Physicians to define the nature and role of medical professionalism in modern society. They organised a working party to define professionalism and within the context of current health system. A report was published with the title 'Doctors in Society: Medical professionalism in a changing world' (Royal College of Physicians of London, 2005). The report defines medical professionalism: 'Medical professionalism signifies a set of values, behaviours, and relationships that underpins the trust the public has in doctors' (Royal College of Physicians of London, 2005: 14).

According to the report, ensuring trust is the purpose of medical professionalism (Royal College of Physicians of London, 2005). For that the report disregarded features of professionalism that were not connected to this purpose and only connected to the privileged status of the profession such as the aspects of mastery, autonomy, privilege and self-regulation (Royal College of Physicians of London, 2005). According to the report, these aspects of professionalism may suggest control, superiority and self-governance; and these attitudes are not compatible with the values and behaviours that support the professional practice (Royal College of Physicians of London, 2005). Additionally, the report exchanged other concepts like 'competence' with 'excellence', and 'art' with 'judgment'; and two separate concepts, social contract and morality, are merged into one concept 'moral contract' to add an ethical dimension to this contract instead of the neutral meaning of 'social contract'. In addition, the report provides a description of medical professionalism:

Medicine is a vocation in which a doctor's knowledge, clinical skills, and judgement are put in the service of protecting and restoring human well-being. This purpose is realised through a partnership between patient and doctor, one based on mutual respect, individual responsibility, and appropriate accountability.

In their day-to-day practice, doctors are committed to:

- integrity
- compassion

- altruism
- continuous improvement
- excellence
- working in partnership with members of the wider healthcare team.

These values, which underpin the science and practice of medicine, form the basis for a moral contract between the medical profession and society. Each party has a duty to work to strengthen the system of healthcare on which our collective human dignity depends.

(Royal College of Physicians of London, 2005: 45)

Professionalism is much more than competence; it involves moral and ethical aspects and other values such as altruism, and integrity (Royal College of Physicians of London, 2005; Mann, 2006). The General Medical Council (GMC) (General Medical Council, 2013) did not attempt to define professionalism, yet they use 'professional' to describe 'work' and 'competence'.

In contrast the GDC made an attempt to define professionalism in its guidelines for dental education but this is not included in the main GDC standards (General Dental Council, 2013). The educational GDC guidelines defined professionalism as the 'knowledge, skills and attitudes/behaviours required to practise in an ethical and appropriate way, putting patients' needs first and promoting confidence in the dental team' (General Dental Council, 2011: 6). In the GDC's (2005) published standards for dental professionals, the word 'professional' appears on almost every page in various contexts—professional knowledge, professional performance, professional education and practice, professional responsibility, non-clinical professional service, professional competence, professional judgment, professional relationship, and professional organisation.

Shaw (2009) provides a critical analysis of the concepts of ethics, professionalism, and fitness in light of previous GDC guidelines (the GDC's First Five Years and Standards for Dental Professional Guidance). In his analysis, he claims that the GDC guidelines have one major flaw—they do not distinguish between ethics and professionalism. Shaw (2009) argues that clear definitions of these two concepts are required. He suggests that ethics are more important than professionalism in the context of education, and can be easily assessed. Likewise Brody (2014) highlighted the importance of application of virtues of ethics than focusing on list of behaviours.

The current context of dental practice affects how dentists act professionally. Values and behaviours of professionalism are changing. Although understanding how these values are changing is important, members in the dental profession need to be more aware about the context of current practice to come up with shared purpose and mission statement. Janet Grant (2010) described how our understanding of professionalism is changing within the current practice:

Very recently, the whole question of professionalism and how it is acquired has gripped the profession and its educational institutions worldwide. Such issues have arisen from a series of trigger crises that the profession itself experienced in standards of practice and in changing practices, as well as in the changing role of doctors in society, market forces and accountability within the healthcare system, and society's changing relationship with the professions in the light of greater universal education and wider access to previously protected knowledge.

(Grant, 2010: 8)

The challenge to the profession is not only to dentistry but to all professions (Royal College of Physicians of London, 2005; Scanlon, 2011a). Professionalism is generally under attack. First, there have been changes in the younger generation's expectations: younger dental professionals expect a more balanced approach to their professional lives (Royal College of Physicians of London, 2005). Second, the expectation of the public from the profession is increasing. Patients today are more aware about their dental problems, treatment options and their side effects. Additionally, knowledge is no longer limited to professionals. Patients often now come to clinic after researching their problems and possible treatments on the internet. These Internet sources offer a mix of commercial and health options. The dental professional needs to be ready to answer all questions and deal with uncertainty.

The increase in public mistrust in the profession corresponds with an increase in regulation of the profession and its members. Dentistry and academic dentistry may face a conflict between business and professional values now more than anytime before. With the decline in academic dentistry, the role of academic dentistry in nourishing the profession with research and ideas will be diminished. This may correspond with an increase in the role of the dental industry and market in shaping the profession.

As mentioned earlier, a business model of professionalism is increasing and is not avoidable especially with the increased influence of the dental industry and the marketplace on dental practice and dental education. The dental industry provides the grants for dental research and training for dental professionals in relation to continuous professional development. Gillis and McNally (2010) identified the tension that exists between traditional academic dentistry and the profit-seeking nature of dental industry; they state 'The influence of industry on dental education creates a clash of academic and corporate philosophies over the control of knowledge, the curriculum, and professional culture' (p.1103). The authors suggest that is academics' responsibility to enrich and guard educational practices and outcomes and this should cover both the hidden and formal curriculum (Gillis and McNally, 2010).

There is difficulty in finding theoretical definition for a professional or agreed model of professional in dentistry, thus dental professionals may find difficulty in applying the term to practice. This further complicates finding a definition for a professional in dental education.

2.2 The professional identity of the dental educator

2.2.1 The professional identities

Dentistry is unique in its almost total isolation from medicine, and, as a profession, is much smaller than medicine. Its members develop close relationships with and among knowledge bases and different disciplines, and their work is structured by practice, economics, politics, and history. This uniqueness of dental profession makes the profession's members more inclined to protect its boundaries and maintain its closeness. This is clearly seen in how dentists develop a strong status and identity toward their profession: most dental students come with great intentions to be dentists so they allow themselves to undergo an extensive identity alteration process within this confined community of dentistry. It is the potential conflict of this identity with their role as educators that I am interested in exploring in this research. In this section I argue that dentists have a more stable dental identity than other medical professionals, however dental educators need to manage more fluid and multiple identities in different locations of power with their dental identity being more dominant.

The construction of a professional identity is central to dental education. Indeed, what a dental teachers sets out to do may be described in terms of identity construction, as dental students become dentists and as dentists become specialists or primary care dentists. Identity is 'positioned'—by historical, cultural and social influences. Identity is distinguished from personality, suggesting that identities are made, or socially constructed, rather than given and that identities can be fluid and multiple. A graduate dentist acquires a professional identity through dental education. Acquiring a professional identity is more complex for a dental educator, as there is little or no formal education needed to become a dental educator. There are an increasing number of questions about professional identities in academic dentistry: What shapes the professional identity of a dental educator? Do tensions between multiple roles or identities exist in dental education? Is there any tension between the identities of practitioners and academic? Does a professional identity constitute a barrier for another?

Social theorists recognise that conceptions of self are now complex in modern western societies. The change in the professional identities is linked to the change in self in modern western communities, so what constitute the self? There are many social authors who explored identity (Goffman, 1971; Giddens, 1991; Bauman, 2004; Elliott, 2013); I will briefly introduce this concept, as I am interested in how sociologists theorise identity differently.

According to the seminal work of Erving Goffman (cited in Elliott, 2013), individuals make sense of their selves through performances. If they play multiple roles, they are aware of these roles that they need to play in different contexts. 'The private self' is aware that such performances are essential to identity and to the safeguarding of respect and trust in everyday social communication. These performances give meaning to the selves and to others; and information is exchanged to confirm identity (Goffman, 1971). Goffman (cited in Elliott, 2013) provided a sociological explanation of the socially constructed self and highlighted the significance of 'symbolically defined roles', statuses and relationships that persons participate with in

constructing 'impressions of the self' for others. However, the individual still makes the decision in creating self-identity:

identity might be constructed through the adoption of, and adherence to, social roles and their validation by social institutions, but the individual is the creative and reflective agent who decides- and in doing so constitutes self-identity – on how to carry out such roles as well as the staging of the role performances.

(Elliott, 2013: 38)

An individual may experience a separation between the role and self and this is what Goffman termed 'role distance'. According to Goffman (cited in Elliott, 2013), this separation is important to provide the space for an individual to establish the self with significance and authority. Do dental educators have this sufficient space between their practices and professional identities to be able negotiating multiple identities in dynamic fashion? We may have multiplicity of identities but we may experience some which are stable and some which are in flux:

... within our professional roles, such as doctors or health-care practitioners, we have more flexible, uncertain roles such as educator, manager or researcher. Some of the more stable roles, such as a doctor, allow us to exercise what nation states call the power of exemption—we can draw a clear line between who is in and who is out of the profession.

(Bleakley et al., 2011: 65)

The self is not distinctive from the selves of others, our experiences and others' experiences, according to Mead (2009): 'Since our own selves exist and enter as such into our experience only in so far as the selves of others exist and enter as such into our experience also' (p.164). Mead argued that language plays the main role in construction of the self. The language is the connection between the self and others to access the symbols essential for thinking and performing as a self in a structured world. We interpret the actions by others by viewing our experience of these actions. According to Mead and Vygotsky (cited in Burkitt, 2011), language is more than just a way to express thought, however it is a tool to generate these thoughts. The central problem of identity is that balancing the multiple pressures of society and culture on the self with inner definition of identity; under these pressures the ego seeks to limit the social self (Mead, 2009).

The modern social philosopher Anthony Giddens (1991) links self-identity to organisational and universal forces. He described the contemporary world as a 'runaway world'; a world that he described as being rapidly pulsing and changing beyond control. Giddens (1991) emphasises

the role of reflexivity in identity development; It is through a reflective process that individuals become able of taking certain aspects from their lived experiences in the real world and integrating them into the narratives that construct their identities. Elliot (2013) defines reflexivity as 'a self-defining process that depends upon monitoring of, and reflection upon, psychological and social information about possible trajectories of life' (Elliott, 2013: 45). With all the challenges that face the professions, a reflexive professional is produced to tackle these challenges. Reflexivity is a lifelong process to restructure the professional self in this to tackle the changing environment of professional knowledge and professional practices (Scanlon, 2011b).

The postmodern approach to identity sees identity as a shaping process rather than a central concept. Identity refers to the ways in which an individual considers him- or herself in relation to society. Bauman (2004) argues that 'identity' is revealed to us only as something to be 'invented' rather than 'discovered'. There are two ways to think of identity, according to Bauman (2004). First, the given identity that is shared by a community brought together by 'life and fate' for example family and national identity. Second identity is the chosen identity that brings together a group of people who share the same beliefs or values; this resembles the professional identity of a dentist or a dental educator. Bauman devised the term 'liquid modernity' to describe the nature of the contemporary world, symbolised by flux and uncertainty, similar to Giddens's concept 'runaway world' (Bauman, 2004). The creation of identity is under constant challenge and must be constantly negotiated (Bauman, 2004).

Social learning theories (Lave and Wenger, 1991; Wenger, 1999) may provide some explanation of how identities may evolve in professional communities; for a dental student, a professional identity is something to be made through dental education, not through the build-up of knowledge, skills and values but through a process of constant engagement in activities and social interactions. Wenger defined identity as 'a way of talking about how learning changes who we are and creates personal histories of becoming in the context of our communities' (Wenger, 1999: 5). Wenger in his book considers participation in a community of practice to be a source of identity; building an identity involves negotiating the meaning of individual

experience as a member in social communities (Wenger, 1999). An individual can join one or multiple communities of practice and can play one or more roles and this can form one or multiple identities (Wenger, 1999). The mode of belonging to a community of practice depends on the level of engagement in the community (Wenger, 1999). This suggests that dental educators with different levels of engagement in dental education may develop different modes of identity; this raises question how do part-time clinical teachers develop their academic identities?

How can these concepts on identity inform our understanding of professional identities of dental educators? There are different approaches to define and understand a professional identity. Bleakley and co-authors (2011) suggest that roles can be an easier way to define identities. Identities are closely related to roles, which are usually clearly defined. Berger and Luckmann (1991) proposed that a professional identity can be developed through the influence of secondary socialisation—that is, a professional identity is facilitated through interactions within the work community. Dentists undergo intensive profession-based education that is similar to medical education. This intensive dental education is gained over a period of five years and can help construct dentists' identity.

According to Foster (2011), the professional identity of a doctor, gained through medical education, irreversibly alters the doctor's identity. Foster (2011) also states that the transition to acquiring the identity of a doctor requires two important elements—obtaining a medical degree and all its accompanying knowledge and skills, and social learning to meet certain expectations in the professional community; both these elements are interrelated and influence each other (Foster, 2011). One can assume that dentists go through a similar professional identity transformation process through five intensive years of training in dental school, acquiring the requisite knowledge and skills and socialising in a uniquely bound environment. But it is less clear how this transformation in professional identity happens to those who become dental educators.

In the traditional transmission model of teaching in dental education, the dental educators serve as role models where they transfer the knowledge, expertise and professional attributes to dental students. Although this approach has lately been offset in favour of more active engagement from students, the didactic approach will be difficult to be completely replaced under the current vertical structure of power within dental education with its limited resources. A perennial issue has been how to adequately teach students professional values. Some authors insist on drawing up a list of virtues, encouraging senior educators to be role models for their students in adhering to this lists of professional values; and encouraging all professionals to be assessed against this list (Brown et al., 2002). The significance of role models may not be identified in the formal curriculum but it can be in the hidden curriculum (Mann, 2006) and many studies show how professional values can be transmitted by role models (Glicken and Merenstein, 2007; Kenny et al., 2003; Matthews, 2000). On the contrary, some authors argue that professional education should not be reduced to a list of virtues and role modelling, for example there is more to learn from patients in relation to fostering patient centredness than observing a senior educator (Bleakley et al., 2011). This approach encourages the student to build a collaborative and partnership relationship with the patient. However, role modeling is an essential part of both formal and informal learning in dental school and good role models are needed to enhance professional learning.

Students in professional education know that they are educated 'to become' members of the profession, for that members of the professional community are very influential role models. Role models are part of the hidden curriculum which represents those features of the curriculum that are not recognised as part of the formal and informal curriculum. The most common aspects indicated as hidden curriculum in the health professions convey to professionalism, socio-cultural influence, role modelling and social relations, and values of the profession (Hafferty and Franks, 1994; Masella, 2006).

It is essential to encourage the development of all aspects of professional identity toward patient care to ensure trust; however, for the profession to survive and face current and future challenges, professional identity toward teaching should be also encouraged. With the decline

in academic dentistry, young dentists and dental students need to see inspiring role models of academic dentists who enjoy teaching and their academic careers. Role models apply a strong impact on career choices for dental students and novice dentists (Kay and O'Brien, 2006).

Aspects of professional learning involved in professional identity formation has distinctive forms of teaching and learning—what Shulman (2005) called 'signature pedagogies'. Shulman (2005) drew attention to the distinctiveness of teaching in professional schools, and argued that pedagogical signatures could be a useful way to reveal other aspects of professions, such as their personalities, dispositions, and cultures. This is likely because teaching in professional schools must fit professional standards; for instance, such teaching must equip all students with the essential skills and knowledge needed for professional practice. These teaching practices reveal different aspects of professions that make them distinctive, such as ways of thinking, practices, rules, or genres (Poole, 2008). Shulman (2005) argues that signature pedagogies in professions are strong forces of socialisation and source of identity; they can help professions to educate for professional character (Poole, 2008; Shulman, 2005). The development of these signature pedagogies has been attributed to the tendency of the professions to protect their boundaries (Poole, 2008; Shulman, 2005).

Disciplines are homes for faculty members, and Poole (2008) argued that academics are reluctant to leave their comfort zones for another discipline. It is evident that dentistry, like other professions, is surrounded by boundaries that curtail its members from exploring other disciplines. As Poole (2008) says:

Professions are not the same as disciplines. Professions contain disciplines. Thus, to develop a signature pedagogy within a profession means, in part, to create pedagogies across disciplines. The forces at work to create a professional identity must be powerful, therefore. Accreditation processes, active professional organizations, and rings on the pinkie finger all work to form this identity. Professions don't just create boundaries, they create boundaries with uniformed guards.

(Poole, 2008: 54)

Crossing the boundaries of a profession or discipline may not mean leaving the profession, but can involve exploring a new practice that may conflict with one's current discipline paradigm. This can be seen in the resistance that may occur in response to the introduction of a new

method of teaching or assessment not common in a certain profession (Poole, 2008). Complexity of the dental educators' roles makes crossing the boundaries more difficult.

Dental educators' identities are shaped by the roles they play, from a teaching role to conducting clinical services and research. All of these roles have been shaped by the professional distinctiveness of dentistry. Dental educators play a central role in dental education; they develop and deliver undergraduate and postgraduate dental education. The role of dental educators does not just involve teaching, but also involves the professional identity transformation of their students through role modeling (Bleakley et al., 2011; Rushton and Horner, 2008). Compared to other health professions, clinical and non-clinical teaching in dental education is mainly delivered by academic dentists at dental schools (Dental Schools Council, 2013). Moreover, alongside teaching, dental educators are also required to be involved in research, clinical services, and administration.

To summarise, while dentists arguably have a more stable dental identity, dental educators need to manage more fluid and multiple identities in different locations of power. Giving ground for early formation of multiple identities within dental education may help in developing collaborative and reflexive practices. However, the stability of dental identity can be used to as an endeavour to encourage commitment and responsibility to the continuity and progress of the profession.

2.2.2 Professional knowledge

In a discussion on professional identity, an understanding of the concept of professional knowledge can be used to understand professional identity. Oakeshott (1967) distinguished between two types of knowledge—technical knowledge and practical knowledge. The key difference between them is that technical knowledge can be codified, while practical knowledge is articulated only in practice and acquired through experience. Oakeshott (1967) proposed that the knowledge that underlies teaching is a type of practical knowledge or the Aristotelian *phronesis*, a form of knowledge that is different from propositional or technical knowledge. This

type of knowledge is only acquired after an extended period of experience, and reflection on that experience (Hilton and Slotnick, 2005).

Eraut (1994) identified three kinds of professional knowledge—propositional, personal, and process knowledge. Propositional knowledge includes discipline-based theories and concepts, generalised and practical principles, and specific propositions about particular settings (Eraut, 1994). Propositional knowledge is derived from research and knowledge of formal theory (Higgs et al., 2004), and is used to inform practice (Ryle, 2009). Eraut (1994) also uses the term ‘codified knowledge’ to describe public propositional knowledge that is published and used in education as a reference. Personal knowledge is attained by experience. Process knowledge is explained by Eraut: ‘This process knowledge, or know-how, ranges from being able to carry through explicit rational procedures like timetabling or budgeting to intuitive skills like handling complaints in a meeting or making a visitor feel at ease’ (Eraut, 1994: 81). Process knowledge is mainly attained by practice, and requires knowledge and skills.

Another helpful way of thinking about professional knowledge came from Giddens (1984) who uses the terms ‘discursive consciousness’ and ‘practical consciousness’, with discursive consciousness involving expressive knowledge, much like propositional and technical knowledge, and practical consciousness involving implicit knowledge, much like practical knowledge. Academic work is typically not explicitly acquired (Gourlay, 2011), and may belong in the category of ‘tacit knowledge’ (Polanyi and Sen, 2009). This type of knowledge can be acquired by observing successful role models and thus learning tacit practices and conduct (Scanlon, 2011b). It also can be shared if it becomes more explicit through establishing ongoing dialogue between members of professional community; and this transfer tacit knowledge into a ‘shared repertoire’ that can be shared by members of community of practice (Wenger, 1999).

To summarise, there are two distinct types of knowledge—knowledge that can be expressed explicitly, such as propositional and technical knowledge, and knowledge that can be expressed only through practice, such as personal and practical knowledge. This literature on the nature of

professional knowledge raises questions about the relationship between what dental educators may say, that is, 'discursive consciousness', and what they may actually do in practice, that is, 'practical consciousness'. Understanding the nature of professional knowledge helps in understanding how professional identities evolve. Generally, with the introduction of evidence-based practice, dentistry has become more explicit in nature, but when it comes to academic and teaching practice, the knowledge is less-explicit. This is what creates tensions when practitioners develop their academic identities (Gourlay, 2011). This phenomenon has been explored in the literature, especially in the context of newly appointed nurses and health educators (Boyd and Lawley, 2009), and they found the novice nurse lecturers experience their transition to higher education challenging because of the tensions between practice-based knowledge and theoretical and academic knowledge.

2.3 The Professionalisation of Teaching

Over the last decade, there has been an increasing emphasis in the UK on achieving greater professionalisation of teaching in higher education. The Dearing Report (1997) recognised the necessity to enhance the training of academic staff in preparation for their teaching roles in higher education, which involved requiring them to gain a teaching qualification. The GMC has also published 'The Doctor as Teacher' (General Medical Council, 1999), which emphasises the importance that all doctors should attach to their teaching role. The UK Committee of Postgraduate Dental Deans and Directors (COPDEND) (2013), which plays a key role in the regulation of postgraduate dental education and training, has also issued its own standards for postgraduate dental educators in postgraduate education. Recently, the The Royal College of Surgeons of Edinburgh launched the Faculty of Dental Trainers to promote and recognise the role of the dental trainers and enhance patient care and safety (The Faculty of Dental Trainers, 2016). This section reviews key literature on the professionalisation of teaching practice and practice-based education.

2.3.1 The professionalisation of higher education teaching

The call for the professionalisation of teaching in the UK started with recommendations set by the Dearing Report (1997) on the quality of academic faculty in higher education:

We recommend that institutions of higher education begin immediately to develop or seek access to programmes for teacher training of their staff, if they do not have them, and that all institutions seek national accreditation of such programmes from the Institute for Learning and Teaching in Higher Education.

(Recommendation 13 of Dearing Report, 1997)

The UK Higher Education Academy (HEA) plays a pivotal role by working with higher education organisations in the UK to improve the quality of students' learning experiences (The HEA, 2011). Its objectives are as follows: '1) identify, develop and disseminate evidence-informed approaches; 2) broker and encourage the sharing of effective practice; 3) support universities and colleges in bringing about strategic change; 4) inform, influence and interpret policy; 5) raise the status of teaching' (<http://www.heacademy.ac.uk>).

The HEA was founded in 2004 and, with support from the four Higher Education Funding Councils in the UK, delivers services to individual academics, staff of subject-based communities, and universities and colleges. It organises the UK's National Teaching Fellowship Awards scheme, which acknowledges best practices in higher education teaching. Services to dental teachers were previously provided by the Academy Subject Centre for Medicine, Dentistry and Veterinary Medicine, one of the 24 subject centres covering all disciplines within the HEA (Swanwick, 2010).

The Quality Assurance Agency for Higher Education (QAA) assures quality and standards in UK universities and colleges; the UK Quality Code for Higher Education (QAA, 2012) is the fundamental resource for all UK-based higher education providers. QAA also provides benchmark statements for specific subjects; the benchmark statements for dentistry (QAA, 2002) were written by a group of thirteen university faculty members selected from dental schools providing undergraduate programmes, and in collaboration with the GDC.

In the US, there is a similar movement to professionalise teaching and learning in higher education. Within Carnegie Foundation for the Advancement of Teaching, Boyer (1990) introduced the academic model of scholarship for teaching and learning. He places the missions

of academics into four major categories: the scholarship of discovery; the scholarship of integration; the scholarship of application; and the scholarship of teaching. Boyer's work is based on all university disciplines (Boyer, 1990). What is common among the health disciplines is that their responsibilities are greater compared to those of other higher-education disciplines—most health disciplines are required to provide clinical services and clinical teaching as well as improve clinical practice through research.

While scholarship of research can be easily documented, it is not so easy in case of the scholarship of teaching. Lee Shulman (1998) suggested that the public nature of academic work is one of the features of scholarship: 'For an activity to be designated as scholarship, it should manifest at least three key characteristics: It should be public, susceptible to critical review and evaluation, and accessible for exchange and use by other members of one's scholarly community . . . scholarship properly communicated and critiqued serves as the building blocks for knowledge growth in a field' (p.5).

Moving academic staff towards a scholarship of teaching and learning requires a considerable transformation in identity; it is similar to the identity transformation from a dental student through to a novice dentist (Bleakley et al., 2011). Can the practice of teaching be public or peer-reviewed? Are dental teachers willing to share their teaching practice? If so, how? Sweet *et al.* (2009) suggested that sharing clinical teaching practice will improve clinical teaching; this can be achieved by sharing teaching experiences, and also by creating a platform for debating and discussing issues or ideas related to teaching.

How does the movement toward professionalisation of teaching impact on dental teachers roles and identities? Does this further compound the role of dental teachers? May this create tensions between two professional identities of teacher and practitioner?

2.3.2 The professionalisation of practice-based teaching

Medical schools hire medical professionals who have the knowledge and skills of their discipline, but may have little preparation for teaching (Harris et al., 2007). In the recent decade, medical teachers have started to become more interested in providing more structure to their teaching practice (Swanwick, 2008). Also, more attention has been paid to development of medical teachers due to the increase in professionalisation of medical education, the increased emphasis on accountability, and the 'pursuit of excellence' (Swanwick, 2008). Professionalisation of medical education has developed in response to calls for the professionalisation of teaching in higher education (Dearing, 1997). The move toward professionalisation of medical teaching can be seen in the development of the Academy of Medical Educators' standards and efforts to define competencies for medical educators (Swanwick, 2008).

The HEA has developed the UK Professional Standards Framework for teaching and supporting learning in higher education (2011). However, medical educators arguably identify with their clinical education community more than with the broader higher education community (Bleakley et al., 2011). For this purpose, the HEA provides discipline-based support to medicine, dentistry, and veterinary medicine (<http://www.medev.ac.uk>). Such support allows identity construction within discipline-based educational practice (Bleakley et al., 2011).

Earlier attempts to professionalise practice-based teaching, particularly in health education, started by defining the attributes and behaviours of effective clinical teachers. Irby (1994) identified the features that students appraise in their teachers, and also defined six domains of 'knowledge for clinical teachers of teaching excellence': clinical knowledge of the subject; the context of the practice; knowledge of learners; knowledge of patients; general knowledge of the principles of teaching and learning; and subject-specific teaching instruction.

Later, a set of core teaching skills was identified, which focused on providing a framework or structure to the mission of teaching. These skills included building a positive learning setting

with clear goals and prospects; time-framed information; the use of instruction methods; suitable role modelling; and more structured assessment (Copeland and Hewson, 2000). Although all these added organisation to teaching practice within medical education, there was no mention of how the teacher him- or herself should be.

Soon, medical literature began to focus to a far greater extent on the core competencies of medical teachers. Some authors described a comprehensive set of competencies that included the skills and objectives of an effective medical educator (Bland et al., 1990). With the increase in the complexity of medical education, defining the roles of medical faculty became a necessity; Harris *et al.* (2007) described the different roles that medical educators may play: teacher/administrator, teacher/educator, teacher/researcher, teacher/clinician, and other roles in leadership. In dental education, dental educators may play all these roles at the same time but some roles will be dominant over others at some career point.

Higgs and McAllister (2007) explored the 'experience of being a clinical educator', and noticed that there are six shared elements in their experiences: a sense of self; a sense of relationship with others; a sense of being a clinical educator; a sense of agency or purposeful action; a search for dynamic self-congruence; and the experience of growth and change. On the basis of these themes, the authors developed a model of the experience of being a clinical educator. This research (Higgs and McAllister, 2007) highlights the importance of 'lived experience' of being an educator in understanding and providing framework for faculty development (Steinert, 2010).

The medical education literature includes many reports that tackle the competencies needed to achieve excellence in educating and training medical students and trainees (Harris et al., 2007; Buchel and Edwards, 2005). However, little has been written about the competencies required of dental educators or teachers. Even less has been written about the career transition from dental practitioner to dental educator. There is one study that identifies the skills and abilities of an effective dental educator (Hand, 2006). Hand (2006) discussed a list of competencies

formulated by a board of experts in dental education in US, and he used Boyer's notion of scholarship to structure the framework of a dental faculty member's competencies. He focused on just two of Boyer's themes: the scholarship of teaching, and that of discovery. He identified three categories of dental faculty, depending on their roles in teaching and research: clinical teacher, clinical scholar, and research-intensive scholar.

There is no doubt that a high-quality dental education is essential for providing high-quality patient care. Recently, more attention has been paid to quality enhancement as a dynamic and continuous process, with the purpose being to achieve excellence rather than just ticking qualification boxes:

A commitment to quality improvement is a lifelong obligation that starts at medical school, continues through training and forms an essential component of a doctor's professional practice. Medical educators may have many and varying roles in supporting teaching and learning at all stages of a doctor's education, but whatever an educator's role, there are endless opportunities to reflect on and improve quality in practice, by studying, contributing to and making use of the best evidence currently available. Quality may be considered in terms of discourses: scientific, aesthetic, managerial, economic, ethical, professional and political. It is important for medical educators to be aware of these discourses if they are to be proactive and imaginative in developing a culture of quality in their own fields of practice.

(Swanwick, 2010: 379)

Pressure to professionalise clinical teaching is coming from the professional and regulatory bodies, especially medical bodies such as the GMC. There is no similar discourse by the GDC on professionalising clinical teaching. A fairly recent initiative is The Academy of Medical Educators (AoME), founded in October 2006 as the professional standard-setting body for medical educators in the United Kingdom. The first AoME standards were published in 2009 and updated in 2012. These standards are used as guidelines for the continuous professional development of medical educators (Academy of Medical Educators, 2012). According to its guidelines, 'In the UK, education and training within the healthcare sector is coming under unprecedented funding pressures, and it is ever more important that we set clear standards for the formal validation and recognition of medical educators' (Academy of Medical Educators, 2012: 4).

The main use of these standards is as a framework for self-assessment by medical educators so that they can plan their professional development to achieve membership or fellowship of the

AoME. The standards can be used by organisations to identify the required skills for certain roles as well as to plan the professional training of their educators and assess their performance. The members of the AoME are required to be registered with a professional body (such as the GMC or the GDC) in order to be eligible for membership or a fellowship. The standards are categorised into core values and five domains. Although there are no standards specifically for dental educators in pre-qualification dental education, the standards set by the AoME target both medical and dental educators.

Despite the fact that there are no specific standards for dental educators who teach undergraduate students in dental schools, COPDEND funded a project to publish standards for dental educators in post-qualification dental education. Their role has been stated as follows: 'The UK Committee of Postgraduate Dental Deans and Directors (COPDEND) plays a leading role in the co-ordination of postgraduate dental education and training programmes and activities, and aims to promote and share best practice and continuously improve the experience of our learners' (COPDEND, 2013: 1). The guidelines are categorised into eight domains: educational theory and best practice; learning and teaching in the workplace; learning and teaching away from the workplace; assessing the learner; guidance for personal and professional development; quality assurance; management of education and training; and professionalism. Each domain covers four zones: dental educators know, with the dental team as learners; dental educators do, with dental educators as learners; dental educators do; dental educators lead (Bullock et al., 2010). In 2013, COPDEND (2013) introduced its Standards for Dental Educators that had been developed based on its previous guidelines.

In Europe, the Association for Dental Education in Europe (ADEE) published its Task Force III guide (Jones et al., 2007) to promote quality assurance in dental schools across Europe. The authors of Task Force III also developed the ADEE's requirements, which were supported by the ADEE at its General Assembly in 2006. One of its requirements was that it would be mandatory to keep records of any educational training for all new and returning teaching staff, with clear guidelines and attainable goals. This should form part of the general policy for the professional development of staff.

In August 2016, and during the writing of this thesis, The Royal College of Surgeons of Edinburgh (RCSEd) launched the UK's first Faculty of Dental Trainers (FDT) to support dental trainers in their teaching and training role (The Faculty of Dental Trainers, 2016). The RCSEd realised the need for a faculty of dental trainers to be developed as a sister faculty of the already established Faculty of Surgical Trainers (FST). The RCSEd recognises the distinct context of dental training as different from surgery. The main aim of this faculty as presented on the RCSEd website is to improve the quality of patient care through rewarding the commitment to a high standard of dental training, providing support and guidance to dental trainers and developing and encouraging standards. This faculty is open to all trainers in any setting of dental training, undergraduate, postgraduate and vocational.

I believe this is an excellent move toward recognition of and support for the teaching role within the dental profession. The main roles that can be played by this faculty include raising calls for reform and professionalisation related to the role of trainers in dental education and also encouraging continuous professional development for the teaching role within the profession. This recognition will encourage dental teachers to develop in their teaching role. However, the FDT does not have regulatory powers, as it does not come directly from an authoritative organising body like the GDC, and is to be contrasted in particular with the way the GMC established an approval process to recognise medical teachers in both undergraduate and postgraduate medical education (General Medical Council, 2017).

There are forces to professionalise and regulate teaching in higher education generally and dental education; for some dental educators they are considered an extra burden and add pressure to their professional practices (Sweet et al., 2008b), and for others they are a progressive movement toward excellence in dental education. GDC, as a regulatory body, can play a role in encouraging a good teaching practice through supporting and regulating the teaching role played by its dental members.

2.4 The Professional Practice of the Dental Educator

In medical and dental literature, the terms 'teacher' and 'educator' are used interchangeably. The GDC's dental standards mention other terms that vary depending on role, e.g. 'supervisor' (General Dental Council, 2012). The Universities and Colleges Employers Association (UCEA) (Universities and Colleges Employers Association, 2012) uses the term 'clinical academic' to cover all consultant dentists and senior academic general practitioners. This study uses the terms 'dental teacher' and 'dental educator' interchangeable to include all clinical and non-clinical academics who play a teaching or educational role in dental education.

Although the terms 'dental teacher' and 'dental educator' is not mentioned in the GDC standards (General Dental Council, 2012), other terms like 'service provider' or 'staff', 'examiners' and 'assessors' have been used, which help identify the staff by their specific roles.

The standards also include definitions for these terms:

Staff:

This means all staff involved with the quality management, delivery and assessment of the programme.

Supervisors:

Supervisors are those responsible for students working clinically or overseeing practical work.

Provider:

A provider is the organisation or organisations that are responsible for the delivery of the programme and assessment.

(General Dental Council, 2012: 12)

The field of dental education seeks qualified dental practitioners, specialists, and consultants possessing a wealth of clinical expertise and knowledge, gathered over their years of clinical experience, in order to socialise them into the profession and help them become dental educators and clinical teachers. This is because while dental educators may be experts in their discipline, they may not have received training in teaching.

Professionals in certain disciplines become qualified through training or education. As explained earlier, education is a process of shaping an identity. For instance, dental educators acquire the identity of a researcher or scientist through the years they may spend pursuing a researcher's degree. The question that arises here is, how much training is needed to cultivate an

educational identity? Is the teacher training that dentists acquire enough to shape their identities toward educators?

Dentistry as a professional practice needs to meet certain specific professional standards, and dental schools require approval and accreditation by a professional organisation like the GDC. Dental educators are required to teach a wide range of topics including biomedicine, clinical skills, problem-solving skills, and the ethical aspects of the discipline. Graduating dental students are required to meet a set of identified outcomes and achieve certain competencies after their five-year-long education. However, dental teachers and educators and schools are still responsible for organising and conducting curriculum development, teaching, assessment, and evaluation. In other words, dental educators shape and lead the profession because of their direct and intensive involvement in dental education, research, and practice. Murray (2002) highlighted the pressure on dental educators:

We know that clinical academics play a vital role in medical and dental education. They develop and provide undergraduate and postgraduate medical and dental education. They undertake research in their discipline, investigating the causes, prevention, treatment and management of disease. Their research informs education and training leading to improvements in healthcare. They also provide leadership in the implementation of innovation in service delivery as well as being active members of clinical teams. Furthermore, they provide leadership in the development and implementation of health policy locally, regionally and nationally.

(Murray, 2002: 433)

Dentistry is conceived as a well-paid profession in comparison to other professions. However, many dentists show interest in part-time teaching at some point in their career (Goldacre et al., 2000), although the situation might be different in dentists who decided to pursue long academic pathway. The development of a strong professional identity of dental educators might help to attract more dentists towards an academic career. Without dental educators committed to dental education and academic dentistry, academic dentistry may face crisis.

Joining a dental faculty requires more than just participation in one or two communities of practice. Dental educators are required to participate in the academic discipline at the level of their department, school, and university. They may also join a professional body. The dental

educator must in some way cultivate a level of clinical expertise and authenticity in his or her subject.

Dental educators may define their roles differently. In a survey on views of academic dentists (Goldacre et al., 2000), 66.5 percent of academic dentists defined their role as mainly academic, 27.1 percent identified their role as divided between academia and service, and only 6.4 percent identified their role as predominantly service, with some academic element. Academic roles can involve teaching or research or other activities related to academic practice. In this survey, interestingly, the authors (Goldacre et al., 2000) found that academic dentists prefer to spend more time on research; however, teaching is an overriding role in academic dentistry compared to academic medicine.

A study into chairside teaching tried to identify clinical teachers' perceptions of their roles in chairside teaching. Sweet and colleagues (2008b) investigated dental teachers' perceptions of clinical teaching in the UK and identified five teacher types with regard to clinical teaching—dental practitioners, senior academics, intuitive teacher practitioners, teacher-trained academics, and educational developers. Dental practitioners are part-time dental professionals who see themselves as supervisors more than teachers; senior academics are more concerned with following the curriculum and practicing highly structured teaching; intuitive teacher practitioners are more focused on practical learning; teacher-trained academics are primarily concerned with critical thinking and are interested in applying learning theories they learn through their teaching training; and, finally, educational developers are very interested in changing educational practice (Sweet et al., 2008b).

Dental educators may have to deal with competing roles and responsibilities, and they are obliged to prioritise their roles (Pee et al., 2003). Teaching and educational activities related to teaching tend to figure prominently in their activities, even if they may wish to spend more time on other activities, such as research, that will add to their academic progress. With the increasing emphasis on research in higher education and its benefit to academic career,

academics may be less-motivated to employ educational innovation in their teaching practices (Pee et al., 2003).

2.4.1 Barriers and opportunities in teaching practice

One of the main barriers to teaching is the 'perceived low status of teaching' (Fanghanel, 2004). Additionally, medical educators may perceive themselves as clinicians, scientists, or researchers, but not as teachers (MacDougall and Drummond, 2005). Although dental educators may face some barriers in teaching, the majority of dental educators enjoy teaching (Davies et al., 2013). Some practitioners even teach part time as a relief from their service responsibilities. However, their teaching activities may be not acknowledged, which can have an impact on their perception of teaching (Davies et al., 2013).

Some literature suggests that dental educators are resistant to educational concepts. There is also an assumption that there is a gap between dental education and higher education (Masella and Thompson, 2004), dubbed the 'educational divide'. Masella and Thompson (2004) have provided some reasons for the existence of this gap: understanding the educational literature itself can be a barrier for dental educators; health professionals may believe that the educational methodology being applied is not robust in comparison to the health literature; and educational outcomes are not easily evaluated and may require years to identify. However, Kneebone (2006) proposes that there is a limitation in perspective due to the dominance of the positivistic paradigm in medicine, which limits medical graduates' abilities to interpret educational literature. Pee *et al.* (2003) argue for the need to develop educational practice in dental education, and they maintain that this can be achieved by introducing the concept of 'learning organisation' into dental education. 'Learning organisation' can provide a culture of openness, exchange, and reflection that comprises innovation in response to the needs of its members. Pee *et al.* (2003) propose three agents of change in dental education: the dental school, departments, and dental academics. The authors outline the barriers that might hinder educational innovation in dental schools; at the level of the dental school, there is still an absence of democratic culture, and the dominance of teacher-focused models of teaching and learning. Added to that, the vertical hierarchy in department leadership is less-helpful in

implementing change than is 'interactional leadership', which highlights collaborative work (Pee et al., 2003). Other barriers to change in educational practices may be academics' increasing workloads, lack of autonomy, and increasing accountability, as well as a lack of opportunities to develop relationships with students (Pee et al., 2003).

There is always general concern about the shortage of academics in dental education, which is generally attributed to most dentists' lack of interest in pursuing academic paths (Kay and O'Brien, 2006; Rushton and Horner, 2008). Goldacre *et al.* (2000) explored academic dentists' views of their experiences and found that the main obstacle was the tension among commitment to practice, research, and teaching. In other words, the main challenge facing dentists in the pursuit of an academic career was the difficulty in creating a balance among clinical service, teaching, and research. Moreover, many participants were concerned about the time allocated for training, and the quality of this training. This survey reveals that academic dentists were concerned about time, training, and competing academic activities (Goldacre et al., 2000). Rushton and Horner (2008) also attribute the shortage of academic dental staff to the pressures of the former Research Assessment Exercise. If we assume that these issues could be resolved by providing more time, structured training, and a practical distribution of academic activities, the question is, would this resolve the tensions and reduce the challenges that face dental educators? Does this make it more attractive to novice dentists?

2.5 Conceptions of teaching

Multiple empirical studies have been conducted to assess the ways in which teachers understand teaching; in other words, how they see themselves as teachers. Having a conception of teaching refers to the way in which teachers understand its meaning. Pratt (1998) described conceptions or perspectives of teaching as the lens through which teachers see the world and translate this into action, depending on what they see. Young (2008: 41) suggests that most teachers have an 'Idiosyncratic' perception of teaching which is 'largely unarticulated composites of individual teachers' assumptions, knowledge and beliefs about teaching and learning'.

Teachers' conceptions of teaching obviously influence how they teach and, in turn, affect how students learn, as has been demonstrated in previous studies (Martin et al., 2002; Trigwell and Prosser, 1996). Trigwell and Prosser (1996) suggest that conceptions of teaching change over time. A teacher may have multiple conceptions of teaching. Furthermore, these will differ in different teaching roles and contexts (Stenfors-Hayes et al., 2011).

The most common way of conceptualising teaching is by emphasising the direction of focus or attention; either student focused or teacher centred. Emphasis on the direction of attention has been made in many studies carried out in this regard (Ramsden, 2003). Ramsden (2003) added a middle category of 'organising student activity' in which teaching is moving from the teacher-focused transmission mode to deal more with students by motivating them to be engaged in activities. Categories based on these studies usually were not neutral, as there is an understanding based on the evidence that student-centred approaches lead to better outcomes and deeper learning (Prosser and Trigwell, 1999; Trigwell, 2012).

Pratt (1992) identified five perspectives of a good teacher (discussed below), based on empirical work following interviews with 218 teachers from different post-compulsory education institutions and differing countries. He considered all categories to be equal and none of the perspectives to be superior or inferior to one another. The conceptions or perspectives depend on context and discipline. Thus, a teacher can have more than one perspective.

The various conceptions or perspectives are as follows:

- *Engineering*: The focus is on the transmission of information and is more teacher focused.
- *Apprenticeship*: Emphasis is placed on modelling the subject content or way of being. It is considered to be a way of socialising learners into cultural values.
- *Developmental*: The focus is on learners' cognitive development and is more student focused.

- *Nurturing*: The focus is on the learner but attention is also given to a 'learner's self-concept and sense of being in control of life events' (p. 214). Concern for the interpersonal relationship and the well-being of the learner is a characteristic of this perspective.
- *Social reform*: Emphasis is placed on understanding teaching as a way of changing society.

Kember (1997) conducted multiple qualitative studies. Based on the findings of previous research and his own, he introduced five conceptions of teaching: imparting information, transmitting structured knowledge, teacher-student interaction, facilitating understanding and conceptual change. These five conceptions of teaching begin with an extreme teacher-focused conception (transmitting structured knowledge) and progress to a more extreme learner-focused conception (conceptual change). Kember (1997) also was critical of Pratt's conceptions (1992), in particular the social reform perspective which he considered to be inconsistent with the goals of universities in the Western world where emphasis is placed on critical thinking and the plurality of standpoints.

Separate research on different approaches to teaching in clinical education to those by teachers in other forms of education has only been evaluated in a few studies within the clinical education context (Stone et al., 2002). Williams and Klamen (2006) explored core teaching beliefs at a medical school faculty and sought to establish whether or not these beliefs differed among personnel within the basic science, clinical and instruction specialist faculties. It was found that amongst these groups there were different core beliefs, which supports my findings (discussed in chapter 5) that teaching beliefs are largely shaped by context.

Harden and Crosby (2000) identified six areas of activity performed by medical teachers. Four of them include the previously referred to conceptions of teaching; namely transmitting structured knowledge (transmission), modelling the subject content or way of being (apprenticeship), facilitating understanding and directing activity. This research, and the others discussed above, indicate that there are many common understandings of the different teaching approaches in higher education.

Sweet *et al.* (2008a), whose research is most relevant to mine, interviewed dental clinical teachers, undergraduate students and dental nurses in a single dental school to investigate their perceptions of what constituted good chairside teaching. It was found that dental teachers either considered themselves to be teachers (specialists in a given subject who pass on their knowledge to students who then learn through the uptake thereof) or as experts (who show students how to perform procedures; similar to an apprenticeship).

Based on semi-structured interviews with chairside teachers in a single dental school and discussion with dental teachers in a UK wide evaluation workshop, Sweet *et al.* (2008b) categorised undergraduate chairside dental teachers according to their teaching perceptions into five groupings as mentioned above in section 2.4. A selection of outstanding, disparate educators with a varying range of attributes and skills were specifically included. It was found that of all the categories, dental educational developer teachers brought the most vision and motivation to chairside teaching, and thus ability to develop and improve it (Sweet *et al.*, 2008b). However, there is no indication of the number of participants in the study, and therefore it is unclear how much weight we can place on the findings. However, the recognition of different categories of chairside teachers does indicate the need for an ongoing professional development programme on chairside teaching for all dental team stakeholders.

Ross (2017) suggests that exploring conceptions of teaching is a way of facilitating the academic development of a faculty. Asking teachers what does teaching mean to them helps them to identify their own explicit and implicit conceptions of teaching; leading to engagement and enlightened discussion. By exploring their own conceptions of teaching, teachers learn about themselves, their values and beliefs, and how these conceptions influence their practice. The identification of the importance of talking about teaching also supports my argument, to be developed through the thesis, that teacher training programmes are of benefit to dental educators.

2.6 Professional development in teaching

The majority of university teachers start teaching without any prior training in teaching. However, they do acquire some experience related to teaching during their exposure to teachers while they are students (Knight et al., 2006; MacDougall and Drummond, 2005). University teachers vary in their understanding of development as teachers (Åkerlind, 2003). Teachers with teacher-focused conceptions may approach development with a focus on improving their own skills and knowledge, whereas teachers with more student-focused conceptions may approach development with the aim of acquiring the skills and knowledge required to improve student learning (Åkerlind, 2003). Variation in teachers' understanding of the concept of development in teaching may affect their choices of developmental activities, and in turn affect their development as teachers (Åkerlind, 2007).

The context of the discipline and the department as an informal learning community for teachers plays a key role in the ways in which teachers develop their teaching skills and methods (Knight et al., 2006; Sharpe et al., 2004). A teacher's development is influenced by colleagues, community practices, the teaching and learning regime they operate within and institutional context (Knight et al., 2006; Irby, 1994; Dall'Alba, 2005; Dall'Alba and Sandberg, 2006). The interaction and dialogue shared between peers can facilitate positive development, and Trowler and Knight (2000) referred to these small communities as 'cultural powerhouses of university life'. Through interaction and dialogue, the tacit knowledge developed through experience can be exposed and shared for the benefit of both teachers and the wider communities they work in (Stenfors-Hayes, 2011).

The abilities to recognise and utilise available opportunities for professional development can be limited by teachers' previous experiences (Åkerlind, 2007; Dall'Alba, 2009). This in turn affects their choices with regard to the professional developmental activities they choose to engage in. Teachers mainly learn *how* to teach (as opposed to *what* to teach) via informal activities such as previous exposure to teaching as a student, and apprenticeship. Notably, university teachers may experience professional development via unintentional means. Knight *et al.* (2006) have also suggested that 'professional obsolescence' may prompt the acquisition of new skills, but they do note that this generally does not lead to an expansion of understanding.

Reflection is essential for the development of a deep understanding of teaching. Reflection can be successful if it is related to experience, and takes the ongoing learning context into account (Sharpe et al., 2004; Ashwin et al., 2015).

While the majority of formal staff development activities include diverse groups of teachers from different disciplines and faculties, there is a growing awareness of the importance of developing professional group activities designed for a more focused participant base that shares particular aims, institutional or departmental practices, and paradigms (Bolander Laksov, 2007).

2.6.1 Impact of professional development activities

Most formal teaching qualification programmes in higher education (e.g. the Postgraduate Certificate in Academic Practice [PGCAP]) were introduced in the UK as a part of the UK Professional Standards Framework (UKPSF). The UKPSF provided a structured set of shared standards, and a foundation for methodical certification in diverse institutional approaches—and this enabled higher education institutions to design their own programmes to fit their needs (Parsons et al., 2012). These developmental programmes vary between institutions, and they continue to develop and evolve. In some institutions, they are now compulsory for new staff. However, they are usually voluntary for established staff.

The impact of such programmes on conceptual change was one of the first areas to be researched via the use of the Approaches to Teaching Inventory (ATI) (Trigwell and Prosser, 2004), which assessed conceptual changes in participants before and after participation. The findings of that research suggested significant conceptual changes, and specifically a shift in participants towards more student-focused approaches. Gibbs and Coffey's study (2004) supports Trigwell and Prosser's (2004) findings on the effects of teacher training on conceptual changes towards a more student-focused approach to teaching. Notably however, the authors suggest that the change is not linear, and that 4 to 18 months of training are required in order for conceptual change to occur (Gibbs and Coffey, 2004).

Postareff *et al.* (2007) also investigated the effects of training on teaching approaches using the ATI, and self-efficacy beliefs. They used a combination of methods incorporating the ATI and interviews, and included a control group in their study. That study yielded similar results to previous studies (ÅKerlind, 2003; Gibbs and Coffey, 2004; Trigwell and Prosser, 2004) with regard to a conceptual change from a teacher-focused to a student-focused approach. However, the authors suggested that this shift in approach was slow, and that it took at least a year for any changes to become apparent. During the interviews, participants reported increases in their awareness of their approaches to teaching. The authors suggested that shorter courses may actually cause confusion, in comparison with longer courses that improved teachers' self-efficacy and helped facilitate a conceptual shift. Postareff *et al.* (2008) subsequently conducted a follow-up study involving a subset of the participants from their earlier study, and found increased positive changes in the participants who had participated in continued professional activities after completing their initial teacher training.

While positive changes have been suggested by studies investigating the effects of teacher-training, Trowler and Bamber (2005) questioned whether trained teachers actually teach better than untrained teachers, and argued that such courses are alien to some academic staff. Knight and Trowler (2000) suggest that changes at the departmental level have a key influence on the development of good teaching practices in higher education. In contrast, a study by Butcher and Stoncel (2012) supported the positive effects of such teacher training programmes on teacher confidence, and also supported the existing evidence on a conceptual shift towards student-focused approaches, and the development of reflectivity and inter-disciplinary discourse.

Some studies have investigated the specific factors that contribute to the positive impact of these programmes. Gibbs and Coffey (2004) argue that they offer a type of 'alternative culture' that can rectify undesirable influences exerted by the teachers' departmental cultures, and that without these programmes such undesirable influences may predominate. In addition, it has been suggested that the peer observation incorporated into these programmes provides an opportunity for participants to integrate theory with practice (Donnelly, 2006).

While there is some evidence suggesting the impact of these programmes in practice, it is not clear how the participants develop reflective skills, or how engaging in the process may impact upon their professional identity (Kahn et al., 2008; Butcher and Stoncel, 2012). It has been suggested that it is important to understand how participants conceptualise teaching development, and to tailor these programmes to participants' understanding and learning style (Åkerlind, 2007; Pill, 2005).

De Rijdt *et al.* (2013) reviewed relevant studies in this regard, and concluded that 'participant motivation' has a strong influence on the impact of such programmes, and that motivation to learn was more commonly reported than motivation to actually put that learning into practice. I assume that this is because motivated participants are more likely to complete the programmes and utilise what they have learned from them in practice. Trigwell et al. (2012) found that completion of a one-year programme by teachers was strongly associated with receiving teaching awards and the acquisition of teaching development grants. They also reported that teachers who completed the programmes received higher scores on their student satisfaction surveys than they received before completing the programme. In addition, the authors found that faculties with higher rates of programme completion achieved higher student satisfaction scores over the seven-year period of the study (Trigwell et al., 2012).

In summary, teacher training programmes can have a positive impact on university teachers. However, individual teacher motivation and the cultural support available to them in their respective departments have a greater influence on the ultimate outcome of applications or programmes designed to facilitate more effective teaching and learning.

Summary

The review of the literature suggested that the professionalisation of dental education—despite dental education having an established position in higher education—has been challenged by

factors that might be internal to the dental profession itself. However, the literature does not provide an in-depth explanation of dental teachers' perceptions and experiences of teaching in the context of changes and reforms in the dental practice and the UK's higher education. There are changes in professional identities in dental education, and an increasing pressure on academic dentistry. This research will provide understanding to the changes in roles and professional identities in dental education and how this may influence choices of novice dentists.

This literature review suggests that understanding dental educators' experiences of their educational practices may help researchers, faculty developers, and dental educators to understand the challenges that face professional educational practices in dental education and, in turn, improve dental students' learning experiences.

Chapter 3 Methodology

The purpose of this case study is to explore dental teachers' perceptions of and experiences with professional educational practice in dental education in the era of professionalisation of teaching practices in higher education. I am particularly interested in how dental teachers perceive their professional identities and the meaning of being and becoming a dental teacher in dental education. My main research question is: How do dental teachers describe their professional identities in contemporary dental education? The following questions are also of interest:

1. How do they perceive their teaching role?
2. How do dental teachers understand effective teaching? How do their professional identities influence their conceptions of teaching?
3. How do dental teachers approach professional development?
4. How do dental teachers reflect on their professional development through their experience with teacher training programmes?
5. What are the tensions they perceive in developing their teacher and educator identities?

This research used mainly a qualitative interview research design. The purpose of this qualitative interview study is to provide a more in-depth understanding and documentation of dental teachers' perceptions and understanding of their teaching role and their professional development as teachers. The research methods include semi-structured interviews. Interviews were conducted with dental teachers and educators from different backgrounds and stages of their teaching careers and dental teachers participating in a professional developmental programme in teaching.

The best way to investigate dental teachers' teaching practices, roles, values and identities was by documenting their perceptions and experiences through interviews. Thus, the qualitative interview approach was the best method for answering my research questions.

A mixed group of participants was chosen to ensure variety and breadth in the data so that variations in ways of experiencing teaching and professional development in teaching could be expected. The participants were recruited from different contexts within dental education to achieve 'maximum variation sampling' (Kuper et al., 2008). The participants' experience level varied, from novices to highly experienced dental teachers. Their teaching experience ranged from a few years of irregular teaching to 40 years of regular teaching. Some had participated in teacher-training programmes, some were engaged in teacher-training programmes during the interview period, and the remainder had never engaged in formal teaching-training programmes, although they may have participated in different kinds of developmental activities. Participation in the study was voluntary. Ethical approval was obtained, and ethical guidelines were followed. The participants consisted of 42 dental teachers, including clinical academics (CA), full-time clinical teachers (FTCT), hospital clinical teachers (HCT), part-time clinical teachers (PTCT) and traditional academics (TA). A total of 27 out of the 42 were enrolled or had completed a university teacher-training programme (TTP) at the time of the interview, and their perspectives on their motivations and experiences in relation to their professional development as teachers were recorded.

This chapter explains the research methodology and methods of data collection and data analysis that were used in this study. It also discusses my ontological and epistemological positions, as well as ethical issues, and my reflections.

3.1 Research Design

This study is a single-site qualitative case study. The purpose of this study is to explore dental teachers' perceptions of and experiences with professional educational practice at an urban research-intensive dental institute and affiliated teaching hospitals. The dental institute offers an undergraduate dental programme and several master programmes. This study adopted a qualitative interview approach to explore, analyse and interpret dental teachers' experiences. This study aims to identify themes and sub-themes that may both nurture and impede the development of teachers' and educators' identities within their different roles and responsibilities. The emphasis on qualitative methods in this study reflects the aim of the study.

As the study involves a particular group of participants in an urban research-intensive dental institute, a qualitative interview study is an appropriate design for this research. My interest lies in understanding the experience of dental educators and being able to get closer to the reality of working in dental education. 'Qualitative research ... generally examines people's words and actions in narrative or descriptive ways more closely representing the situation as experienced by the participants' (Maykut and Morehouse, 1994: 2).

Participants from different departments and backgrounds within the dental school provided different perspectives on the research questions. Dental teachers and educators with different levels of experience in teaching were included in the study.

Because my aim was to explore dental teachers' experiences and perceptions, qualitative interviews provided me with the best method to explore dental educators' experiences and the meaning they made from their experiences, as Seidman (2013) states in the following passage:

At the very heart of what it means to be human is the ability of people to symbolise their experience through language..... At the root of in-depth interviewing is an interest in understanding the lived experience of other people and the meaning they make of that experience.

(Seidman, 2013: 8)

I used qualitative methods to help with fulfilling my aims of the study: how dental teachers understand being teachers and educators and how they understand teaching and development as a teacher. Dental teachers' understandings of their teaching practice and development are not explicitly presented.

3.2 Epistemological Consideration and Theoretical Perspective

Researchers cannot free themselves of their theoretical and epistemological commitments, and data are not coded in an epistemological vacuum.

(Braun and Clarke, 2006: 84)

Having an epistemological perspective can help to illuminate issues concerning research design, how they may influence the type of evidence gathered, and how that evidence will be understood. Such a perspective also assists in identifying which research designs will work for specific aims, and which will not (Gray, 2004: 17). Epistemology is concerned with 'the nature of the relationship between the researcher and what is to be known' (Swanwick, 2010: 284). The question of how I position my research epistemologically is shaped by how I position myself ontologically. The methodology must also be aligned to the ontological and epistemological positions. A paradigm guides what should be researched, how the research should be performed and how the results should be discussed (Kuhn, 2012).

My own experiences of dental education influenced my way of viewing the world and approaching knowledge. I came from a professional background that is dominated by the paradigm of positivism. Dentistry, in the same way as medicine, presents itself mostly as a science. I started my dental education by learning sciences such as biochemistry, biology and physiology. I then commenced my first dentistry subject, Dental Anatomy, wherein I learned how teeth are shaped and developed. The first practical task was to make a 3D model of a single tooth, from wax. The great emphasis placed on the crafting aspect of dental education is unique, especially in comparison with medicine, and adds additional weight to the practical and technical aspects of dental identity.

Clinical training in dentistry taught me how to troubleshoot problems, especially technical and clinical ones. The practice of dentistry is mostly practical in nature. Even though dentistry is predominantly practical and often unpredictable, the dental academic approach to learning was established tightly within a positivistic perspective. Any aspect outside the objective view of positivism is considered 'common sense', and is deemed unworthy of research, as described by Cribb and Bignold:

Given the dominance of natural science-based models of research, the business of self-understanding is more likely to be classified as 'common sense', or even self-indulgence, than to be incorporated into the worthy category of 'research'. Indeed, as things are at present, where self-understanding is the goal - such as when medical schools seek to understand their role and effectiveness in educating medical students - it is likely to be mediated by a positivistic framework into a species of experiment and measurement in which reflexivity plays little or no part.
(Cribb and Bignold, 1999: 204-205)

Within the dental education, the social and humanistic aspects of dentistry rarely feature, apart from communication skills. Developing effective communication skills with patients is valued in dental training, and there is an acute focus on the technical aspects of these skills. As discussed in Chapter 2, the early focus on the technical side in service delivery for many years shaped the nature of contemporary dental education, however, there is an increasing awareness of the importance of patient-focused health services (Steele, 2009). Given that education is itself social and humanistic, this is an obvious difference. Bloom (1988) has argued that medical undergraduate education moved medical graduates from person-focused areas of medicine to more technical areas.

Dental education, in the same way as medical education, has failed to help its members to develop in other paradigms. Kneebone (2002: 514) stated that 'Medical education often fails to provide learners with the tools they need to interpret the literature of other disciplines. In particular, it ignores the importance of recognising different perspectives'. I experienced this challenge of having to develop my understanding of other perspectives in the education literature.

To shift my thinking to a new paradigm, I needed to readapt from my previous exposure to positivism (Swanwick, 2010). This included educating myself about the limitations of positivism and post-positivism perspectives, and understanding how other perspectives vary. Holding on to one view of the world may limit our abilities to reflect on our experiences, and it limits us from seeing beyond our current paradigm. However, moving outside my dental world was not comfortable to do—I belong to a very bounded profession, the members of which are constrained by its old traditions. Edmunds and Brown (2012) stated that the 'characteristics of qualitative research may pose threats to dental researchers who believe that there is only one 'true' (quantitative) way of doing research, to teachers of dentistry who do not wish to change their approach and to school administrators or hospital managers who are reluctant to change the structure of degree programmes or the organisation of clinical education' (p.110). In my

case, change was important in order to facilitate further exploration of a world of multiple perspectives on reality, and to understand human perceptions and beliefs in more depth.

My initial study of education brought the importance of understanding my epistemological and ontological stance to my attention. What was really important for me during my early readings was recognising the variations in views among authors. I realised the importance of developing this skill while reading literature reporting educational and social science research. However, I encountered the challenge of reading textbooks containing extensive arguments—in comparison with dental texts that comprise mostly fragmented scientific and technical facts. Additionally, the language of these educational texts was unfamiliar to me. Given that I had no sociological training in my background, the early stage of my encounters with these texts was challenging. When I experienced difficulty in comprehending the educational literature, I perused some simpler texts specifically written for medical educators, in an effort to grasp the language.

Early on in my study of education, I experienced a clash between two paradigms and perspectives of the world, between the positivistic and the other more fluid paradigms of educational research, which has also been experienced by other medical educators (Kneebone, 2002). This clash was followed by emotions of resentment and frustration, until I accepted the need to develop my awareness of other paradigms and other views of the world. Notably, the wide variation in perspectives among the writers of the relevant educational texts opened my mind to a new skill that I needed to develop. I recognised that we can see the world in more than one way, and we can find answers to many unanswered questions in dental education and dental practice.

If I assume that social reality is contextually constructed and has multiple dimensions, then my epistemological relationship to reality is subjective. Meaning is not inherent, but constructed; however, some interpretations are more useful than others. This is why the context is very important to the interpretation of meaning.

I took an interpretive/constructivist as a theoretical perspective (Lincoln and Guba, 1985). Constructivism starts by emphasising the role of language (King and Horrocks, 2010). Language can construct certain forms of reality, in contrast to positivism, in which there is only one version of reality. Constructivism is the view that knowledge, and hence all meaning, is not discovered but socially constructed. In this position, 'the answer to the epistemological question of How do I know what I know?' (Swanwick, 2010: 289) is that my experiences of reality are subjective. For a constructivist, reality and meaning do not occur in the outer world, but are constructed by the 'subject's interactions' with the world (Gray, 2004). Through these interactions, subjects vary in constructing their own meaning of a particular phenomenon (Gray, 2004). In the interpretive paradigm, the researcher is required to regard the differences between people and the objects of the physical science and to understand the subjective gist of the social interaction (Bryman, 2012). Therefore, interpretive studies seek to investigate participants' experiences and their perceptions of their experiences (Gray, 2009). Interpretive research is classically inductive and combined with qualitative data collection methods and analysis (Gray, 2009).

Participants construct the meanings of their experiences of the world they are engaged in. I intended to make sense of the meanings participants have about their experiences. Here came my choice of qualitative, semi-structured interviews with open-ended questions in particular to allow participants to share the subjective meanings of their experiences. Participant's experiences are also situated within a context, and shaped by historical and social perspectives (Crotty, 1998). As a researcher I wanted to understand the context. My interpretations of the findings are also shaped by my own experiences and background.

3.3 Case Study Approach

There are a variety of definitions and conceptualisations of case study approaches to research in the literature with regard to its aims, applications and categorisations. There are also variations in its definition related to different disciplinary contexts (Simons, 2009). The main aim

that underlies a case study is the exploration of the distinctiveness of a single phenomenon or a 'single case' (Simons, 2009). Its interest lies in understanding the complexity and the specific context of a case (Stake, 1995).

The range of a case has no limits. It can be a person, a group of people or an institution (Simons, 2009). Stake (1995) defined a case as 'a specific, a complex, functioning thing' (p.2), whereas Miles and Huberman (1994) regarded it as 'a phenomenon of some sort occurring in bounded context' (p.25). Yin (2009) viewed a case as a phenomenon within a specific context, with the author providing the following twofold definition:

The first part begins with the scope of a case study:

1. A case study is an empirical inquiry that
 - _ investigates a contemporary phenomenon in depth and within its real-life context, especially when
 - _ the boundaries between phenomenon and context are not clearly evident.
2. The case study inquiry
 - _ copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
 - _ relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
 - _ benefits from the prior development of theoretical propositions to guide data collection and analysis.

(Yin, 2009: 18)

A case study has likewise been defined in accordance with its use and purpose. Stake (2005) described such research not as a methodology but as a choice of what is to be studied. Other researchers defined it as an approach (Simons, 2009), a strategy of inquiry (Denzin and Lincoln, 2005), a methodology (Merriam, 1998; Creswell, 2013) or a comprehensive research strategy (Yin, 2009). With respect to purpose, a case study suggests a stance or approach, rather than a technique, such as observation or interview.

Yin (2009) put forward a suggestion on determining the suitability of the case study approach for a given research project, stating that the method is preferable when 'a "how" or "why" question is being asked about a contemporary set of events over which the investigator has little or no control' (p.11). Central to my study is the question of "How do dental educators describe their professional identities in contemporary dental education?"

The boundaries of the current case study have been determined, with a qualitative approach ascertained as the best vehicle through which my research is carried out. Specifically, my research is an *exploratory case study* (Yin, 2009) on dental teachers' perspectives and experiences of teaching at a research-intensive university. This makes my research a single-site study. It can also be represented as an *instrumental case study* (Stake, 1995), in which a bounded case is chosen to illustrate an issue. The findings of this work can be used for further examinations of dental teachers' identities in contemporary dental education. To gather a wide range of perspectives (Stake, 1995) from dental teachers, I included participants of different backgrounds, teaching roles and experiences.

Case studies usually involve the use of multiple collection methods (Yin, 2009). In my research, I carried out interviews with 42 participants as a formal data collection method. My decision to select a diverse sample was driven by my desire to illuminate different perspectives regarding experiences and determine how these perspectives may or may not converge in the specific context of my study. I conducted follow-up interviews with seven of the participants to expand my engagement with the respondents (Guba and Lincoln, 1981) and confirm their views on their experiences. When the interviews were conducted in teaching clinics and classrooms I took the opportunity to take pictures of classrooms. These photos helped with the analysis of the data, particularly in the section on the relationship between teaching practices and space. I also took field notes and kept research diaries, which I used as reminders of the setting when analysing my interview data. Additionally, I thoroughly familiarised myself with the bounded case context and the environment of my interest (Stake, 1995).

3.4 Data Collection Methods

3.4.1 Semi-structured interviews

It is a powerful way to gain insight into educational and other important social issues through understanding the experience of the individuals whose lives reflect those issues. As a method of inquiry, interviewing is most consistent with people's ability to make meaning through language. (Seidman, 2013: 12)

The phenomenon studied in this research is the changing context of dental education, and the perspectives of dental educators on teaching and the development of teaching. The subject of inquiry in my research is therefore dental educators, and I am interested in their experiences of the phenomenon and the meaning they make about these experience. Interviewing is the best way for participants to make meaning through the language (Seidman, 2013).

When the participants share their experiences through telling stories, they are making meaning of their experiences from their consciousness (Vygotsky, 1987). Seidman (2013: 7) stated that 'Individuals' consciousness gives access to the most complicated social and educational issues, because social and educational issues are abstractions based on the concrete experience of people.' In addition, it could be argued that people find it far more enjoyable talking about their experience rather than filling in questionnaires, and therefore interviewing can potentially produce richer data (Gray, 2009).

Semi-structured interviews offer an opportunity to elicit answers and clarify meaning at the same time. As Arksey and Knight (1999: 32) state: 'Interviewing is a powerful way of helping people to make explicit things that have hitherto been implicit – to articulate their tacit perceptions, feelings and understandings'. I chose semi-structured interviews because they allow the interviewer to ask follow-up questions for additional explanation and also for the interviewee to clarify the meaning of asked questions. I used prompt questions to elicit more clarification. The semi-structured interviews provided rich descriptions of dental teachers' experiences. These experiences were influenced by the context, and the responses were influenced by my role as interviewer and my relationship with the participant.

The interview process was the most appropriate method to explore the perceptions of the dental teachers. Access to participants in the dental school was facilitated by a gatekeeper and insider from the dental school. The first interviews were conducted with 11 key dental educator informants. These interviews aimed to provide a breadth of understanding of dental teachers' roles, responsibilities, and challenges in contemporary professional teaching practice.

For a comprehensive and rigorous analysis of the dental educators' experiences, the second interviews were conducted with dental teachers with different teaching experiences, particularly 1) early-, mid-career and experienced dental teachers and 2) dental teachers who were starting the first or second year of the university TTP in September 2014 and January 2015. Follow-up interviews were also conducted for respondents from this group of participants a few months after the first interview.

The participants were asked about their teaching experiences and professional educational practice, what contexts or situations have influenced or affected their teaching practice, and how they experienced their educational professional development. The themes and subthemes that were drawn from the interviews provided a more authentic and focused approach to the in-depth interviews. The use of semi-structured interviews allowed the interviewer to ask follow-up questions more freely to clarify the participants' answers.

3.4.1.1 Procedure of Data Collection

Key informants' interviews

After initially obtaining ethical permission, emails were sent to 22 key informants who had key roles in the dental school; I used them initially as a pilot sample to start my interviews. The invitations were mainly to dental teachers and educators who held a leadership position in the school. Over the course of 3 months, 11 of them responded and participated in the first stage. I transcribed these interviews and did my initial analysis. After that, I refined my interview questions and updated my interview guide to accommodate more questions of interest in the light of the research problem.

Second stage interviews

Invitation emails were sent to 87 dental teachers from different backgrounds and experiences; some of the dental teachers were engaged in or had just completed a TTP at the time of the

study. The invited dental teachers were undergraduate and/or postgraduate teachers at a single dental institute and its affiliated hospitals. Initially, I received a very low response, so I sent reminder emails to the same cohort of dental teachers. A total of 31 of the 87 responded and participated in the study over the course of 9 months. Most of the interviews took around 20 to 60 minutes. The questions were open-ended. I used prompts to elicit answers from participants when needed.

Of the 42 participants, 27 were enrolled in or had completed a university TTP, and their perspectives on their motivations and experiences of professional development as teachers through their TTP experience were recorded. The interviews highlighted the experience of the journey of dental teachers through TTPs. Nineteen of the participants were engaged in a TTP at the time of the interviews, while some had just started, had just finished a level of the TTP, or chose to drop out of the TTP. Eight of the participants had completed a TTP within the last 10 years. Although all the participants were affiliated with a single institution, the participants had completed their TTPs at different institutions, and some had started modules at one institution and then moved to another TTP at another institution. The TTP is a long part-time course that progresses towards a degree, starting from a certificate and moving to a diploma and then to a Masters degree. The TTP starts from 2 years for a certificate level, 4 years for a diploma and 6 years for a Masters level. The programmes have certain requirements, including attending lectures and seminars, completing reflective assignments or essays, and teaching observations. The programmes run on part-time bases and provide flexibility for university teachers in terms of the choice of the time and the start and end of the programmes. These programmes also lead to a fellowship at Higher Education Academy (HEA). Throughout this thesis, the interviewed participants are referred to by abbreviations (CT for clinical academics, FTCT for full time-clinical teachers, PTCT for part-time clinical teachers, HCT for hospital clinical teachers and TA for traditional academics). Also, every participant was given a number (from 1 to 42).

Third stage: follow-up interviews

Invitation emails were sent to participants who were engaged in TTPs for follow-up interviews after 3 months of the initial interviews, to clarify and expand participants' accounts of their

experiences. 7 out of 19 responded and participated in follow-up interviews over the course of a month. Interviews lasted about 15–20 minutes.

Before the interview

Every participant received the interview instructions, information sheet and the consent form by email. Participants were offered a choice of interviewing place, or I arranged an on-site meeting room for the interview. I chose the criteria for the meeting room to be quiet, convenient and private. It needed to be quiet to allow recording the interview, private to allow participants to share their experience freely and to ensure anonymity and confidentiality, and convenient for participants so that the interview did not interrupt their day work. I had two participants who insisted on having their interviews in a hospital café while they had lunch. I made sure to choose a private and quiet corner in the café. I interviewed some in their offices, teaching clinic cubicles, dental practices, lecture theatres and libraries. I travelled to meet some participants at their dental practices outside of London.

During the interview

At the start of every interview, I discussed the ethical aspects of my study with the participants. I confirmed their anonymity. I requested permission to record the interview, and all of them agreed.

I made every effort to make my instructions clear in my invitation emails and explained the ethical issues and anonymity of the interviews. I provided flexibility in allowing them to choose the time, place, and duration of the interview. The interviews lasted between 30 and 45 minutes on average. A few interviews lasted more than an hour and the smallest number of sessions lasted about 10–20 minutes. A few participants suggested that they could not provide more than 20 minutes of their time; however, most of them were very engaged and shared their experiences and their perspectives and exceeded 30 minutes. Some participants showed excitement about sharing their experiences and views about teaching.

3.4.1.2 Interview questions

The interview questions were related to the participants' experiences in teaching practice and their conceptions of teaching and professional development in teaching. At the start of the interview, participants were asked to fill out a form to provide biographical and background information, such as age, gender, nationality, current position, academic and professional qualifications, teaching experience and teaching training (appendix 4). The main themes and examples of interview questions under each theme are presented in Table 1. Probes and prompts were used in the course of the interviews to obtain the maximum descriptions possible from each participant (King and Horrocks, 2010).

Table 1: Interview questions: List of themes and examples of questions

Theme 1	Background
Examples of questions	How would you describe your career trajectory? How did you decide to become a teacher? How do you balance competing aspects of your role? How much do you teach and how long? What experience do you have with teaching? What is teaching for you?
Theme 2	Values, knowledge and skills necessary to teach dental students
Examples of questions	Can you describe a particular incident in which you thought you were being an effective teacher?
Theme 3	Main influences on dental educators' professional teaching practice
Examples of questions	Can you identify what enables you to be effective in your role? What do you find challenging or what constrains your ability to teach effectively? Do you have any examples or incidents that come to mind? Has your teaching changed over time? What is the major influence on your role? Can you tell me more about that?
Theme 4	Experiences with professional development activities for teaching

Examples of questions	Have you undertaken any professional development courses for teaching? What do you find it helpful? What types of continuous professional development training do you want to take? Do you attend a TTP? Why? Are you self-funded? How many modules have you done? Do you have to do it? Why would you do it if you do not have to? How useful you are finding it?
Theme 5	The role of professional communities in the development of identities towards dentistry and education
Examples of questions	What is your main network? What significant network/professional community do you participate in? What conferences do you go to? What professional journals do you read?
Theme 6	Experiences in developing teaching practice (educational innovation)
Examples of questions	Do you think you have the opportunity to be innovative in your teaching, and if so, how did you find out about that? What motivated you?

3.4.2 Profile of participants

Participants included dental teachers and educators who teach undergraduates and/or postgraduates at the dental school and affiliated hospitals. The criterion for sampling in this study was diversity: participants from various departments and experiences within the dental school were recruited (Table 2). The participants varied in terms of characteristics such as years of teaching experience, gender and position within the dental school (CAs, FTCTs, PTCTs, and HCTs, and TA) (Table 3). After an initial analysis of the interviews with key informants, the sample was further defined to address particular evolving questions (Corbin and Strauss, 2008).

Participants were dental teachers with different backgrounds; they had teaching roles within the dental school, regional or teaching hospital affiliated with the dental school. The participants were recruited from different contexts and specialities (Table 2) to achieve maximum variation in

the sample (Kuper et al., 2008). The participants' experience levels varied, from novices to highly experienced dental teachers (Table 2). Their teaching experience ranged from a few years of irregular teaching to 40 years of regular teaching. Some had participated in teacher-training programmes, some were engaged in teacher-training programmes during the interview period, and the remainder had never engaged in formal teaching-training programmes, although they might have participated in different kinds of developmental activities. The participants consisted of 42 dental teachers, including CAs, FTCTs, PTCTs, and HCTs, and TA (Table 3). The participants also varied in their involvement in professional development activities at the time of interviews (Table 4).

Table 2: Participants demographics

Characteristics		Frequency
Gender	Male	27
	Female	15
Age	Under 35 yrs	6
	35–45 yrs	14
	Over 45 yrs	22
Specialty	Primary care	12
	Specialties	30
Teaching Experience	<5 years	11
	5–15 years	14
	>15 years	17

Table 3: The number of participants in each category

Dental Teacher	Definition	Number of Participants
Clinical Academics (CAs)	Fully trained specialists or general dental practitioners who undertake research, teach undergraduate and postgraduate dental students, and deliver clinical practice in the NHS. These clinical academics are dentists who are registered with the General Dental Council (GDC) and have a substantive contract with the dental school and an honorary contract with the NHS.	11
Full-Time Clinical Teachers (FTCTs)	Fully trained specialists or general dental practitioners who mainly occupy teaching and teaching management roles in dental schools. Most have postgraduate degrees and primarily teach or lead the teaching for three or more days each week. They have substantive contracts with dental schools and an honorary contract with the NHS, and they are all registered with	4

	the GDC.	
Hospital Clinical Teachers (HCTs)	Consultants and specialists with substantive trust contracts and honorary contracts with dental schools. They are all registered with the GDC.	12
Part-Time Clinical Teachers (PTCTs)	Fully trained specialists or general dental practitioners who teach undergraduate and/or postgraduate dental students on a part-time bases (1–2 days/week). They are registered with the General Dental Council (GDC) and have a substantive contract with the dental school.	14
Traditional Academics (TAs)	They are academics with a substantive contract with the dental school. Their main roles involve research, teaching and supervising master's and PhD students. They have no clinical roles.	1

Table 4: The number of participants with/without university teacher-training qualifications

Higher education qualification undertaken	Number of participants
Completed master's degree	3
Completed postgraduate diploma/certificate	7
Engaged in TTP at the time of interviews (Certificate/diploma/master level)	19
Only attended short courses	7
Did not attend any teacher training	8

3.5 Data Presentation and Analysis

The first step in data analysis was the transcription of the recorded interviews. I had interviews transcribed in full. Transcription also helps the researcher become more familiar with the data (Langdridge and Hagger-Johnson, 2009). The qualitative data analysis software MAXQDA was used to manage the transcribed data.

The transcripts of the key informants were initially used to perform initial analysis to refine research questions and interview questions, and then all key informants' transcripts were fed into the data set, and the transcripts from all the interviews from all stages were used for thematic analysis for the findings in chapters 4, 5 and 6. The interviews from the 27 participants who participated in TTPs were analysed again to register the themes related to their experiences of participation with a TTP, and those findings are presented in chapter 7.

The analysis made in this study was inductive, and the meaning originated from the data. I used the interpretive/constructivist tradition for my data analysis. Thematic analysis was used to identify, examine and report patterns or themes in the data (Braun and Clarke, 2006). Ryan and Bernard (2000) stated that thematic analysis is a process performed within major analytical traditions, such as grounded theory. However, Braun and Clark (2006) argued that it is an analytical tool in its own right, so thematic analysis can be applied independently and also with other approaches. Thematic analysis is a flexible analytical tool that can provide a rich, detailed and complex account of the data. A theme captures something important about the data in relation to the research question and represents a patterned response within the data set. King and Horrocks (2010) defined themes as 'recurrent and distinctive features of participants' accounts, characterising particular perceptions and/or experiences, which the researcher sees as relevant to the research question' (Chapter 9).

Initially, all transcripts were read multiple times. An iterative process was used by focusing on similarities and differences. Patterns within the data started to be identified and labelled with codes. Codes were categorised into groups of themes and subthemes. The generated themes and subthemes were reviewed and renamed multiple times. The analysis emphasised an interpretative level and related the findings to previous literature (Braun and Clarke, 2006). I revisited my interview transcripts many times to ensure that the codes were contextualised and represented the themes. Through comparing and contrasting and noting common properties, I noted and refined the themes. After establishing themes, the transcripts were revisited again, and a second level of analysis was performed. My approach was an iterative process through revisiting the data until the themes were confirmed. I worked back and forth from reading transcripts, refining themes and discussing my resulting themes with my supervisors. During the early stages of analysis, I created a visual map and modified it every time I revisited the data. I paid attention to how these themes conceptually aligned (Silverman, 2000). During the process, my focus was on the merging themes. Then I revisited my research questions. My analysis resulted in five main themes groups:

- Perceptions of the teaching role in relation to other roles
- Conceptions of effective teaching in different settings

- Approaches to professional development for teaching
- The impact of TTPs on participants' experiences
- Tensions and challenges to the development of effective educator identities

3.5.1 Alternative approaches and justifications for my choice

There were a range of other methods and approaches I considered. On this section, I will explain a relevant alternative approach I would have used.

3.5.1.1 Phenomenography:

Phenomenography describes the differences in experiencing a phenomenon from different participants; these different ways of understanding should be hierarchically related and called outcome spaces (or categories) (Marton, 1981). Marton and his colleagues first introduced phenomenography in the 1970s in exploring learning in higher education. Then phenomenography was widely used to explore different aspects of teaching and learning in education. Phenomenography would constrain my approach and analysis and could produce something that is different. My choice of thematic analysis over phenomenography was because the former method allows flexibility and the ability to introduce subthemes under themes, while the focus in phenomenography is on generating outcome spaces that show hierarchical order. This focus on neatness may defer the focus from unanticipated observations. Thematic analysis in comparison with phenomenography allows for a broader range of interpretations, while phenomenography may be limited by the description of the outcome spaces. While focusing on generating neat categories for outcome spaces in phenomenography, some non-fitting insights can be overlooked. On the other hand, the flexibility of thematic analysis helps in generating unexpected insights from the data.

Phenomenography provides an overview of the participants' variations in perspectives. However, it does not provide a rich context to the study. As my participants come from different backgrounds, a constructivist approach using thematic analysis which considers the context and the background is more appropriate. The context in my study is very important in casting light

on the complexity of professional identity. The result of phenomenography is outcome spaces that may overlook the context. In my research, the context was very important, as my contexts varied from lectures to clinical teaching and also involved different categories of dental teachers.

3.6 Robustness of the Research

This section discusses the strategies that were used to ensure the robustness of this research. Robustness is discussed in the context of the qualitative methods that were used in this study.

Different criteria can be used to assess the quality of qualitative research. Some authors have proposed criteria from quantitative research, while others have developed different criteria (Lincoln and Guba, 1985; Guba and Lincoln, 1994; Lincoln et al., 2011). Lincoln and Guba (1985) suggested criteria for judging the trustworthiness of a qualitative study, which I discuss in the next section.

3.6.1 Trustworthiness

Trustworthiness is a process rather than a measure of validity and reliability. Trustworthiness is assessed on four criteria: 1) credibility, which is a counterpart of internal validity; 2) transferability, which is a counterpart of external validity; 3) dependability, which is a counterpart of reliability; and 4) conformability, which is a counterpart of objectivity (Guba and Lincoln, 1994).

3.6.1.1 Credibility

The criterion of credibility focuses on whether the findings of a qualitative study are convincing. Credibility in qualitative research is attained through the good practice of selecting data sources and suitable data collection methods and thorough analysis (Graneheim and Lundman, 2004).

Credibility also suggests how the themes represent the data, and this can be established through quoting the excerpts that represent a certain theme and by agreement between researchers (Graneheim and Lundman, 2004). In this study, credibility was achieved through the frequent use of quotations that represent every theme and subtheme. However, because of the nature of doctoral research, data collection and analysis were performed by one researcher. Another way to ensure credibility is through peer debriefing, which provides a way to test the researcher's evolving understandings through handling the questions that may be elicited by peers (Guba, 1981). My regular presentations of findings in conferences and discussions of the findings with peers contribute to the credibility of the findings. Credibility is also increased by a researcher's self-consciousness in relation to his or her role as a researcher (Koch, 2006); I achieve this through my reflection on my role as a researcher in every stage of the study, and I discuss my reflection in a later section in this chapter.

3.6.1.2 Transferability

Transferability is particularly concerned with generalising the findings of the research (Bryman, 2012). Because of the nature of contextual qualitative research, it is difficult to apply the results of the same study to different contexts. Thus, the findings of qualitative research cannot be generalised in the same way as the findings of quantitative research. However, providing intensive details of the research context, which is called a 'thick description' (Geertz, 1973a), serves as a source for others to assess the transferability of the research findings. Transferability can be enhanced by recruiting wide variations in the sample to provide different views and perceptions (Larsson, 2009). Transferability in this study was enhanced by involving dental teachers and educators with different roles and levels of teaching experience, as well as by providing a detailed description of the context and culture of the study. Transferability can also be increased by providing a conceptual explanation that can be used in similar settings.

3.6.1.3 Dependability

Dependability is the counterpart of reliability in quantitative research (Bryman, 2012). It refers to the extent to which findings may vary over time or the choices made by the researcher during data interpretation. With qualitative research, the data collection can be inconsistent among

different researchers, as interviews are a developing practice, and new perspectives have an effect on the data collection. For example, asking follow-up questions and limiting the focus can affect the data (Graneheim and Lundman, 2004). Lincoln and Guba (1985) argued that auditing by peers can confirm the quality of the research. However, the auditing method is difficult, especially with a large set of data.

Dependability can be enhanced by clarity in explaining the analysis process and through the ability to trace the empirical data and compare it to findings (Koch, 2006). In my research, I achieved this through establishing full transcriptions of all interviews, keeping records of notes from interviews and memos during every step of data analysis, and giving details of my analysis process. Additionally, I enhanced the dependability of the findings by presenting the findings at research meetings and using quotations from participants in my thesis.

3.6.1.4 Conformability

Conformability means ensuring that the process and findings of the research are not affected by individual values and theoretical preferences (Bryman, 2012). Lincoln and Guba (1985) argued that conformability can be ensured by auditing. In this research, Due to the nature of doctoral research, the research was done entirely by me; however, conformability was ensured through reflecting on my position throughout the research and writing sections in several parts of the thesis on my position and how it has changed as the research progressed.

3.7 Ethical Issues

Institution-based ethical approval has been obtained to conduct interviews with the dental educators in this study (Appendix 1: Ethical Approval).

In any research project, both ethical issues and psychological concern for participants should be considered (The Ethics Committee of the British Psychological Society, 2009). Willig (2013)

outlined the following basic ethical considerations in research: informed consent, no deception, right to withdraw, debriefing and confidentiality.

In the recruitment stage, emails were sent with a clear statement about the aim of the study, the process of conducting the interviews and the confidentiality-related issues of the study. With every email, copies of both the information sheet and consent form (Appendix 2: Interview Information Sheets and consent forms) were attached to help respondents make an informed decision about their participation. In addition, I assured them that they had the choice to drop out from the study anytime before or after being interviewed. The respondents also had a choice of the interview location, between a place of their choice or a private university campus-based room provided by the researcher to ensure privacy.

Before starting the interview, I spent some time with the participants and gave them the opportunity to ask questions about the research or to clarify any issues. This allowed them to become more familiar with the research and created a climate of trust. I also handed them paper copies of the information sheets and consent forms to read. I ensured that all participants were fully aware that participation was entirely voluntary and that they had the right to withdraw from the study, which is a central aspect of informed consent. I also explained that if they wished to have their data withdrawn from the study, they could contact me up until 1 December 2015, before the last phase of data analysis. After this date, any removal of data would have compromised the data analysis process.

The participants' privacy and anonymity have been maintained. I explained to the participants, both in person and through an information sheet, that their answers would not be revealed to the upper management of their institution and that no one but I had access to the research data. In addition, each participant's identity has been kept confidential. Each participant was assigned a pseudonym during data collection, data analysis and data presentation. I erased the audio recordings after complete transcription and analysis so that voices could not be identified.

After obtaining signed consent, interviews were recorded using an audio recorder. After each interview, audio recordings were stored and encrypted on my personal computer, and then all recordings were deleted from the recorder. The audio recordings were retained for the length of the research (approximately 3 years) in an encrypted digital format on my PC. Paper data, including consent forms, were locked in a file cabinet in my office for the length of the study and were shredded afterwards.

Furthermore, I explained to the participants that they had the chance to read the transcripts for accuracy and that any part that they did not want to include would be deleted. Finally, I explained that the study results would be shared with them, and that they could have access to reports before or after the anticipated publication of any results.

3.8 Researcher Positioning and Reflexivity

Willig (2013) identified two types of reflexivity: epistemological and personal. Epistemological reflexivity encourages us to reflect upon beliefs about the world that have been formed as a result of a study; this may involve how the research questions were developed and what methods of data collection and analysis were carried out (King and Horrocks, 2010). My epistemological position was discussed in section 3.2. Personal reflexivity encompasses how one's beliefs, experiences and identities have influenced one's research. Reflexivity is more than just reflection; it is also thoughtfulness. King and Horrocks (2010) defined its purpose as follows: 'Reflexivity in qualitative research specifically invites us to look inwards and outwards, exploring the intersecting relationships between existing knowledge, our experience, research roles and the world around us' (chapter. 8).

In a qualitative interview study, it is not only the participants who take part in research; the data collection also entails social interactions in which the researcher participates. Thus, considerations of reflexivity are important. In this case, as a researcher, I reflect on how I engage and communicate with my participants, the decisions I make and the subsequent

analysis. In this process, reflective research journals or diaries are important and are the most common tool for reflexivity in qualitative research (King and Horrocks, 2010).

Part of the challenge of this project for me as a researcher involves my experience and knowledge of the profession and when to suspend or use them. When I completed my master and specialty training in orthodontics, I aspired to pursue research in education. I noticed the gap in the understanding of education in my field. Before that, I worked as a clinical teacher in a dental school. My experience as a dental student, clinical teacher and postgraduate student helped me to look at dental education from different positions. I observed the gap between dentistry and dental education on the one hand and between mainstream professional educational literature and teaching practices in dental education on the other hand, which encouraged me to pursue this research path. The real challenge was when I started to read the literature on education in the early stages; this has not been about exploring a new discipline, but about a shift in the way I view realities. I realised that it is not only about knowledge but also about our view of the knowledge; our perspective and paradigm affect how we accept or reject a base of knowledge. When I started interviewing participants, my base knowledge of education was limited. My view of education is that of a clinical dental teacher and a dentist who started exploring a new discipline, reading and living a new perspective. I practiced reading, attending seminars and conferences to bring all possible aspects and perspectives of education to maintain an open mind to all possibilities and take in the participants' perceptions, rather than being affected by my own limited professional experiences.

The relationship between the researcher conducting the interviews and the participants is important for the credibility of the findings. For this study, my teaching experience in the researched dental school was very limited, and I had not been employed or involved in any teaching responsibilities in the researched dental school during my current study. My connections with the researched dental school were mainly during my postgraduate specialty training in the orthodontic department. I also had not been involved in any teaching through the TTPs during my doctoral research. I had no previous relationship to the majority of participants. However, I was involved with seven of the participants from the orthodontic department as a

postgraduate student and registrar during postgraduate studies in orthodontics; I had a collegial relationship with only three of them. Although I had not been involved in any direct employment or training relationship with any of these participants at the time of the interviews, it is possible that the previous relationship with the researcher may have affected the answers of this particular group somewhat. However, the main focus of the interviews was on general issues about their teaching and development.

The process of data analysis affected my understanding and knowledge of the subject of research. The findings and discussion reflect my understanding and interpretation. However, I have made every effort to reflect on my own interpretations, and used transparency in describing my methodology to accomplish trustworthy results.

3.9 Limitations

All studies have limitations, but understanding and presenting the limitations with transparency helps the readers to take the findings with caution. Because of the nature of doctoral research, the data collected, analysed and themes were produced by one researcher. My research process provided consistency, but the same study if performed by multiple researchers would have provided different perspectives and enriched the discussion and the findings.

To answer my research questions, the qualitative semi-structured interview was the most appropriate for my study. However, longitudinal study could have provided richer insights into the development of teacher and educator identities, but it was not possible within the confines of my study.

There are limitations for the generalisability of the findings:

- The study is limited in its relevance to the dental education context but suggests that teachers and educators who teach in other health professions may gain some insights on teaching identities in health education.
- The main formal data collection method was interviews, and a case study would usually allow for other data collection methods. I did gather other forms of data informally, but a more systematic gathering of data, e.g. such as through formal observations, could have been considered.
- Study participants were affiliated with only one institution. Participants from other institutions might have answered differently. The context is particular to this institution; consequently, the findings might be specific to this institution.
- The subjects participated voluntarily; the dental teachers who responded might have done so because of an interest in teaching and education.
- My previous experience as a clinical teacher and a student may have affected my role as an educational researcher. My preconceptions through my experience as a postgraduate student and a clinical teacher may also have impacted the findings. I influenced the findings through my choices of the data collection methods, interpretations of the data, and the focus of my analysis and categorisation. Another researcher may have adopted a different approach and found other conclusions. I may have also influenced the participants, who may have decided to participate because they know me or the gatekeeper. Their choices of answers may have also been influenced by this.
- Due to the contextual nature of this study, the findings here represent only a partial picture of the dental teachers' experiences. This partial nature can be discerned in the researcher's choice of a sample, subjects' voluntary participation, questions asked, respondents' choice of answer and the researcher's interpretation of findings.

However, the above limitations are not unusual for this type of qualitative case study, and further research should add to the contribution made here. (Further research areas will be discussed in the conclusion section)

Conclusion

In this research, I aimed to explore dental educators' professional identities by investigating the experience of being a dental teacher and educator in contemporary dental education. The research method was chosen to help in answering my research questions and to record more thoroughly and illuminate the perceptions and understanding of dental educators' professional identities. In this chapter, I have indicated the research methods adopted. I have described the project methods and the ontological and epistemological assumptions that underpin this project, focusing on my position as the researcher within the study, and I have depicted the quality and ethical issues that have been considered.

In the following four chapters I will present the findings of a thematic analysis of the data:

- Perceptions of the teaching role in relation to other roles—Chapter Four
- Conceptions of effective teaching in different settings—Chapter Five
- Approaches to professional development for teaching—Chapter Six
- The impact of TTPs on participants' experiences—Chapter Seven

Chapter 4 Perceptions of the Teaching Role

The fulltime staff are so thinly stretched because they all have to do their research, and they all have a lot of committees and there's much more bureaucracy, so therefore the majority of teaching is done by our part-time staff who we have very little way of actually managing what they teach and what they are – how things run. So we're getting quite divorced now. There's I think a bigger gap now between the clinical academics and the part-time teachers, which is sort of – they've separated over the years. And I think that's partly due to the environment and the pressures on everybody, but secondly, the difference in motivation between the two groups. (FTCT39)

As a result of the decline of clinical academic dentistry during the last fifteen years and the expansion of alternative pathways for clinical teachers and researchers, demand has increased for general dental practitioners to teach at the undergraduate level (Dental Schools Council, 2016). Teaching has become the most delegated role in comparison to other roles such as research, clinical services and administration. In this chapter, I explore how dental teachers perceive their teaching role.

The participants in this study represent different categories of dental teachers in undergraduate and postgraduate dental education. My focus in this chapter is on the themes and subthemes that emerged from the data, which demonstrate the opportunities and challenges of the teaching role as perceived by dental teachers. Because the different categories of dental educators reported unique perceptions, I present the findings for each category separately. Using a thematic analysis, I identify the main themes for each group of participants in order to highlight the various complex identities of dental teachers. I then present the common findings, analysing the main findings from all the participants and highlighting the main themes that answer the research question: How do dental teachers perceive their teaching role?

4.1 How different groups of dental teachers perceive their teaching role

In an attempt to identify the perceptions of each group of dental teachers accurately, I present each group based on their individual roles. Based on these roles, Table 5 identifies the following groups of dental teachers (as well as the number of participants in each category in this study).

Table 5: the number of participants in each category

Dental Teacher	Number of Participants
Clinical Academics (CAs)	11
Full-Time Clinical Teachers (FTCTs)	4
Hospital Clinical Teachers (HCTs)	12
Part-Time Clinical Teachers (PTCTs)	14
Traditional Academics (TAs)	1

From my analysis of the data, I developed a Schema to illustrate how the different roles that dental educators undertake are related for each group of participants. In the following diagrams, the size of each role domain relates to how much priority is generally given to the role in terms of how they spend their time. The relationships between the domains represent overlaps between their different roles. For example, Figure 2 shows the relationship between the different activities that are typically undertaken by clinical academics in their early and middle careers, where research is a priority and takes up the majority of their time. Also the schema shows the overlap between their different roles, such as where administrative tasks are frequently undertaken in relation to research. These schema are intended to offer a quick representation of how the different categories of dental educators in this research generally spend their time and, as such, the different levels of priority they might place on their various activities.

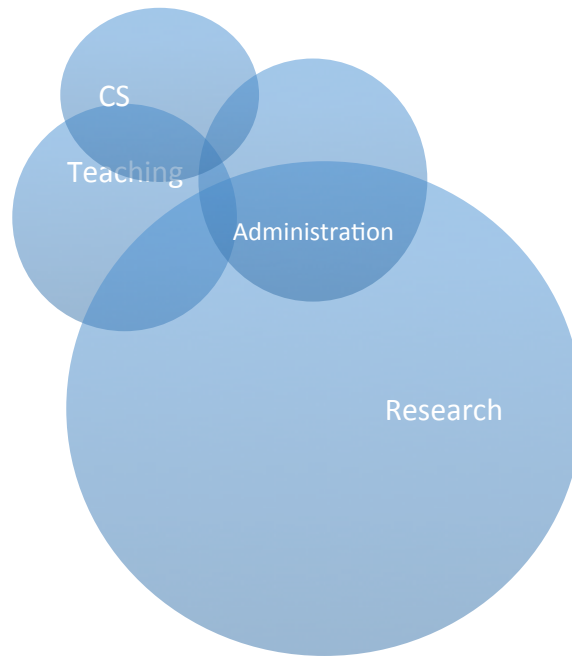


Figure 2: the relation of the teaching role of clinical academics to their other roles in their early and middle careers. (CS= Clinical Services)

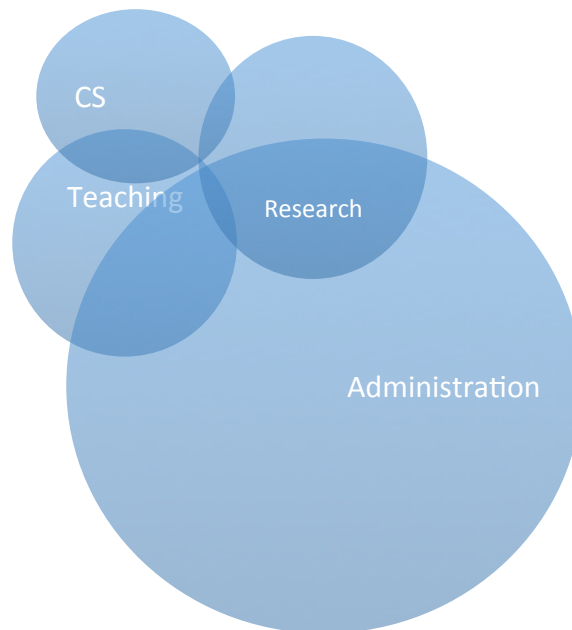


Figure 3: the relation of the teaching role of clinical academics to their other roles in their late careers. (CS= Clinical Services)

4.1.1 Clinical academics

Clinical academics, as defined by the Dental Schools Council (DSC), are 'fully trained specialists or general dental practitioners who undertake research, teach undergraduate and postgraduate dental students and deliver clinical practice in the NHS' (Dental Schools Council, 2016: 7). This definition focuses on traditional clinical academics (clinical lecturers, senior lecturers, readers and professors). These clinical academics are dentists who are registered with the General Dental Council (GDC) and have a substantive contract with the dental school and an honorary contract with the NHS. They perform four main roles: teaching, research, clinical services and administration, with a particular emphasis on research. The majority of clinical academics have completed a PhD and trained in their subject of speciality. The DSC recently reported an increasing decline in the numbers of clinical academics (Dental Schools Council, 2016), in parallel with an increasing number of people in alternative clinical academic roles such as senior clinical teacher and clinical teacher.

Clinical academics have the most well-established identities in academic dentistry. The participants in this study express a sense of pride when they address their identity and the roles they play in teaching, clinical services and research. It was evident that these participants consider themselves as the leaders and visionaries of the profession, as they made much reference to the senior roles and responsibilities they have held, both internally and externally. For example, one participant made reference to x prestigious roles he/she had held, such as acting as chairs of various external committees, which cannot be quoted verbatim because it would reveal his/her identity. The following quotation also gives some evidence of this tendency to continually reference positions of leadership:

I'm a clinical academic, so my post is split between the Trust half the week when I'm a consultant in [subject], and school, where I am at the moment [clinical academic post] in [subject] and also Director of [educational leadership position], a post which I've held for the last five years. (CA08)

Clinical academics play multiple roles in dental education, which makes them experts in the field. In addition to their roles involving research and clinical services, they plan curricular and educational activities and run lectures and seminars. They ensure that their dental school follows the standards of the GDC. Some of these roles are delegated to other members of the dental education team, including senior clinical teachers, consultants, specialists, and part-time

practitioners. The complexity of clinical academics' multiple roles and the pressure they face in fulfilling them have been well documented in the literature (Murray, 2002; Kay and O'Brien, 2006; Goldacre et al., 2000). This theme also appears in my data. Some clinical academics enjoy this complexity, describing it as a pleasurable challenge. This perception of their clinical academic career is illustrated in the following quotation:

A rather black picture of clinical academia. But please don't misunderstand me. I've had a thoroughly good career, I've enjoyed every day of it and I've done everything I wanted to do. So I enjoyed a very nice career and I wouldn't have preferred to have done anything else. (CA05)

The participants in this category shared their views regarding the reasons for the decline in academic dentistry. One participant suggests that the trajectory for a clinical academic is now more complicated and less attractive than in previous years:

You know if I think of my career, I started as a lecturer; very junior level. I had my dental fellowship—so clinical qualification—but I hadn't done specialty training and I hadn't done any research. I did my PhD part-time as a lecturer. These days we want to appoint a lecturer whose got all those things and just appoint them as a lecturer, and you're thinking, well—actually, compared with the colleagues who've just gone into practice or something like that, they are very unattractive. (CA42)

The decline in clinical academics has added pressure to the few remaining clinical academics in dental education. One participant suggests that it is not possible to balance all the roles:

The biggest single thing is, particularly in clinical academics, you are expected to be responsible for four activities, and that's delivery of the clinical service, that's research, that's teaching, that's administration, and actually it's becoming harder for a single person to be able to excel in all of these parts. They're expecting far more professionalism in each of these aspects, and it's just not possible within the hours in the day and your working conditions to do that, so that's the main thing. (CA03)

Another participant suggests that it would be possible to balance the roles if more clinical academics were hired:

So I actually think—clinical academics—there needs to be a very clear commitment to doing that when appointments are made in the school; so, it's very easy to appoint another cranial facial biologist who will be big impact in research terms, but perhaps have very little impact educationally. If we make the case and say we need another [clinical dental speciality], then the first thing they'll say is, 'well, they'll have to be a top researcher'. But you could also take the view that by appointing an extra clinical academic you bolster the whole research, and you also give the opportunity to the people who are already here to get more space to do the research that the college wants from people. And that you can spread the jobs a bit more widely. (CA42)

However, another participant advises against pursuing clinical academics, recommending a traditional academic pathway instead:

Well it's a question now as to whether there's a future for clinical academics. That's the big question. Now, until five years ago, I would still say to a newly qualified dentist that had academic thoughts that you could still pursue a career in clinical academia. Now I don't think you could. I think you've got to be a lab-based scientist in the UK at the moment in order to pursue a successful academic pathway. So I'd advise them against it. Yeah. Advise against the clinical academic pathway; I would advise them to become laboratory-based scientists. (CA05)

Some clinical academics respond to the challenge of balancing multiple roles by working extra hours to conduct research. Research is of the highest priority and importance for clinical academics. The majority of the participants in this category describe how they balance their roles by working extra hours. Some of them tend to focus on certain roles at certain times or stages of their career, as illustrated by the following quotation:

The difficulty in every job is that as you become more senior, you take on more administration and therefore you do less on the ground. So, for example, teaching and clinical, but the balance is achievable. The one thing that will invariably suffer in this career is the further you go in your career, the harder it becomes to maintain your own presence within research. At first, you have very little to do apart from research and teach. At the end, you have very little time to research, but you have the teaching to do and the administration associated with whatever part of the job you have, but mine will invariably be in education. (CA02)

The difficulty in balancing multiple roles is exacerbated by the lack of a clear job description for dental clinical academics, especially for newly appointed staff:

There's always been the annoying assumption that you know what you're doing when you're employed as a lecturer. I didn't know what I was doing until I'd arrived and they told me this is what you have to do. Of course, I knew I had to do research because that's why I accepted the post, but I didn't know that there were all these other academic roles which you play, your role in assessment, a role in teaching. Of course, I knew I had to deal with the students, but all that was left to you. (CA10)

Dental clinical academics face challenges in all their roles and are required to keep up with all their responsibilities equally. While in the past this was difficult but still manageable, the increased complexity of dentistry and dental education, together with added regulations within the profession and growing demands from universities, is now dividing clinical dental academics between their academic and professional duties. When consideration is also given to their membership obligations (such as to royal colleges, research associations and subject societies), the role of dental academics seems to entail being a Renaissance person who serves as an ambassador for the field. While many clinical dental academics enjoy this diverse and versatile role, it can prove demanding for those who seek a work-life balance. The main consequence of the reported increase in responsibilities and role complexity is the lack of time it allows for teaching:

Time is my biggest constrainer and always has been because there are so many conflicting responsibilities and requirements, it's very difficult to be single-minded at teaching. (CA05)

A participant commented on how pressure on academics has made teaching a lower priority, although recent calls for the professionalisation of teaching in higher education have helped to bring teaching up the list of priorities:

Hard. Very hard. Because the pressure is put on clinical academics to be principal investigators, and have a research team, and pull in grants, and have lots of PhD students, by people who turn a blind eye to the fact that they have the clinics to run, or in our case cases to report, a huge volume of clinical activity, and teaching. Teaching until fairly recently was the poor relation [low priority]. It's only the last ten years, I suppose, where teaching has risen up the priority list. You could be a really rubbish teacher and get (bring in) grants and you get promoted to professor [coughs]. I don't know, you probably still can if you bring in enough money. (CA40)

Another participant expresses his/her worry about the future of clinical academics and how this might make dental education move towards training rather than education. Due to staff shortages and time constraints, lectures have become more common as a form of delivering material, as explained in the next examples:

We haven't got enough staff to teach them [students] in the way that they would like it, so they're going to have to accept that some subjects and some material will have to be done in lectures because it's a very cheap way of throwing information at students. (CA02)

Clinical academics also find it difficult to manage their complex roles and are challenged by a lack of staff and a lack of administrative support, as illustrated by the following examples:

Lack of administrative support from [the college] in terms of making sure your diary is clear and the students are in the right place at the right time. (CA03)

So that would, I say, probably be one of the bigger constraints in the clinic, apart from all the usual logistical stuff like actually getting patients booked, like having enough staff and not running around doing other things at the last minute. (CA06)

The participants are also keen on acquiring information technology that could help them in their teaching roles, expressing interest in a more reliable ICT system to help them manage their teaching:

We need proper support for the things that actually require real IT support, not the rubbish IT support we have, and we need to be facilitators as much as possible to put scenarios and questions and everything else on..... It's the lack of resources, lack of resources to facilitate modern ways of doing things. (CA01)

In addition, the physical environment does not facilitate the networking that is necessary:

But it's scary, I think, and I just think it's a very constraining bit of education, and I also think actually within this building in terms of communication with my colleagues, the building is stifling. It's bizarre because I sit in this, if I sit in this office on this floor, I could sit here and see nobody all day and get on with my work. And certainly I could see nobody from, say, a different department. (CA42)

In summary, clinical academics perceive their roles as complex and competing, and they face great challenges in managing all their roles. Teaching can be a low priority. Senior clinical academics perceive a straightforward career trajectory with a clear identity. However, newly assigned lecturers may struggle to comprehend their roles, especially for teaching. Some may work extra hours to carry out their research in order to balance this with their other roles. They

perceive teaching as a diffuse part of their identity as clinical academics. The teaching role is seen as flexible and fluid.

4.1.2 Full-time clinical teachers

This category of dental teachers involves clinical academics who mainly occupy teaching and teaching management roles in dental schools. Most have postgraduate degrees and primarily teach or lead the teaching for three or more days each week. These individuals include clinical teachers and senior clinical teachers. They have substantive contracts with dental schools and an honorary contract with the NHS, and they are all registered with the GDC. The majority of full-time clinical teachers (FTCTs) uphold leadership roles in dental education and design curricula and learning activities. They are not required to do research; however, some have participatory roles in some research activities. According to one participant:

So I mean in terms of my own personal development, I see my role very much more as a manager and an educator rather than an on-the-floor teacher, sort of face-to-face with the students. (FTCT11)

The same participant explains the role as governed by student needs:

The students have a certain need; they have targets to meet and certain objectives and training requirements that they need. So I'm governed really by them. (FTCT11)

Figure 4 shows the schema of FTCTs and how their administration role in dental education is the main role in relation to teaching. Another participant considers him-/herself neither a clinical academic nor a dental educator. His/her sense of identity is towards being a clinician, as illustrated in the following quotation:

I think me, specifically, I'm actually a clinician; a clinician with an interest in academia and education. (FTCT39)

This group is uncertain in its identity in terms of teaching and education. Although these participants play a major role in dental education, they identify more as clinicians than educators.

Theoretically, and compared to the more complex traditional clinical academic roles, FTCTs are better able to achieve a balance as their role focuses on teaching and education. However, they also emphasise their role in the leadership and management of teaching and educational activities within the dental school; as such, teaching can be extended to cover leadership and management activities. Although they are under no pressure to conduct research, FTCTs must

still deal with the complexities of dental education without support from a community of committed dental educators.

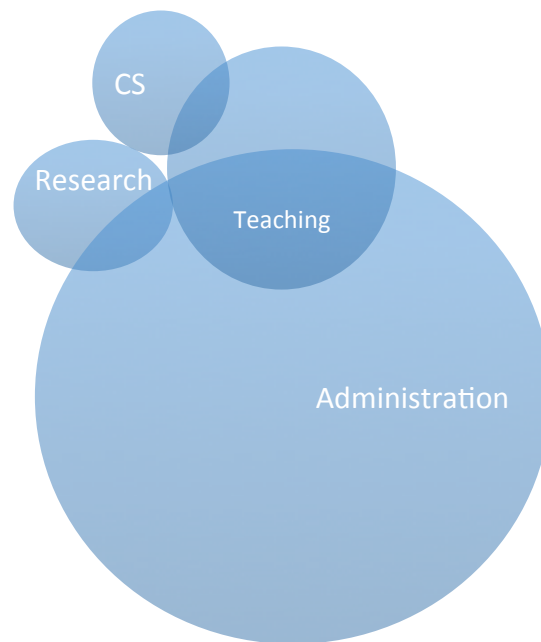


Figure 4: the relation of the teaching role of senior clinical teachers to their other roles

4.1.3 Hospital clinical teachers

Hospital clinical teachers (HCTs) are consultants and specialists with substantive Trust contracts and honorary contracts with dental schools. They fulfil necessary roles in dental schools and teaching hospitals (Drugan et al., 2004). With the decline of clinical dentistry, there is more dependence on HCTs to deliver teaching to undergraduate and postgraduate students. However, because their main role in hospitals is to treat patients, they perceive teaching as part of their job, not their main role:

I used to have to teach the undergraduates, and I think it was that exposure that made me think, 'well, this is quite nice'. It's kind of a nice part of the job. So that's really why I just kind of enjoyed it. (HCT37)

Regional hospitals provide great opportunities for learning through seeing more patients and getting involved in clinical services commitments (Mannion and Brotherton, 2014). However, due to the priority of clinical services in regional hospitals, the arrangements for teaching differ from those in teaching hospitals; in regional hospitals, there is no allocated time for chairside teaching or for teaching performed during a consultant's treatment sessions. A teaching

hospital, in contrast, allocates more time, with HCTs focusing solely on chairside teaching. One participant reflects on chairside teaching in a regional hospital as follows:

I think it's more difficult in a regional hospital because you haven't got the time that you have generally in a teaching hospital because the role is different; the load of patients is greater in a regional hospital compared to a teaching hospital, and with the pressures that you're under, you haven't really got the time. And teaching in a regional hospital is really chairside time rather than formalised teaching, but I've done both in my time...I would love to spend a whole day just teaching in the regional unit, but I can't, I haven't got the time, I have a service commitment that I have to fulfil. (HCT36)

This is a complex balance, especially in regional hospitals where clinical services are the priority for HCTs. While hospital-based training provides intensive experience for trainees, teaching is limited and low in priority, and time for discussion, reflection and feedback remains minimal. Mannion and Brotherton (2014) investigated dental core trainees' experiences in hospital-based teaching related to oral and maxillofacial surgery. They found that approximately a quarter of the participants had not experienced chairside teaching. The medical education literature discusses the issue of balancing clinical service commitments with the education of trainees; Bleakley (2000) highlighted how hospital learning opportunities may have been challenged by the difficulty of balancing service and teaching commitments in busy hospitals with increased pressures on resources. In teaching hospitals, teaching may take more of HCTs' time; however, they perceive that teaching takes place while they provide clinical services (Figure 5):

Yeah, it's hard work. If I'm honest, in—my contract is with the National Health Service, so primarily my demands are for service provision, and sometimes the teaching is—sort of goes hand in hand with that. So I guess the logic is that while I'm providing the service, I'm training, in particular, [subject] postgraduate students. However, there are other demands. You know, not all clinical, or should I say academic, training can be delivered in the clinical environment, so there are other things that we do, such as maybe lunchtime seminars, discussion of cases after clinics, some academic teaching; I've now—you know, I'm currently supervising four MSc projects. You know, the time that's required for that, I can't really do it at the same time that I'm doing my service provision. So a lot of the time I've spent out of hours and in my own time, so at weekends. (HCT16)

There are variations among hospitals and departments in the arrangements for teaching depending on the resources and staff available. Although research is not their priority, HCTs are required to conduct audits, and clinical research often helps them advance in their careers. To summarise, the teaching role is diffused among the other roles played by HCTs and has a low priority, especially in regional hospitals.

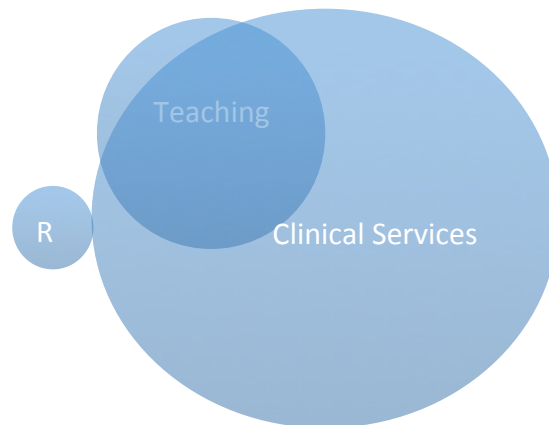


Figure 5: The relation of the teaching role of hospital clinical teachers to their other roles in a regional hospital. (R=Research)

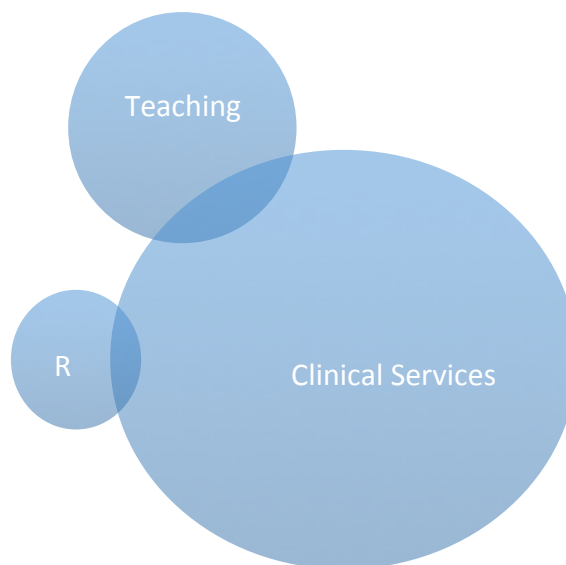


Figure 6: The relation of the teaching role of hospital clinical teachers to their other roles in a teaching hospital. (R=Research)

4.1.4 Part-time clinical teachers

The dependence on part-time clinical teachers (PTCTs) in delivering chairside teaching has also increased (Dental Schools Council, 2016). In addition, higher numbers of general and specialised practitioners are showing an interest in teaching than in the past, as described by a clinical academic:

We've never had so many people wanting to come in and teach as we have now, and that's fantastic. In the past we were scrambling around to find people to teach. Now, they're queuing at the door; brilliant. (CA02)

This increased interest in teaching can be attributed to the opportunities that general practitioners encounter when they teach or are encouraged to teach by their colleagues. One participant describes how he/she chose to teach in order to share his/her clinical experience as a practitioner:

The good thing about sort of going in as an associate in a private practice is that it works quite well with your teaching because I'm doing sort of hands-on teaching. You have to be able to perform these tasks before you can say 'this is how you actually do them' to a student, as opposed to merely learning the theory and then outlaying that to the students. (PTCT15)

In the above quotation, the participant shows pride in his/her hands-on clinical experience and considers the opportunity to develop practical clinical skills as essential for dental students. Another participant illustrates why he/she wants to teach at the dental school after obtaining thirty years of experience working in a solo practice:

So I see myself in my teaching role as firstly being able to offer sorts of tips and tricks and technological experience in a way, mastering sorts of clinical skills. Passing down my own experience, which I am trying to offer my students, a sense of a strong inner core and a strong sense of resilience, so that they can also reach out to others when they need to. And then, thirdly, this idea of how to impact on society. (PTCT23)

The part-time teachers involved in this study are enthusiastic about their roles; they choose to come from their practices to share their knowledge one or two days a week. Some dentists express an interest in teaching after obtaining a specialisation or a postgraduate degree:

I started doing a MClintDent in [subject] in 2011, and that's what really kind of pushed me towards wanting to teach. It's something that I'd always considered, but that was what kind of gave me the road in as it were. So I started teaching in 2013. (PTCT31)

These findings are in line with the literature, which notes that PTCTs want to contribute to the profession by teaching future members (Radford et al., 2015). General practitioners are motivated by a desire to contribute to teaching by passing on their experience; they also want to be in contact with other practitioners and students (Radford et al., 2015; Puryer et al., 2015).

PTCTs report experiencing many opportunities in teaching. One of the most notable themes apparent in the data is the enjoyment they receive from teaching. Such enjoyment occurs among most of the participants in the current study, but it is particularly notable among PTCTs. The participants report that having one or two days off from clinical dental practice for teaching

brings them joy as it includes social interaction, which contrasts with their largely isolated dental practices.

Networking, another opportunity that is provided by teaching, allows PTCTs to connect with like-minded colleagues in the dental school. Networking is considered to be an opportunity for dentists to socialise and develop as dental practitioners. Networking for dental practitioners, as shown in the literature (Stone et al., 2014), is a way to develop and learn further in the dental profession. According to one participant:

Well, really, I would say here because I'm a singlehanded practice. Yes, I go to plenty of meetings and will see local colleagues at the meetings, but, you know, you never really get a chance—yeah, it never really works out to socialise, so to speak, whereas where as well as being able to—and it's wonderful I can pick the brains of not only my colleagues but professors and consultants, and it's, you know, a two-way thing. I'm gaining as much, I think, from being here, but in terms of, yeah, I'd say the network really is here because we're here on a regular basis as well, and, you know, you can't help but thankfully develop a really good relationship with them. (PTCT32)

Another participant adds that it is difficult to network in a practice, even if you work with others, because of the nature of work at a practice:

Well, here at the practice where I work there are only two dentists there, and we don't really talk very often because we are busy, so there's practically no network. The network is here because you can talk to other people—the consultants, other clinical teachers—this is a much more effective way of exchanging information, but that's the network. (PTCT14)

One of the main opportunities reported by PTCTs is that an affiliation with a dental school brings advantages to their practices. Such affiliations bring academic status and titles that benefit the practices. Because dental schools are seen to trust them to teach the new generation of dentists, patients' confidence in the PTCTs' abilities is increased. Other advantages include having access to libraries and journal subscriptions. However, the quotation below suggests that while teaching can add to their status, the title of 'teacher' does not come before their identity as a dentist:

But the teaching, I think, is a good strength to have to your bow, especially when you're treating patients and stuff. They're quite interested when you take pictures and say 'we're going to use these for teaching purposes and things'. So it was nice to have that number of different roles. You would say this is my current sort of set-up, you know, as opposed to just a dentist. But if somebody asks me, I'll say I'm a dentist, unless they want to know about the teaching; then I'll tell afterwards. (PTCT15)

PTCTs also describe benefiting from teaching as it sharpens their knowledge and improves their practice. This observation is detailed by one participant as follows:

It's good to keep your skills up to scratch and be on par with the latest techniques, and things like that, and it keeps you sharp as well. (PTCT15)

Another participant reports:

I actually look forward to the teaching. It's—the teaching—it's given me more confidence in my practice as well, anyway. (PTCT32)

One participant has had the opportunity to publish his/her clinical tips and experiences after being encouraged by his/her professors at the dental school:

If I hadn't been teaching, because there was an idea I had which makes it, for example, much, much easier for the undergraduate students who—we, personally, we insist that they at least have a chance to...um...experience [a clinical case] because it's the best possible environment; they're not only guided, but they're protected, okay. Um...and I had a little idea borne out of frustration with some of the difficulties you can get, and, lo and behold, [Professor] was so impressed by it that he suggested I should try and publish something, and in fact in this month's [dental journal] my idea as a clinical tip, there's an article in there. So I know that if I hadn't been teaching, it wasn't something I needed because I was, you know, doing them for eighteen years now, but because I thought of it, and in fact when I thought of it, it was on behalf of the students, and it took me a couple of weeks to realise that actually it is absolutely perfect for me to use as well anyway in practice. And now I—myself and other colleagues in the department are—sort of almost swear by it. (PTCT32)

Most PTCTs in the present study do not perceive any notable challenges in balancing their roles. One participant manages his/her difficult roles at his/her practice by using teaching as a break from the busy clinical side of his/her job:

So I think it takes a little bit of balancing and, obviously with the teaching, I mean my one day that I do for the undergrads, which is on Wednesdays at [Teaching Hospital], it's sort of like a day off for me in a way because it's sort of like there's no stress of practice or anything like that. You can just go and take the train, and there's no traffic or anything like that, and you can almost sort of switch off. But equally it keeps you on your toes as well because you get asked questions, and you've got to make sure that you know the knowledge and everything as well. It is quite a satisfying role as well, so that's what makes me want to continue doing that. (PTCT15)

According to another participant:

I don't really find it competing, particularly. I'm in my practice for four days a week, and so starting my teaching meant reducing from five days to four. There was always the possibility that that could cause problems in the practice, but it hasn't, and I haven't had any negative feedback from patients about it because of being less available to them. There is the occasion where a patient says 'can you see me on a Friday', and I say 'no I'm teaching'. But it's not really a problem, and if there's an emergency; I just go to the practice after my day of teaching and look after the patient with an emergency then. So it's—there's not really any significant conflict at all. (PTCT33)

This perceived ability to balance these roles (clinical practice and teaching) can be attributed to the separation in time and physical environment between them (Figure 7). PTCTs view teaching as only day work; they do not need to prepare for chairside teaching in the same way that other clinical academics, such as lecturers, do. They also perceive that teaching is a different type of work from clinical practice:

Well, it's a different type of work. Working in the practice is a different part of work. I prefer a teaching role, and I've been working at the practice for twenty years, and I'm a bit, you know, I've been doing it for twenty years, and I started teaching three years ago. So teaching is much more exciting, it's something new, so I enjoy teaching much more than being at the practice. (PTCT14)

Another participant describes teaching as 'natural', illustrating how teaching can be seen as latent in dental identity:

Maybe it's natural, perhaps, especially as I'm fifty-three, so perhaps at this stage in my career it's only natural if you've been doing something that you love to do for long enough, then it, I think, is natural that you maybe like to help people acquire similar skills. (PTCT13)

Despite the perceptions of the participating PTCTs concerning the opportunities given by teaching, they are not considering full-time careers in clinical teaching as chairside clinical teaching is not particularly financially rewarding, especially compared to dental practice. Fortunately, many report that the opportunities brought by teaching outweigh its financial drawbacks, so long as the teaching is part-time.

Unfortunately, there is a question of, you know, the financial point of view. Working in the practice, usually it's much more lucrative than a teaching position, and I've got my bills to pay, so that's why I'm working at the practice. But, if I could, if I was offered from a financial point of view, if I could earn a similar amount of money [as] working in the practice, then I wouldn't hesitate. I would go for a teaching job because this is something which is much more interesting for me than routine dentistry. (PTCT14)

According to Davies (2013), the teachers who report dissatisfaction in their positions are those who spend the most time teaching in their departments. The data for the present study supports this, as the participants who spend more time teaching tend to be those who are more critical of the dental school's management of teaching and education. Some senior PTCTs find it difficult to increase their contribution to chairside clinical teaching because of the hierarchical structures in their dental schools. One participant states:

It would be wonderful if I just had a free role without the constraints of hierarchy. It would be nice just to have a free role, and not be constrained by...er...a timetable of, say, tutorials or that sort of thing. On the other hand, when those tutorials are given, I think they're given ineffectively in this department, and the reason why is because the tutorials are given without any audio—without any effective audio visual guides. (PTCT35)

To summarise my findings, PTCTs contribute greatly to the dental curriculum (Radford et al., 2015), and their knowledge and experience of practice are greatly valued in contemporary dental education. This can be seen in the above example of participant PTCT32 who shared a clinical tip that was worthy of publication in a dental journal. However, PTCTs have limited opportunities for career progression (Davies et al., 2013; Puryer et al., 2015; Radford et al., 2015). Clinical teachers are required to work at least three days a week to be promoted to a senior clinical teacher, and PTCTs do not find teaching as financially rewarding as practice. PTCTs are motivated by a desire to share their clinical experience and interact with students and professional colleagues. PTCTs perceive many opportunities in chairside teaching, such as networking. They perceive their teaching role as an interest that lies outside their practice.

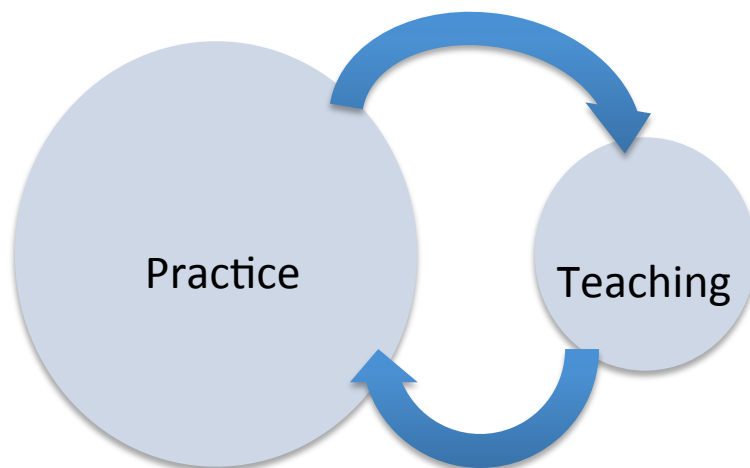


Figure 7: the relation of the teaching role of part-time clinical teachers to their other roles

4.1.5 Traditional academics

One participant in my research could be considered a traditional academic. His/her main roles are research, teaching and supervising Master's and PhD students (Figure 8). He/she has no clinical roles. As a traditional academic, he/she exhibits more clarity about his/her role than the other participants; however, he/she still experiences the same struggle to balance research and teaching, as both require much time and are, he/she believes, equally valued by the university. According to this participant, traditional academics are employed mainly for their research outputs. Even though teaching takes up a great part of their job, the top priority is to obtain research grants:

It's kind of not easy, especially with the teaching in the classroom and marking exams, because even though they're supposed to be the core of the job, we are under a lot of pressure for writing grants, getting money and writing papers, and supervising students in their research also takes a lot of time. So the problem is we end up with a number of demands for teaching and for research, and for productivity we just end up working after hours and working the weekend, and it's not easy. (TA12)

Although the participant finds balancing multiple roles to be challenging, he/she perceives a great enjoyment in teaching.

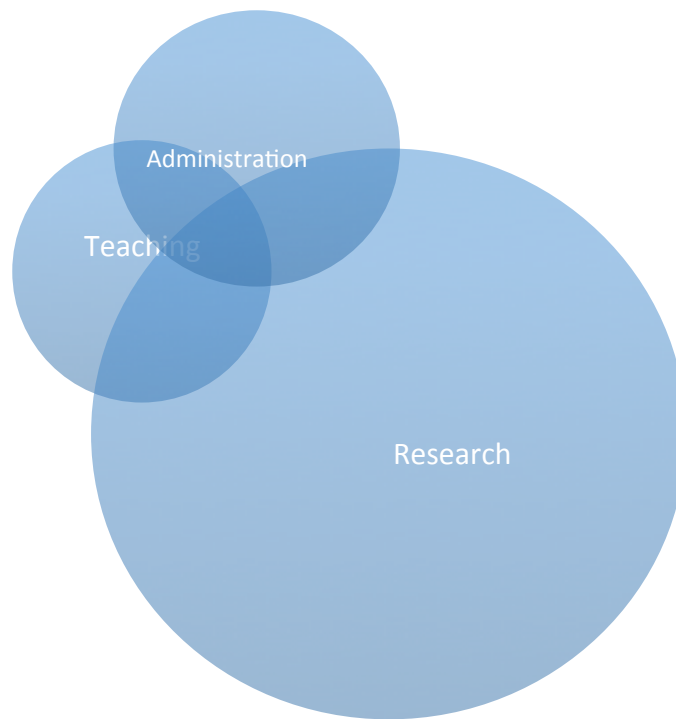


Figure 8: the relation of the teaching role of traditional academics to their other roles.

In the next sections, I move from the discussion of the categories to the more general findings that have emerged from the data concerning dental teachers' perceptions of their teaching role.

4.2 Teaching is fun

Most of the participants in the present study perceive teaching as interesting and enjoyable (Puryer et al., 2015; Davies et al., 2013). Some perceive that this feeling of enjoyment and excitement is related to the interaction with students and the enlightenment that teaching provides:

It's even more interesting because you have that interaction. You know we're all here to help the patient, so they are sort of our prime person, so it's that interaction between patient and students and teacher that's quite interesting. (PTCT13)

Another participant states that teaching is enjoyable because you feel like you are giving something back. Moreover, receiving good feedback from students can be rewarding:

Teaching for me is...um...the main aspect would be, I suppose, I really do enjoy being with the students. Most of them really want to be here. They're interested. They ask questions, and I love seeing them develop and become independent professional people. I think that's a really rewarding thing to do, and I love seeing them right at the start and then, five years later, how they've changed and what they can do. So I enjoy that. I think it's very good for me because it

has made me, I think, good at explaining things. It's made my knowledge clear in my mind because I have to understand it well enough to impart it to other people, and it's made me keep up to date because you—it would be embarrassing not to know your subject well enough. So, therefore, it makes you be good at what you do, I think. That's how it worked for me. Um...may not be the same for everybody, but for me that's the case. (FTCT39)

Dental teachers from all categories experience enjoyment and satisfaction in teaching, and they are motivated to teach their students. However, a lack of financial and career progression can constrain dental teachers, especially part-time clinical teachers, from being fully engaged in teaching. A part-time clinical teacher describes how he/she enjoys teaching and wishes to teach on a full-time basis; however, he/she knows teaching is not financially rewarding.

As my findings suggest, teaching brings many opportunities to dental teachers, and they perceive enjoyment and satisfaction from it. The 'fun' element in teaching could also be related to the effects of changing their practice routine and networking with other practitioners. One of the reasons that dentists enjoy teaching is that its more casual and less structured nature means that it is easier and less stressful than clinical practice (in that it does not require the effort and attention required by clinical practice or research). PTCTs may be having more 'fun' and 'enjoyable' experiences teaching in familiar environments (i.e. the clinics), but are they overlooking the complexity of clinical teaching?

While dental teachers perceive teaching as involving an enjoyable routine of interacting with students and patients, it is important to remember that students (and probably patients) perceive it as a complex and challenging experience (Feather and Fry, 2009; Sweet et al., 2008a). If dental teachers teach only through the lens of their dental identity, the challenging educational aspects of the teaching practice might be overlooked or oversimplified. There is a tendency to underestimate the consequences of not understanding how learning works in complex teaching practices. Moreover, dental teachers may stick to older methods of teaching that involve the teacher and student in a one-to-one relationship (Sweet et al., 2008a). They may perceive teaching as a common sense practice. This view of teaching may prevent the incorporation of new methods of teaching such as problem-based learning (Bleakley et al., 2011). Instead, a simplified one-to-one teaching approach in clinical settings and a transmission mode of teaching through lecture delivery may be adopted, as these are often considered by dental teachers to be common sense practice.

4.3 Teaching is low priority (undervalued)

It was generally found that when dental teachers balance their teaching role with their other roles, teaching sometimes takes a lower priority—especially for clinical academics and hospital consultants. The part-time clinical teachers (PTCTs), however, perform teaching separately from their other duties, so there is no conflict with their other roles. The more separate the roles, the more likely it is that the dental teachers are able to balance their responsibilities. Although teaching and educational leadership are the main roles for full-time clinical teachers (FTCTs), some of them report that they are less likely to identify themselves as dental educators; rather, they identify themselves as clinicians with an interest in education. The dental teachers who have attended a teacher-training programme are more likely to describe themselves as educators. Those who do not have a teaching qualification may perhaps feel that they do not deserve to be called educators. Another possibility is that they perceive teaching to be a latent part of their dental clinical identity.

It is challenging to balance teaching when other roles compete in importance. Some of the clinical academics who participated perceive difficulties in balancing their teaching role with their other roles with respect to management, research and clinical services. They need to fulfil the Trust's requirements, the hospital's requirements with regard to clinical governance and hospital training, and their roles in the school. According to one participant:

A big difficulty in the past was that the value of a clinical academic has really been limited to their research output. That's how a clinical academic is judged. So, more and more, clinical academics are having to concentrate on the research element and less on the teaching and the management. We can't concentrate less on the patient treatment element because we'd lose our consultant status because we wouldn't be fulfilling the requirements of the Trust. OK? So that also explains why the number of clinical academics is smaller than it was, because it's difficult to perform all the tasks that are required. Much easier to be a lab-based academic. And it also explains why most of the teaching load now is with part-time clinical teachers because the measure of quality of the clinical academic is their research output. (CA05)

It might be assumed that developing the alternative clinical academic pathway, with its focus on clinical teaching, has helped to identify and recruit dedicated clinical teachers. However, the development of an identity as teachers and educators can be threatened by the pull towards identifying as dental clinical practitioners. Teaching does not bring promotion opportunities in the same way as other activities such as research. One participant reflects:

Now, if you wanted to teach clinical subjects full-time, it's a dead end job because you can't progress beyond senior clinical teacher. (CA05)

Another participant emphasises how teaching has been given a lower priority:

Now teaching's always been given a lower level of importance here, and I don't think that's going to change unless the students start objecting, and they're beginning to, with the increase in course fees, etc., but I did think it was important to know how to go about it. (CA10)

One participant believes that his/her career trajectory as a clinical academic has decelerated because of his/her involvement in educational development as a result of the general perception that teaching is less important and less valued:

I think one of the challenges that education faces within higher education institutions is that education and the time individuals spend in terms of developing their educational skills and undertaking educational roles is still not fully valued relative to getting a grant or publishing another paper. So, for example, a course which I used to run generates in income to the wider institute £2 million a year. There are very few researchers who bring £2 million a year into grants, and yet education is always just seen as a given rather than a bonus, and so it's meant that people's progression on a teaching ticket has traditionally been much slower and much harder than it has on a research ticket. That happily has to some degree been redressed within [University] in the recent past. (CA08)

The above participant is one of a few participants who described their struggles with their educator roles. Others have found it easier to stick to their primary identity and see their work in education as a marginalised role or responsibility, having 'an interest in education', as one participant describes it. One participant perceives the pressure placed on teaching as a result of the higher priority role of research:

Teaching until fairly recently was the poor relation. It's only the last ten years, I suppose, where teaching has risen up the priority list. You could be a really rubbish teacher and get—bring in grants and you get promoted to professor [coughs]. I don't know, you probably still can if you bring in enough money, but...er...I think the training pressures are difficult. (CA40)

The majority of the participants have chosen to stay on the safe side by sticking to their primary identity as a clinician or clinical academic. They perceive teaching and education as an operational part of their role that is undervalued in comparison with their other roles in clinical services and research. The main consequence of the increase in responsibilities and complexity is a lack of time for teaching:

The biggest challenge is making sure you get the teacher with the appropriate dedicated time to the group of students, and that doesn't always happen. (CA03)

Being a committed educator can undermine dentists' other primary roles with respect to research and clinical services. The perception of fixed identity and clear career progression are what make dental teachers stick to their primary roles as identity. Clinical academics and hospital clinical teachers identify teaching as a part of their job that takes up time; they have to do this part of the job, but it is not their primary role. Their primary role is in clinical services or research. They do not see any separation between their teaching and other primary roles.

4.4 The positioning of dental educators

Clinical academics have always played the role of educators in dental education. However, with the increased pressure on clinical academics, they have delegated many of their educator responsibilities to FTCTs. There is a perception that 'dental educator' is not a favourable title for dental teachers, as illustrated by this participant:

I'm terrified for it. I think the drivers in universities almost work at every stage against clinical academics. The traditional clinical academic who does teaching and research together and has a clinical commitment. And we have, I think we have a huge problem here, but I think it's also a problem in many other places where the universities say, 'well if you're not doing this much research we're going to call you a, you know, dental educator only', and then as a career structure that becomes much less popular, partly because people who may only teach find it much harder to get promoted. And the different kind of walls with barriers we put in front of people are really difficult. (CA42)

Theoretically, new dental teachers should feel challenged by starting teaching, especially in the case of part-time clinical teachers who came to teaching late in their careers after years of clinical practice. However, this is not happening. This could be related to whether they position themselves as 'subject specialists' or 'experts' in chairside teaching (Sweet et al., 2008a).

My findings suggest that there is a group of clinical academics who have an interest in the scholarship of teaching and learning. However, they have a negative perception towards being identified by this, as they feel that it might suggest that they are not producing enough research to be a clinical academic. This is why most clinical academics develop an interest in educational development and research after they became professors. This suggests that there is a resistance to being identified by the term 'dental educator'.

Some clinical academics do show an interest in dental education as a role; however, the educator identity is latent in their clinical academic role. There is a tendency in the dental community to fail to acknowledge the role of teacher or educator as something with which to identify. This can be attributed to the self-imposed status of dental educators, who identify themselves as clinical academics or clinicians but not as educators. The educator role tends to be a temporary role that they play, or one that takes up part of their job but with which they do not identify professionally. If one assumes that dental education is a community of practising dental teachers and educators, who is central to this community? Clinical academics can act as

dental educators (Bleakley et al., 2011), but if clinical academics are in decline, alternative clinical academics must be enabled to fill these positions. Majority of the participants maintain single identities. The traditional clinical academics show a strong, singular academic identity as clinical academics. The other participants, including FTCTs, identify as clinicians. Their teaching identity appears to be latent and marginalised in their primary identity.

Conclusion

In this chapter, I have presented the findings that answer the research question: How do dental teachers perceive their teaching role? My analysis suggests that dental teachers in different categories perceive their teaching role in different ways. The teaching role is separate for part-time clinical teachers but diffuse for clinical academics and hospital clinical teachers. The teaching identity is a latent part of their primary identity as either a clinician or clinical academic.

The majority of the participants perceive teaching as enjoyable and fun. This can be due to the element of interaction with students and other colleagues. However, this means that the complexities of educational practice can be overlooked. Teaching can be seen as a low priority when it is competing with other roles. This low-priority status can lead to teaching being confined to an operational level. This can result in teaching being restricted to common sense practice.

Teaching is largely given by part-time clinical practitioners in undergraduate education and by HCTs in postgraduate teaching. Although the length of the clinical academic trajectory is not attractive, the identity and pathway of clinical academics is clearer than the alternative clinical academic pathways. However, the educator identity is more likely latent within the professional identity. The findings suggest that dental teachers who attended teacher training are usually more likely to identify themselves as educators, but they are still attached above all to their clinician or clinical academic identity. They hold on to their identities as a practitioner they do build new latent and possibly marginalised identity as clinical teachers. The clinical academic identity is the most established identity in dental education. PTCTs have a greater focus on

teaching than other dental teachers because of the separation of their teaching role. They add a great deal to chairside teaching; however, they are the least trained in teaching and are less likely get promoted. Because of hierarchical restrictions, they are less likely to be able to influence changes in teaching and education.

Chapter 5 Conceptions of Effective Teaching

I think it's harder to be an effective teacher, say if you're lecturing because some people who are attending the lecture may not necessarily be engaged or they may fall asleep or whatever it is. And so therefore I think you almost have to have different skills to engage the audience, whereas I do think on the clinic it's trainee led that, you know, they come to you and you help them. (HCT37)

In the previous chapter, I explored how dental teachers perceived their role in dental education. I identified how dental teachers enjoy teaching; however, teaching competes with other identities and roles and may rate lower on an individual's priority list. In addition, findings in the previous chapter suggest tensions in the development of an educator identity. Understanding different conceptions of effective dental teaching helps in the identification of these tensions as well as opportunities for the development of professional identities in teaching and learning in dental education.

In this chapter, I explore data from interviews with dental teachers, using a thematic approach to examine their conceptions of effective teaching in dental education. I will attempt to answer the following research question:

-How do dental teachers understand effective teaching? How do their professional identities influence their conceptions of teaching?

Dental education involves different settings—from lectures, seminars and simulations to clinical chairside teaching. In this chapter, I highlight the differences in the conceptions of dental teachers in relation to these settings. The analysis shows variations among dental teachers in terms of their understanding of effective teaching. However, common themes were found among some particular settings.

The next section includes dental teachers' conceptions of effective teaching in conventional settings, such as lecturing, tutorials and seminars, and examines which strategies they use in accordance with their conception.

5.1 Conceptions of effective teaching

This section contains the themes of dental teachers' understanding of effective teaching in dental education. Each theme has implications in terms of how teachers understand effective teaching and the way in which learning occurs. There are variations in how dental teachers understand their roles as teachers. However, there are some common themes among dental teachers.

This section focuses on the general conception of effective teaching with particular attention given to lectures, seminars and tutorials. These teaching settings may encourage conceptions of teaching that are different from those obtained from chairside teaching:

The conventional one-hour lecture frequently represents a rigidly teacher-centred conception of teaching and learning. (Ramsden, 2003: 147)

The physical design of a lecture theatre and teaching space, as well as the time slot of the lecture, are characteristic of the teacher-focused approach (Prosser and Trigwell, 1999). However, some dental teachers expressed ways to challenge the status quo and adopt more student-centred approaches to teaching and learning in formal lecturing spaces.

5.1.1 An effective teacher is a good performer

Within this theme, the dental teachers defined their role as the deliverer of content to students. Their focus is on their role in transferring information (Prosser and Trigwell, 1999; Ramsden, 2003). The teacher is the source of information and instructions, while the students are the passive recipients of knowledge. As they are the source of knowledge and skills, this represents authoritative transmission of knowledge from the teachers to the students. The core feature of this theme is that the teacher is seen as the person in charge of the students' learning. The teacher is the knowledgeable party, and the basic assumption is that knowledge as well as experience is to be transmitted from the teacher to the student. The corresponding role of the student may be assumed to be the individual acquiring the knowledge provided by the teacher. This means that the knowledge and skills of the teacher in the topic he or she is

teaching are the most important aspects of being an effective teacher. This is illustrated in the following from one of the participants:

I think to have competence in the subject you're teaching; that's the most important thing. (CA40)

Within this theme, the dental teachers were more concerned with content delivery, and they focus on their role as performers or presenters. When elaborating on what is important to him/her as a teacher, one participant highlighted his/her role as a presenter, which indicates that it is the presentation of the lecture materials that matters:

I mean putting too much information, using colours that don't contrast enough. I mean it's amazing the number of people that give presentations and they'll put light green letters on a white background, for example, people halfway back that can't see, and you think well 'no you've got to have contrasting colours', even to the tune of not putting the lights down, you know, having bright lights shining onto the screen, you know, why don't you put the lights down. I do that now, just whoever's speaking I'll go to the light controls and put them down if they don't do it themselves. (CA40)

Another participant perceives teaching to be similar to conference presentations:

When I go to conferences I suppose there are people that I think are very good lecturing and I try and work out why they're good. (HCT30)

Some of these participants discussed issues of delivery, and their adaptation to students' feedback mainly involves changing the methods of delivery to adapt to new information technology or using humour to keep the audience engaged. Here are examples from participants who bring fun to their lectures:

I would say that in some people, but not necessarily me, humour can be quite a good way of getting through to some people. (CA06)

I mean it isn't difficult to teach students. You have to be kind, persistent, careful, and have a sense of humour. (CA07)

These comments indicate a focus on injecting more fun into their presentations as many students appreciate that approach. Although humour may help students to engage with the contents delivered by the lecturer, it does not necessarily lead to learning.

According to this theme, engagement by, for example, responding to questions from students, using modern technology for communication or updating the course materials are actions that are characteristic of an effective teacher.

The strategies that teachers use under this theme focus on methods of delivery and presentation. Here, a participant explains his/her strategy to improve his/her teaching practice:

Setting your objectives for a lecture, not putting too much information in, you know, trying to lighten the burden by being humorous from time to time, and a little bit of anecdote here and there. (CA40)

Another participant emphasised that being a good public speaker and presenter is important to effective teaching:

You need to get people to be able to speak in public fairly well, to be able to present well. Those are important considerations. (CA01)

In addition, there is a great deal of emphasis on the teacher's character, confidence and passion for the subject for effectiveness in his/her teaching role:

But I think being confident is a big plus for the way I teach. I always joke that being a professor means that you are comfortable saying I've no idea, I don't know. (CA42)

Bleakly *et al.* (2011) criticises the belief of effective teaching based on charisma: '...just because certain charismatic individuals give brilliant lectures that mesmerize their students, this does not mean that the lecture mode is a mesmerizing way to educate' (Bleakley et al., 2011: 44).

For dental teachers who base their understanding of teaching under this theme, the main constraints to being effective are the technical issues that may be encountered during the delivery of information:

To a degree. It would help if there was more administrative support and teaching support for my IT skills, so I'm able to add all the various aspects of IT modules together to make an attractive module, but at the moment for example if I do a lecture with a video link, there's very limited support we get. (CA03)

There is some belief among these teachers that presentation of information to students is important for learning to occur. Thus, within this theme, knowledge of the subject and performance are key skills. Moreover, if learning does not occur, the blame might be placed on students or the ICT services.

5.1.2 An effective teacher reacts to students' feedback

Within this theme, the focus moves from the teacher to the students. Here, dental teachers focus on engaging students in the learning process by encouraging them to participate and

keeping them busy with activities (Ramsden, 2003). While they still hold authority with regard to the content and have control over the information and knowledge presented, the teachers may adjust their delivery and content according to students' needs after reflecting on student feedback. In fact, under this theme, the teachers are likely to give more attention and respond immediately to students' feedback. They use various strategies to generate feedback, such as asking students to provide it.

In lectures, some teachers might change the content of their course in response to the students' needs and feedback. Being adaptable is one way to handle a lecture when it is difficult to get all students engaged to achieve their learning outcomes. This theme may be described as a student-centred approach; however, in the way I am using it here it is characterised by several limitations. For instance, if the teacher has a discussion with the students to receive feedback on what parts of the curriculum to focus on, the discussion does not typically address the approach of teaching or the level of student involvement. In this scenario, the teacher retains his or her control over the content. It is the responsibility of the teacher to interpret the students' understanding of the content and adapt his or her teaching approach accordingly. The teacher is flexible in presentation and choice of materials, but he or she may not pay attention to the genuine students' learning requirements. The teacher may modify the content based on this interaction, but it largely depends on the teacher's beliefs:

How I modify my teaching is based on the feedback that I've had the previous year. So for example, last year I did a whole day of teaching literally as PowerPoint presentation lectures with a few practical elements and the students wanted more practical. (HCT17)

This participant continued by saying:

Actually it's not really down to me to say whether I've been an effective teacher, it's really an issue for the students that are there. I tend to base what I'm going to say now just on the feedback that I get so I do the MSc study days for [Hospital] and I also do one for the [University] and a lot of our students are overseas students so they've always commented that I speak very slowly and very clearly so that helps them, particularly because it's a lecture based format. They've also felt that the information that they've received has been very relevant and they've commented on the supporting resources for suggested further reading. I also try and make the sessions slightly interactive and try and introduce as many practical elements as possible and that's always had very positive feedback. (HCT17)

The majority of dental teachers fit into this theme. The teacher-training, the movement toward more teaching professionalisation in UK higher education and increased attention to student feedback and needs has led dental teachers to approach their teaching with the learners in

mind. However, they are arguably not giving necessary attention to students' abilities to fully address students' learning needs. Sweet (2011) argued that this teaching approach can be related to the increased focus on learning styles to make teaching more student-centred, since learning styles 'fit comfortably' with the transmission mode. He used Austin's metaphor of a petrol pump, saying that 'some students should be filled up with unleaded, some with unleaded extra, some with diesel and a special few with gas' (Sweet, 2011: 25).

5.1.3 An effective teacher emphasises student learning

Under this theme, the teachers focused on both their teaching delivery and the students' learning (Prosser and Trigwell, 1999; Ramsden, 2003). They understand teaching as a process of student learning and development. The focus of dental teachers is more on learning as a process rather than on exam outcomes or course requirements. Although the majority of dental teachers understand the importance of moving toward a student-centred approach in teaching, only a few emphasised student learning as constructed by students. Participants in this theme perceived their roles as a system or framework of actions and reflections. It is more difficult to differentiate this from the previous theme as teacher–student interactions are involved (Kember, 1997); however, in this theme, the teacher is more concerned about the students' own engagement with the course content in developing their understandings.

This view of teaching as being about student learning is rarely seen among non-trained dental teachers. Many trained dental teachers understand from their teaching training that their role is to facilitate learning. However, this view is more complex, and teachers more deeply reflect on their role in the teaching process. One particular participant emphasised student learning as a process constructed by students with guidance from the teachers. This participant had received intensive teacher training early in his/her career and he/she relates this to the early shift in his/her conceptions of teaching:

The biggest take home message for me back then, and I'm talking about 1998, was that it's not teaching, it's about teaching and learning support and it's more about being a guide rather than the sage on the stage, so over the years I've sort of moved on, you know, using ideas [...] ideas, you know, with activity theory, I don't know if you've come across that? [] theoretical background, a framework that I could, that I thought was useful, I'd apply in my teaching, or use it, use theoretical frameworks to help me improve, develop my own teaching practice. (CA10)

This theme includes a focus on the students and their questions and needs; the teacher allows the students to explore the subject in their own way. The participants emphasised active participation not only in answering questions but also in contributing and asking questions themselves. They highlight the importance of encouraging students' discussions and trying not to force their own perspective. The focus is on 'the bigger picture' and how that can be created. Even though teachers who understand effective teaching in this way do not necessarily assume that all human knowledge is innate, they nevertheless prefer to let the learner make the first attempt to deal with the learning task. The role of the teacher is to support students' learning efforts and to pose critical questions, as opposed to simply providing the answers.

Within this theme, the focus is on involving the students in the construction of their own learning. Under this theme, dental teachers encourage students to learn beyond the lecture and to bring their questions and ideas to the lecture or tutorial:

Get them involved, get the opinions, you know, rather than giving them a lecture, tell them to prepare things and then you discuss it. (PTCT29)

One of the participants described this conception as dialogue, that is, he/she involves the students as a way to construct learning:

For some decades now, my approach is not to stand at the front, look at the set up in this room, the chairs are all arranged facing one direction, it's all telling you to stand at the front and lecture to the students, so whether it's a tutorial or a seminar, the whole physical set up is telling you unidirectional communication, I mean, that's flawed to me! So I always intentionally convert things into a dialogue because it's essential that you can create dialogue, not dialogue solely with me. (CA10)

Depending on the number of students, tutorials can be more resilient than lectures to conceptual change, such as in the above example of a lecturer (CA10) who tries to re-organise the space to accommodate his/her conception of teaching. The teacher took practical action and changed the status quo and the physical environment to follow his/her understanding of the educational process. Figure 9 shows how the class was before the lecturer reordered the chairs to accommodate his/her 'dialogue' teaching approach. These views follow those of educationalists (Ramsden, 2003: 159) who emphasise that large classes need 'skilful organisation':

Interactive large classes require skilful organisation. The lecturer working from a student-focused perspective will often apply strategies that result in lively communication between teacher and students. He or she will always remember, however, that activities in themselves are no guarantee of learning. Lecturers thinking in this way will usually provide very clear

signals to help students appreciate the links and points of separation between parts of the content, and to enable them to disentangle principles from examples. They tend to explain what they are doing and why. (Ramsden, 2003: 159)



Figure 9 How the physical environment imposes a teacher-focused conception of teaching

Summary of themes on conceptions of effective teaching

To summarise my findings on conceptions of effective teaching among dental teachers, there are variations among the understandings of effective teaching, however, only a few of these teachers choose to take unconventional and more innovative approaches to teaching than those used in the common stream in dental education. My findings suggest that dental teachers appreciate their subject knowledge and experience. Within increasingly student-centred higher education systems, dental teachers pay more attention to student feedback and needs. Although many approaches have been introduced in medical and dental education to encourage student-centred learning, such as problem-based learning (Bleakley et al., 2011), the dental teachers perceived some challenges for their application, such as a lack of resources and staff, and budget shortages. These will be further discussed in Section 5.4.

Because of the uniqueness of chairside teaching, the next section discusses the participants' conceptions of effective chairside teaching.

5.2 Conception of effective chairside teaching

Lecturing and chairside teaching may have different aims, even though they have a common larger goal, which is to develop dentists. In lecturing, the aim is to help students learn about the concepts and larger picture of dentistry. In chairside teaching, students develop an understanding of the process of clinical inquiry (e.g. diagnosis and technical and manipulative skills) and learn how to solve clinical problems, and manage and treat patients. In chairside teaching, there must be a connection between clinical and theoretical concepts. Professional and ethical values and the ability to work within a team, which are difficult to teach through lecture alone, are all demonstrated in clinical settings. Learning how to communicate with patients is one of the key skills in dental education. In this section, the themes that emerged on the understanding of the characteristics of an effective clinical teacher as perceived by the participants are presented.

5.2.1 An effective clinical teacher shares his or her experience and knowledge

Teaching for me is primarily about passing on what I've learnt in my career so far, and perhaps helping someone else not have to go the long way round solving problems that I've solved for myself in the past. (PTCT31)

This understanding of teaching is based on an interpretation of the teacher's role as someone who explains to students what is going on, what they should do and what they should learn (Prosser and Trigwell, 1999; Ramsden, 2003). Within this theme, dental teachers place more emphasis on sharing their knowledge as instructions, techniques, tips, and strategies. Information may be provided to the students as demonstrations of clinical activities, and ongoing clinical advice and tips are suggested as motivating factors. The following participant emphasised the need to share knowledge and instruction with their students:

What is teaching? Um... it's passing on I think here in this environment our knowledge. Not so much academic teaching, but our knowledge as practitioners. So we're helping the students clinically manage their patients. Showing them things that work, guiding them through. That to me is passing on our knowledge and experience, and giving them a little bit more confidence. That's how I see my teaching role here. I think, you know, there's a wealth of knowledge out

there that people have, and it's passing that on that is the real benefit of teaching, certainly in this institute here. (PTCT34)

Under this theme, dental teachers placed a great deal of emphasis on sharing their experience with students:

I like to think, you know, much of what I share with my students is helpful to them all day every day. (PTCT33)

Another participant described this as additional experience to students' academic knowledge:

I'm giving them sort of added experience and teaching on top of the formal academic teaching that they receive. (PTCT34)

One participant emphasis the significance of the amount of learning in every session:

No, just making sure that you want the students to learn as much as possible at each session. (HCT41)

For these dental teachers, teaching is about providing instructions and techniques:

For me as a clinician, most of the teaching I do is very practical, so it's about teaching others techniques, it's about teaching behaviour management strategies, with the aim that they will go off and use these techniques and then continue developing. (HCT17)

Non-trained dental teachers are more likely to describe their teaching role in this way:

Oh what is teaching for me. In ways I think what teach – because I'm a clinical teacher, okay, so I think there's a different sort of teaching; I'm talking about being a clinical teacher. And I think what it's imparting knowledge and skills to the clinical trainee to make – so that they competently treat the patients, competently and confidently treat the patients. (HCT37)

In all these examples, dental teachers understand teaching as imparting their accumulated knowledge or experience to students. This emphasis on the subject knowledge and experience they have and want to share with their students was described by Sweet (2008a):

They appeared to consider themselves most clearly as subject specialists or experienced practitioners and think of teaching as a process of passing on knowledge and students learning by receiving it. Alternatively, they see themselves as experts showing students how to do things, treating them like apprentices. (Sweet et al., 2008a: 500)

In this theme, dental teachers consider students to be apprentices that learn by role modelling (Pratt, 1998). Two participants used the metaphor 'show and do' to describe their teaching approach:

I could have spoken about it for hours but to actually show and do, and then the student took it over, and we've had a successful outcome. (PTCT34)

The problem with teaching dentistry, especially clinical dentistry, it's so different from other forms of teaching, you know, it's, there is a real show and do element about it, which by definition tends to be a bit didactic. (PTCT22)

In addition to their clinical experience and knowledge, dental teachers also value their communication skills. In the next example, a participant used the metaphor of students as patients, in which the focus is on communication skills. He/she uses the same communication skills to communicate with students as he/she uses with his/her patients:

I like to think of myself as a good communicator because I've had to do that in my practice. The practice has been successful. I think a lot of that in any healthcare is communication with the patient, not necessarily what you do with your hands, although that obviously is quite important. So it's passing on those skills which I think I'm able to do. A combination of talking and showing, and also listening because that's very important to listen to the students' concerns, and engage with them. (PTCT34)

The understanding of teaching in this way focuses on dental teachers as the source of knowledge and skills and the students as recipients of this knowledge. This resembles Pratt's perception teaching models of apprenticeship and transmission (Pratt, 1998), as he noted that these models have traditionally been the most common models of teaching in medicine and dentistry. As Sweet emphasised (2011: 202-203), 'The apprenticeship perception represents the status quo' in dental education. Dental teachers see themselves at the 'centre of the discipline' and the 'guardians of the subject' (Sweet, 2011: 323).

5.2.2 An effective clinical teacher guides students through clinical sessions

Under this theme, the teacher ensures that the students engage in the activities and do all the work required for the learning process (Ramsden, 2003). Some teaching settings, such as in clinical teaching, facilitate this type of teaching, in which dental teachers supervise their students in the clinical area, and each student works in a cubicle on a live patient. The clinical teacher ensures the student has a patient and everything he/she needs to work on that patient. This kind of teaching is not about giving instructions; rather, it is about tailoring the teaching to the needs of both the student and the patient. Even though the focus here is on students, there is also attention given to accomplishing the work required to pass exams or fulfil qualification requirements.

Possibly influenced by the current increased emphasis on student-focused approaches in higher education, the majority of dental teachers fit into this theme. This theme is a modified

apprenticeship where more of the teaching is tailored to student activities and satisfying training requirements.

This understanding of clinical teaching involves a teacher being a role model for students. This role modelling may include everything from greeting the patient to treatment procedures. It also includes bringing the students along, both in action and thought, in all aspects of the profession:

It's about being a role model because I think they observe the way that the senior clinician works with the patients themselves. So it's all that sort of thing and then it's about giving them very targeted, pinpointed and frequent feedback as soon as they need it. (PTCT13)

The focus is on the students' needs for training. Within this theme, dental teachers ensure that students are doing all the required activities to be competent clinicians. They follow GDC guidelines to ensure that students are prepared for examinations and meet the requirements of the GDC. Within this theme, the teachers may seek to understand their students, but they do not necessarily involve them in constructing the learning content:

I think it's the speed at which you identify the learning style of the student and that will vary along different tasks and stuff and I think once you identify that quickly you can cater your teaching specifically to that student and I think that's what makes it more effective. (PTCT15)

Clinical teachers in this theme feel effective by understanding and adapting to different learning styles, and keeping their students busy and engaged in all clinical aspects of the profession.

5.2.3 An effective clinical teacher nurtures students into confident learners

Under this theme, teaching is student-centred with a great deal of emphasis on 'nurturing' (Pratt, 1998). This can be accomplished by boosting students' confidence, and encouraging them with a full package of mental and emotional support which will help students to develop into professionals, as in this example:

It wasn't just telling them what to do, it was also making them mentally prepared and have the confidence to do something quite alien and to effectively, you know, become young professionals in a few months..... I love seeing them develop and become independent professional people. (FTCT39)

Another approach these teachers utilise is placing themselves in their students' position, a strategy that is particularly common among young dental teachers:

I'm still young so everything is still fresh in my mind and I empathise with postgraduates because it was only like yesterday that I did my exams. So it was only 5 years ago that I did my exams. So it's still fresh in my mind. (HCT8)

Nurturing students involves all aspects of preparing both the students and the environment for optimal learning. The focus here is not only interacting with students, it is also on the students' wellbeing in the teaching environment.

As I was saying that I do remember quite vividly how difficult life was for me with being a student and so I think that when I'm being an effective teacher I'm always putting myself in the position of the student and I always like to think that I'm making a connection, a specific connection with every single one of the students. (FTCT11)

Some teachers under this theme understand the value of helping students to develop by preparing the learning environment, which may involve getting to know each student and boosting their confidence.

Preparing students emotionally may involve ensuring equality and diversity, not only in terms of different ethnic groups but also in regard to age and personalities, so that everyone feels included. To emphasise his/her role in providing an effective environment for learning, this dental teacher described his/her approach for putting students at ease:

Very often people say to me 'what is your role, what is your role, what do you do here?' and if students ask me that one of the things I say to them is 'my job is to make your life as stress free as possible' and so in that way I feel that I connect and I can be incredibly effective as a teacher because then everything else follows. (FTCT11)

Under this theme, it is important for dental teachers to not only prepare their students for success but also to prepare them for failure. In dental education, most students are bright and successful and some may have never experienced failure. Thus, preparing them to fail can be an important aspect of their education:

But in a way that's always been to my advantage being what I sometimes label myself as a bog average student because I've failed, I have failed and I know what it's like to fail and that enables me to help my students who don't fail, they've never failed and when they do fail it comes as a horrendous – it's traumatic for them. So I can understand and help them understand that it's actually sometimes you have to fail to be able to really get back on track and recalibrate yourself and do it in a better way or an alternative way. (FTCT11)

In the next example, the teacher illustrates how he/she deals with students' poor performance:

A student who was not performing well and who I had to deliver some feedback to try and tackle the fact that that individual was performing poorly. To help them analyse where they were performing poorly and help them understand what they needed to do to improve and then to ensure that in subsequent weeks they got the support to make sure they did. (CA06)

Under this theme, dental teachers appreciated interpersonal values such as being approachable, patient, and a good listener. These dental teachers also try to show enthusiasm and encourage their students.

I still passionately believe that the most important criterion for good teaching and good learning is enthusiasm, enthusiasm on both sides, but if you haven't got an enthusiastic teacher even if they don't know everything if they're not enthusiastic that dumbs down the potential for learning and if I look back now, the easiest and best learning I ever did was from teachers in a subject that gave me enthusiasm, even though they might have been the brightest thing since slice bread. Without that drive and enthusiasm, that desire it's never as good as it might be and I struggle sometimes to get that enthusiasm into staff. If you don't want to come in the morning to work with your students don't because I'd rather not have you because that's no good to me. You've got to walk in every day wanting to be there, and as soon as you lose that, you should leave. (CA02)

The majority of teaching trained participants fit into theme 2 and theme 3; this can be attributed to the movement toward student-centredness in higher education. The teachers moved from information transmission approaches to one of nurturing (Sweet, 2011).

5.2.4 An effective clinical teacher helps students to develop understanding

Under this theme, participants take a further step towards students-centredness and aim for students' development as critical clinicians (Prosser and Trigwell, 1999; Ramsden, 2003). Therefore, they spend more time with students briefing, debriefing, discussing and reflecting. There is less focus on clinical skills and more on developing understanding. In the following example, the dental teacher encourages students to think and make decisions by presenting them with options rather than telling them what they need to do:

Normally – well I think it's good – I don't tell them what to do, I give them options. I give them several options. Some other teachers, they just make it – I think, it's just an opinion – some other clinical teachers, I think they make it too easy because they tell them 'this is what it is and this is what you should do and just do it'. (PTCT14)

Here is another example of a teacher who chooses not to give direct information or instructions to students, instead allowing them to develop their skills as independent clinicians:

When you're teaching, it's not about just giving information, it's also about you helping your students to develop. (PTCT25)

Within this theme, the dental teachers focus on their students' ability to develop. They understand that student development is affected by things beyond the information or instructions provided by teachers. Under this theme, teachers resemble the type of dental teacher Sweet *et al.* (2008b) described as 'educational developers' who are keen on changing and developing chairside teaching.

At its core, this theme holds that students are strengthened and develop through feedback and reflection on their work. By spending more time on reflection and discussion after seeing a patient rather than strictly focusing on clinical skills, one clinical teacher thought he/she could help students create a good platform where they feel secure in their professional ability, both mentally and in regard to their clinical skills. This notion of an effective clinical teacher seems to include a more comprehensive picture of what teaching is about and what to focus on, whether it is becoming a better person or always keeping what is best for the patient in mind, rather than detailed knowledge or skills. In this section, I use quotes from a participant who provides a great deal of detail about his/her approach to teaching; he/she encourages students to be involved in their own development:

So negotiating aims and goals I think is what I'm doing, but I still have to get them to a certain level in time for the assessments, yeah, so you are under pressure to do things in a timely fashion and I think I'm very efficient because of my approach, it's rigorous, you know, they don't find me easy because it's, you know, constantly challenging them, asking them why is this instrument designed like that, why has it got a curve there, because they won't find this in textbooks, you know, it's all sanitised material in textbooks. (CA10)

Challenging students by asking them questions is a way to help them think and approach subjects with an open mind rather than simply memorising and taking facts for granted. The same participant added:

I want them to have the opportunity to rehearse and develop their understanding of the subject. (CA10)

Dental teachers in this theme also develop strategies to help students understand their subjects:

So I tell them the complexity right from the beginning and just take a bit and focus on that bit asking them to appreciate that it's much more complex and we'll come back to things and you need to keep revisiting things again and again to develop your understanding, so not about acquiring an understand, it's about developing understanding. (CA10)

This participant went on to say:

I'm asking them to look at these things from multiple perspectives and gain insight from the different perspectives that they have and the different perspectives can come not only from one student but other students sharing their own perspectives, so I'm trying to remove myself. (CA10)

In the quote above, the participant encourages peer learning; this approach appeared to be mutual among teaching-trained dental teachers and is in line with Sweet *et al.*'s findings as they explained:

Only the two tutors with formal training in education favoured peer learning and collaborative teaching. This appeared to be based on how they valued the time spent on their postgraduate education courses, where they reported that networking with other colleagues on the course and across disciplines, was as equally important for their development as the taught elements. (Sweet et al., 2008a: 502)

Although I agree with Sweet's findings that trained dental teachers value peer learning, I believe that networking and peer learning is innate in the dental profession and this is how they develop their dental practice knowledge. Because of the isolating nature of dental clinical practice, dental professionals seek every opportunity to communicate with their peers and share their clinical knowledge and experiences. However, the majority of participants tended not to encourage it in their teaching practice because of the common conceptions of teaching in dental education that position the dental teacher as 'the guardian of the subject' (Sweet, 2011).

Based on students' understanding, dental teachers may challenge their understanding of activities by questioning their chosen technique or method in the clinic. This will encourage students to ask 'why' at every step they take in their practice. Here is an example of a dental teacher who seeks answers from students with regard to their way of ordering their instruments prior to clinical procedures:

I don't make any assumptions of what they know, I actively seek confirmation that it is known and they can do it before I complicate the picture, so if I see that they've arranged their instruments in some order [...]. So I'll be looking at how they're handling those instruments and so I give them a little task. (CA10)

Under this theme, dental teachers are more likely to reflect on their roles. They will consider the outcomes and think about what makes a good dentist. This may mean helping the students pass exams, meet the qualification requirements of the GDC or achieve a high score on the national student survey. Whatever form this takes, under this theme, helping students to develop into independent dentists who are problem solvers and life-long learners is the main aim of dental teachers.

5.3 Discussion and further challenges

In summary, dental teachers vary in their conceptions of teaching. Sweet *et al.* (2008b: 568) suggests that there are variations in the approaches to chairside teaching among dental teachers depending on 'their background and current teaching and practising position'.

However, the findings of the current study suggest that conceptions of teaching vary among dental teachers based on their educational training. These findings indicate that dental teachers who have been trained to teach are more likely to perceive a more student-centred understanding of teaching.

The themes that I have used in this research overlap in different settings, and they provide insight into how dental teachers understand effective teaching in different settings. As perceived by participants, certain teaching formats encourage certain conceptions of teaching (Stenfors-Hayes et al., 2011; Ashwin et al., 2015). For example, lecturing encourages a teacher-focused conception of teaching (Ramsden, 2003). On the other hand, clinical teaching, particularly in clinical chairside education, is more centred on students' activities in the clinic, which encourages teacher–student interactions (Kember, 1997). Sweet and Ellaway (2010) found that providing a context through a 'reusable learning object', in which the students designed their own learning activities with their peers, helped dental teachers develop their teaching from the role of instructor to the role of facilitator.

So although the context of teaching greatly affects dental teachers' approaches to teaching, trained teachers are more likely to develop student-centred approaches in spite of the context. The ability of dental teachers to focus on student learning therefore greatly depends on the development of their educational skills in managing challenging and complex teaching contexts.

The combination of limited resources, the decline of clinical academics and the increase in the number of students, has resulted in lectures remaining as the main teaching method. Although physical settings can be restrictive to student-focused teaching, trained dental educators can modify the environment and apply their knowledge of education to improve teaching settings.

In clinical dental teaching, it could be argued that effectiveness is mainly about the sharing of knowledge and accumulated experiences with students. As a small profession, the members of

the dental community assign a great deal of importance to networking and sharing; this is particularly obvious among dental practitioners. Dental teachers use strategies learned within their profession to communicate both with patients and students. My findings show that non-trained dental teachers are inclined to use their dental professional knowledge and experiences when they are teaching. They understand teaching in ways similar to their practice: e.g. communicating with the student in a way similar to a patient, viewing the student as an apprentice, or as a junior colleague. They use metaphors such as 'show and do' and 'sharing' to describe teaching. Trained dental teachers are more likely to take nurturing approaches to teaching. However, few of them show an emphasis on student-learning as a main outcome.

5.4 Challenges to effective teaching

This section highlights participants' perceived challenges to being effective in their teaching roles. These challenges can be classified at different levels: institutional, individual and practice-related.

5.4.1 Challenges at the institutional level

The complexity of chairside teaching in a clinical setting is a great challenge for effective teaching. One of the main challenges perceived by participants is that of clinic organisation, ensuring that all the stakeholders are in order so that effective clinical teaching can occur. Any deficiency in clinical organisation may lead to a shortage of patients or staff, which could disrupt a smooth teaching flow.

So that would, I say, probably be one of the bigger constraints in the clinic, apart from all the usual logistical stuff like actually getting patients booked, like having enough staff and not running around doing other things at the last minute.... There are always logistical and administrative issues, particularly in the clinic. We are very dependent on, in clinical teaching, patients turning up. (CA06)

The availability of suitable patients for chairside teaching is important, and this requires careful organisation on the parts of both the school and the students:

Clinical teaching is based on basically clinical work. So there's limitations. So if it's not organised very well from the school level and if there are no patients to teach, which unfortunately happens quite often. (PTCT14)

if we think of the fact that students need to do a certain amount of treatment of certain conditions in order to satisfy the requirements. Well we spend a lot of our time chasing and

finding patients and helping the students who leave everything to the last minute, and we don't actually spend enough time with the students who have got everything done well in advance. (FTCT39)

Dental teachers perceived a lack of consistency in chairside teaching sessions as one of the constraints to effective teaching. Students may get mixed messages in their treatment plan or on their progress with a procedure:

Having lots of different people teaching in lots of different ways, all different groups in one year means that students often are told things that are nonsense by other members of staff. So having a consistent message, a consistent direction would be very useful. (CA01)

For hospital dental teachers, clinical output takes priority when it comes to budget shortages:

Unfortunately with the financial current climate, clinical output and how many patients we see, I feel is overtaking teaching, and therefore at the moment I don't feel that they give us enough time to teach if I'm honest. (HCT30)

Although budget is a serious constraint for some, with others acknowledging that they manage to overcome the limitation:

Finance is something of a constraint but we've always managed to get the money together to develop programmes that we felt were of value. (CA05)

Lack of effective administrative and information technology systems is considered one of the shared constraints, especially among clinical academics:

Well we need decent IT systems, not the dreadful [...] system. We need something other than wretched [...], which is useless. We need proper support for the things that actually require real IT support, not the rubbish IT support we have and we need to be facilitators as much as possible to put scenarios and questions and everything else on. (CA01)

Some dental teachers, particularly part-time clinical teachers, perceived some of the constraints to be the hierarchy at the institutional and deanery levels, as illustrated in this example:

The VT [Vocational training is the post-qualification dental foundation training] sort of teaching, so dentists and stuff, so this is probably the biggest barrier because with, for example we're trying to get into the – as a VT trainer there's a lot of barriers for that because of it's probably seen to be politics within the actual Deanery and stuff and I find that this is something recently I've come across and I think that's really the most challenging thing because there's not a lot you can do about it. (PTCT15)

In summary, the different aspects of clinic organisation are the biggest challenge perceived by dental teachers in clinical teaching. Budget constraints and a lack of resources within the school can influence dental teachers effectiveness.

5.4.2 Challenges at the individual level

On the individual level, one of the issues in dental education is explaining the requisite skills. Teachers' skills are internalised and difficult to explain to students in plain words. Trying to make an experience relevant to them is a great challenge:

You've got to understand what the students want from what you're doing so you try to make it relevant to them. (CA02)

I found a similar perception of internalised clinical knowledge in the literature:

I found that being able to do periodontology was no help when it came to teaching it, and I had to work really hard at not only the theory of periodontology, but also the application of that theory and how the two linked. I found teaching a tremendous help in not only improving my own treatment of patients, but also my confidence in what I was doing. However, the saying remains — so I would like to look at it from inside out, because I feel doing so reveals a little-appreciated danger for people when it comes to postgraduate and practice training. (Grace, 2004: 375)

Although sharing accumulating clinical experience and knowledge is a challenge for some dental teachers, they find teaching an opportunity to sharpen their knowledge of and experience with the subject, as explained in the previous chapter.

There is a challenge in bridging the gap between dental education and practice. A participant highlighted the challenge of preparing students for practice:

The gap between when they finish from here and they go into general practice. There's a very sort of woolly, vague area between when they finish and when they go into the real world. (FTCT11)

Other challenges include the presence of patients and how to maintain their interest in being treated by students. In addition, there are the conflicting needs of students, patients and trust. Dental education is similar to other practice-based education like medicine in its complexity; however, dental education is further challenged by students being involved directly in caring for patients with permanent treatments.

5.4.3 Opportunities for Innovation and Tensions against change

The majority of dental teachers experienced opportunities for innovation in their teaching practice. There is some resistance to moving from the transmission mode of teaching; participants ascribed this to reasons such as a lack of resources and inadequate staff numbers:

Are we wrong therefore in still giving them lectures? Interesting point. For example, should we be giving them more tutorials? They would like that but they're incredibly time-consuming and we haven't got enough staff so another limitation is the fact that we haven't got enough staff to teach them in the way that they would like it, so they're going to have to accept that some subjects and some material will have to be done in lectures because it's a very cheap way of throwing information at students. (CA02)

The same participant related this not only to resources but also to conservatism within the profession:

The hardest part is getting people to go along with you because there's a major conservatism within particularly the profession of dentistry which says if it's worked for 50 years, why change it? (CA02)

One participant perceived resistance within the profession for a change toward student-centred learning approaches:

We don't believe in learning, we believe in teaching. We tell them what to think and then we're very disappointed when they don't know what they're doing. Especially in dentistry, which is not the most intellectually rigorous. You just need to be able to solve a few problems and learn some manual skills and apply them and work out whether it's a good job or not so good a job. It's not very – you do need a problem solving brain but you don't need to be Einstein. It's just dentistry. (CA01)

Another participant perceived this as the status quo in dental education and it is difficult to change:

We were still learning the same way as we had done in the middle ages. We had medieval methods of teaching. You'd go into a lecture theatre in medieval times you'd immediately know where you were.... The problem comes in trying to change from as I mentioned earlier this medieval methods of practice into a contemporary education which is very much a student being self-reliant and an autonomous learner. (CA04)

This perceived reluctance to change can be because teaching was given lower priority in comparison with other roles:

Now teaching's always been given a lower level of importance here and I don't think that's going to change unless the students start objecting, and they're beginning to with the increase in course fees, etc. (CA10)

In a commentary on this resistance to change in dental education, Sweet *et al.* (2008a) said that only slight educational innovations that have been achieved in higher education have reached the field of dental education and they reasoned that this is due to the complexity of chairside clinical teaching, which depends on an apprenticeship relationship between the tutor and the student (Sweet, 2011).

Conclusion

It became clear through this research that apprenticeship and transmission models of teaching are the status quo in dental education; and changing the system will require a great deal of effort as dental teachers tend to adhere to the comfort of their existing identity. However, participants perceived changes in their conceptions depending on the settings in which they were teaching. For example, some dental teachers believe that it is difficult to open a discussion in a lecture because of the large number of students, although they encourage discussion during clinical sessions.

There were variations in perceptions of teaching because the settings are diverse. In lecturing, the main mode of teaching is teacher-focused transmission. Some participants in the study said that they experienced a break from the status quo with some difficulty. Although there is increased emphasis on student-centred approaches in dental education, the focus has moved more to the nurturing of students as a form of teaching. Chairside teaching tends to be more student-centred because it is more focused on students' activities. Non-trained dental teachers show more of an affinity for transmission, apprenticeships and role modelling, whereas trained dental teachers understand nurturing as part of teaching (Pratt, 1992; Pratt, 1998). The use of professional values and skills in teaching suggests the strong and familiar identity that dental teachers have toward their profession.

The findings in the present study suggest that dental teachers value their practice knowledge and their interpersonal skills. They believe that they developed these values in their dental practice and they understand that these values are what helps them conduct effective chairside teaching. Therefore, they share their knowledge and their communication skills with their students.

Many challenges are perceived in changing dental teaching practice in light of the tendency towards professional conservatism. Participants perceived other challenges at both individual

and institutional levels which highlight the complexity of dental education and chairside teaching in particular.

Chapter 6 Professional Development as a Dental Teacher:

Approaches and Challenges

It's useful to know the rules and regulations that you have to cover as well, but I don't necessarily think you can teach somebody how to teach. (HCT36)

In previous chapters, I presented my findings on how dental teachers perceive their teaching role and how they understand teaching. My findings suggest that dental teachers give their teaching role a lower priority than other roles. Furthermore, balancing different roles is shown to be a challenging task for participants. Consequently, it could be argued that fostering consistent professional development in all roles is even more challenging.

Dental teachers play multiple roles within their communities. Their professional registration with the GDC is paramount, and they are required to fulfil this registration. Dental teachers also have minimum CPD requirements; for example, they must attend at least 250 hours of CPD every five years (General Dental Council, 2013). Other CPD activities cover other roles (e.g. research) or specific teaching areas (e.g. assessment). Finally, teaching training is now recommended for all university teachers, and dental teachers are no exception.

The calls to professionalise teaching in higher education come mainly from within higher education institutes:

We recommend that institutions of higher education begin immediately to develop or seek access to programmes for teacher training of their staff, if they do not have them, and that all institutions seek national accreditation of such programmes from the Institute for Learning and Teaching in Higher Education. (Dearing, 1997: Recommendation 13)

These calls to professionalise teaching in higher education have been followed by calls within medicine to professionalise teaching practice in medical education (General Medical Council, 2009; General Medical Council, 2013; General Medical Council, 2017). However, there have been no equivalent calls to professionalise teaching practice within the dental profession.

In this chapter, I explore the data from my interviews with dental teachers in order to address one of my main research questions: How do dental teachers approach professional

development? I highlight how dental teachers choose and reflect on their professional development activities. I also present some of the general challenges faced by dental teachers in their development as teachers.

6.1 Aims and purposes of professional development

Dental teachers hold a variety of perspectives regarding the different purposes or aims of teaching development. Though some of the dental teachers in my study perceived teaching to be an essential part of their job, they did not perceive professional development for teaching to be equally essential. However, fulfilling the GDC registration requirements is critical. For this reason, some of the interviewed teachers found that attending CPD activities for GDC registration allows them to develop their teaching skills by updating curricula content using tips from session presenters.

Many young or newly assigned dental teachers may be required by their employers to show evidence of engagement in developmental activities related to teaching. However, such activities are still not considered compulsory by many institutions of dental education. Dental teachers find it even harder to attend these CPD teaching activities, since finding time for clinical CPD or research development activities is considered to be more important than finding time to attend teaching developmental activities. Some dental teachers mentioned reducing their clinical practice time in order to attend these courses.

The medical education field has solved these problems by making many teaching courses or programmes count toward the medical CPD (General Medical Council, 2009). However, these training programmes must be specific to medical education and be taught by an authorised medical education body. Examples of this type of CPD include courses organised by the Royal Colleges and the Academy of Medical Educators, both of which have a great deal of credibility within the profession.

Different age groups have different reasons for engaging in professional development. Younger dental teachers are often encouraged by their departments to earn teaching qualifications; thus, to enhance their careers and remain valuable to their employers, these teachers must take qualifications in teaching. Senior dental teachers, by contrast, tend to be encouraged and motivated by their own interest in educational research and leadership. The differences in the teaching experiences of these groups suggest different methods of professional training in teaching. For this reason, some of the literature has highlighted the importance of tailoring teacher training to teachers' age groups (McKeachie, 1997).

The choice of which role to emphasise in professional development varies among dental teachers. Some dental teachers focus on their CPD and claim not to have time for other activities. Others focus on research, devoting time to such activities as attending conferences and pursuing research development activities, such as grant-writing.

One category of dental teachers who participate in professional educational activities are those interested in pursuing an educational qualification or in education in general. This group is motivated more by intrinsic desires than by external influences, such as job requirements. Below is a statement from a dental teacher with an interest in educational professional development activities:

I've got a few certificates from various places to say that I've been putting effort into teaching and I appreciate that. It doesn't mean I'm good, it just means I've been putting effort into it. So, yeah, from the time I arrived in [university] I've been pretty much continually going on with regard to professional development for teaching. In fact, I've probably put more effort in professional development for teaching than I do in professional development for dentistry. I do the minimum required and I get my GDC registration, don't get me wrong but if someone said: "Would you like to do a course on teaching? Or would you like to do a course on [Dental Clinical Subject]?" I'd tell you that teaching would win hands down because it's what interests me now and I suppose I'm a bit freakish in that front because that's not absolutely normal. Most of my research is now based around teaching, so I often become all encompassing and in that side of things where I'm getting involved and being split so much and so badly into dentistry, teaching, clinical work and administration and all the other things that go with it. I still have to do them. I have to tick all four boxes but I can put a lot more effort into teaching and learning about teaching than anything else. That makes my job good and that's what I want to do that's why I do it. (CA02)

The participant who provided this quote is a clinical academic engaged in scholarship of teaching and learning. His/her genuine interest in research and education is clear, but is obviously not shared across the profession.

Some participants believe that developmental experiences outside the profession offer a useful and different perspective. As one participant described:

I think people where someone [is] coming in from the Institute of Education to give a course on something would find our particular challenges in dental education interesting. And we, in turn, would find their perspectives on education useful as well. So I think the most useful would be, perhaps, not from dental educators largely. (CA42)

One participant reflected on his/her initial interest in the qualification, through which he/she hoped to find answers to problems he/she had faced in teaching or evidence to apply in practice. This type of dental teacher tends to seek evidence-based teaching, as described in the following quote:

I wanted to know about [...], improve my skills. I'm always satisfied with where I am but I always wanted to improve how I do things as well as read around the subject. And I always like to do something based on evidence, so I wanted to find out what's the evidence of doing things and how to improve it. (PTCT20)

Other dental teachers approach development as a form of self-development; these tend to be driven by a desire for self-improvement or advancement:

I'm entirely self-driven, so I continue to develop my understanding of everything I do. So I don't need to go off and do something with somebody else, and it creates more problems if I have to go off somewhere. There are no opportunities to do that, so that would be a barrier. (CA10)

A number of dental teachers in my sample sought more clinically relevant courses. The Royal Colleges and NHS hospitals run short courses on specific clinical teaching topics, such as assessment.

...identify specific courses that would give you a good overview as well, and [Hospital] run[s] two. They run an introductory assessment course and they run an advanced assessment course. (CA08)

Some dental teachers focus on their role as researchers within their professional development; for these teachers, most developmental activities focus on research or on presenting research at conferences. The following is an example of a participant who plans to focus on research in his/her future activities:

I mean, whatever I want to do in the future, if I'm taking any professional development, [it] would be in relation to a research grant. (TA12)

What expectations do dental teachers have with regard to engaging in professional activities related to teaching? What dental teachers expect to learn is different from what they actually learn from these courses. For example, some training courses teach them how to reflect, which most participants do not expect. As one participant explains:

At the time, I found the lectures weren't particularly helpful. But I think doing the portfolio and putting in all my lectures made me actually aware of how much I did, so it was quite a positive experience, although very time-consuming. And it did make me more aware: When you get feedback for your lectures, it did make me more aware of my faults and areas to improve. So, overall, it was worth doing. (HCT30)

A majority of participants report being interested in learning more about teaching methods and technical tips ('how-to' knowledge). Below are some comments from dental teachers who want to learn about teaching methods:

I think the main thing is I want to improve because I'm still constant[ly], continually teaching. And, you know, not just learning, as well, but I want to constantly improve my teaching methods because every student comes with different challenges, and you cannot just stay with the... you have to evolve as the new students come and as teaching evolves, as well. (PTCT29)

...I looked into the programme, and it did describe several aspects in terms of how to teach [and] delivering [a] teaching methodology. (HCT28)

Well, usually, I pick a useful tip up from every conference I go to, either about new materials, about clinical procedures, teaching methods, teaching tools and suchlike. (CA05)

One participant suggests that teachers' trainings should focus on how to deliver lessons.

I think that a lot of the educational research and the educational discussions often end up becoming self-fulfilling and don't actually necessarily deliver a better educational product. But they deliver a cohort of individuals who can talk about education, but the delivery may not necessarily be particularly any better or any worse than anybody else. I think it's important that people understand how to deliver educational material, how to interact with students and so on. (CA07)

In the above quote, the participant presents a view that opposes the scholarship of teaching and learning, suggesting that knowing how to teach will be sufficient for dental teachers. Dental teachers aim to improve their delivery skills (how-to knowledge), but do not necessarily engage in intellectual or reflective processes. Some dental teachers focus on technical knowledge that they can apply in their teaching practice, though they do not wish to delve deeper or become involved in additional intellectual discussions about educational literatures or theories.

A second category of dental teachers seek development in their teaching practice to understand how their students learn. The majority of these teachers do not initially focus on this goal; thus, they are surprised by the importance and usefulness of knowing about how students learn:

I think learning a little bit about how students learn, that was a new thing to me. I didn't really... as a student, you don't really appreciate that people learn in different ways. (FTCT39)

In summary, this section explores why dental teachers engage in professional development activities and how they prioritise their CPD activities. Based on the interview data, we can understand that dental teachers are encouraged to participate in teaching training. Dental

teachers showed a variety of motivations to engage in teaching development: newly assigned dental teachers are typically encouraged to participate in teacher training by their schools or departments, while (more experienced) dental teachers are more genuinely interested in pursuing developmental activities for teaching.

6.2 Opportunities and approaches for professional development

How do dental teachers approach their development as teachers? The data analysis shows variations among participants' approaches to teaching skills development. The majority of dental teachers begin teaching before engaging in teaching training and learn on the job through the concept of apprenticeship. They may approach professional development by focusing on formal training, seeking feedback from students or obtaining peer support.

Some participants perceive teaching as an inherent ability, as evidenced by comments in the interview transcripts:

I think there is an inherent ability in some people to be able to teach, and in others it will never be there, no matter how much you give them courses and ask them to learn or read books on how to teach. Some people can't do it. They will never understand how other people are learning from what they're trying to do with them, and the consequence of that is they're not going to be effective. I suppose it does mean they're bad teachers. They're certainly not effective teachers. (CA02)

As my findings presented in previous chapters suggest, dental teachers place great emphasis on their clinical knowledge and experience, which are often considered sufficient to teach undergraduates. For example, the above participant continued by saying:

You've got to be knowledgeable, of course, but at the same time, an argument which I actually agree with is that anybody who is a trained dentist can teach anything at [the] undergraduate level. (CA02)

Many dental teachers seek professional development activities within their CPD. They develop as teachers and dentists by attending activities required for dental CPD as practitioners or researchers. This section presents some of their approaches to development.

6.2.1 Apprenticeship

The most common approach to developing dental teachers in teaching is informal 'apprenticeships'. Dental professionals often develop their teaching skills and habits (un)consciously by learning from others. In this section, I present four themes of apprenticeship: apprenticeship of observation, role modelling, mentoring and apprenticeship of participation.

The majority of dental teachers in this study agree that their dental teachers influenced them as dental students. The teachers learned teaching by observing their dental teachers in action during the five years of their dental training. Although the concept of 'apprenticeship of observation' was first used in teacher education (Lortie and Clement, 2002) to describe how school teachers experience teaching as learners during their time in the classroom, it can also be used to describe dental teachers' early observation, which begins when dental students begin, as early as the first year of dental school, to observe their dental teachers.

Role modelling is among the most common ways of developing, not only as a teacher, but in all other roles, as well. It is based on the concept of apprenticeship, through which dental teachers learn to teach by replicating their supervisors or teachers. Through these models, dental teachers construct their professional identities (Boyd, 2010). Role modelling can occur in a clinical setting, in lecture theatres or at conferences. Based on their experiences as students and, later, as colleagues, dental teachers build their sets of values and skills based on their own early observations and reflections. These sets of values and skills can form 'signature pedagogies' of learning how to teach in dental profession (Shulman, 2005). They are often inspired by certain effective teachers or influenced by a desire not to emulate bad teachers. A role model is likely to be a dental school teacher. As one participant notes:

I have certain role models [who] were good teachers for me, and they would be a good influence. And people that I remember who taught me well influence me as a teacher.
(PTCT23)

Role modelling continues through dental teachers' professional careers, as dental teachers begin as junior teachers, observing their seniors' teaching and supervising. One participant insisted that role modelling is the main way to learn how to teach:

It's going to be experience. It's going to be role modelling. Teaching is very much about role modelling. There's no question it's what worked for you and many teachers, perhaps too many teach still in the way that they learned without reflecting and moving on and listening to what students... (CA02)

Mentoring is a common strategy used by some clinical academics. However, mentoring is also a personal choice and is generally underutilised in dental education. Below is an example of the comments of one participant who chose to seek a professional mentoring relationship outside of the university when she/he began serving in an educational role in a dental school:

I was also mentored externally by a very charismatic and knowledgeable and wonderfully high-achieving lady. She's now a professor at [...], and she was mentoring me professionally because I felt quite overwhelmed when I first took my job role over and didn't understand how I was meant to fit in or what I was meant to do, what my role was. It was new; there was no job description, and she helped me overcome my fears and helped me understand sort of politically what I needed to do, and I miss her. (FTCT11)

One participant experienced mentoring early in his/her career, and he/she credited it with helping him/her in his/her role as a clinical academic:

...if not more helpful has been the roles of various mentors through the time to whom I could refer as and when required, as and when needed, to just bounce ideas off people. (CA08)

Another participant focused on communication skills and explained how role modelling and mentoring helped him/her develop these and other teaching skills:

One of [my] colleagues in the department was a really, really good communicator, and I learnt a lot about communication and teaching from him. And it was very good, because they used to do quite a lot of one-day courses for practitioners and things, and they start... he sort of brought me in very early on those. So I would give one talk in the day, but also he was almost a teaching mentor who really kind of showed me how you could structure things. (CA42)

The majority of dental teachers begin teaching before they engage in any formal teaching training. They start learning how to teach by 'learning on the job' or 'learning as they do' (Dewey, 1938). Work-based learning, or learning on the job, is the earliest opportunity for dental teachers to develop. Within this theme, there is a belief that teaching is a common sense practice and that dental teachers' tools of clinical practice are sufficient to allow them to teach through chairside teaching. This approach can be greatly enhanced through constructive feedback and reflection (Ashwin et al., 2015). One participant emphasised the importance of practical experience and observation in learning how to teach:

So, I think that was very important, and I guess there've been a lot of people, you know, I've heard a lot of people give lectures, and some who I think are terrible, and some who I think are terrific, and knowing why I think they're good or not so good is also sort of learning on the job. (CA42)

Any informal teaching experience can help teachers learn how to teach, as illustrated by the following extract:

A lot of it has been learning on the job, but when you do get a little bit of teaching in informal teaching methods, it helps link things together. (FTCT09)

For newly assigned dental teachers, it can be challenging to teach without prior experience or formal training. Many dental teachers manage this challenge by using their clinical experience, knowledge and communication skills to help their teaching delivery. For example:

So it was because I think I've been good at communication with my own patients that I thought I would be effective as a teacher. (PTCT33)

I think I've got good communication skills; I'm able to explain what I need to do. I think I've got a good knowledge base. (FTCT27)

In summary, dental teachers value their clinical knowledge and experience, and their early observations and experiences are the most important skills enabling them to teach and learn how to teach on the job.

6.2.2 Student feedback

Most of my participants claimed that they seek feedback from students. However, the feedback solicited in clinical teaching settings is mostly casual and inconsistent. This raises the following questions regarding students' feedback: How do dental teachers approach feedback? How do they reflect on students' feedback as part of their own development? Are there any consistent practices for securing effective feedback?

A majority of participants saw feedback as a way to develop and reflect on their experiences:

I find ways to do it. As I find ways to –, I will illicit feedback about my teaching practice from the students because I know that even if I ask them, 'How are things?', they may not want to tell me the truth, and I want to get at the truth. So, I'll ask them face-to-face, 'Can somebody tell me?', 'Can you tell me?', and I create anonymous opportunities for them to do the same thing, so I can get a handle on what's going on. (CA10)

One participant sought formal ways, similar to patient satisfaction questionnaires, to solicit student feedback on his/her clinical supervision:

An area that I'm interested in developing in the future is a bit more to do with the evaluation of teaching, as well: to get feedback from the students on your own teaching. There isn't very much of that in dentistry at the moment, other than the sort of the National Students Survey, but there isn't [any]thing specific to help them guide the development of individuals and teaching practice. You know we're all happy to do patient satisfaction surveys, but no one's really done sort of student satisfaction surveys, and I think that would be a good way of me then finding out which areas I do well and which areas I need to improve on. (HCT38)

The same participant added that he/she solicits feedback from students through his/her interactions with them; however, he/she is still seeking a formal way to receive more structured feedback:

I need feedback to know that I'm doing a good job, but you can by and large get that from people's reactions and their interaction[s] with you. (HCT38)

One participant sees positive student feedback as motivational:

So yeah, I...I regard it as motivational, largely. And even lectures, you know, I got a real kick last week when a student came down at the end of three lectures and just said casually those were the best lectures we've had all year. So that meant a lot. It's nice to get positive feedback. (CA40)

Even negative feedback can be motivational, since it can inspire change and improvement. As the same participant noted:

We don't do systematic feedback from the students now, anonymous slips of papers, but we have done in the past, and that... um... if, I mean, I haven't, I don't think anyway, have—I don't think I've had adverse feedback, but if I had, that would be a motivation to just see [...] why can't I improve on this and see if I could get anything out of going to a course. I can't think of any great missed opportunity at the moment. (CA40)

Although dental teachers are more likely to request student feedback for their lectures and seminars, requesting student feedback for chairside teaching and clinical supervision is not uncommon. However, because the tutor-to-student nature of chairside teaching, dental teachers are reluctant to request feedback or struggle to find ways to get feedback on their teaching. Some dental schools have introduced opportunities for two-way feedback at the end of each clinical session, in which both the teacher and the student fill out a feedback form (Davies et al., 2012); however, it is unclear what happens to this form after both teacher and student have completed it.

6.2.3 Peer observation

As my earlier findings suggest, dental teachers are eager to share their clinical knowledge and practice; however, they are less likely to share their teaching practice. This result is consistent with Cunningham and Lynch's (2016) findings that dental teachers practise collegial reviews in their clinical context, but are less likely to use this concept in their teaching practice. The majority of teaching-trained dental teachers experienced peer observation during their teacher-training programme, and all perceived peer observation to be an effective way to foster their development as teachers:

The only way you can do it is to do it, then have somebody to oversee, to [give] feedback, to say, 'Well, have you thought about doing this?' (FTCT09)

Prior study has noted the importance of the process of peer observation for both the observer and the observed. Cairns *et al.* (2013) investigated the experiences of part-time clinical teachers who attended a pilot peer observation teaching scheme in Glasgow. The teachers reflected before the planned peer observation and ultimately found that playing the observer role was very helpful. Peer observation helps individuals explore specific issues in dental education that are chosen by their peers (Cairns *et al.*, 2013). Introducing such schemes helps to create a dialogue and narratives of teaching development within dental education and may also initiate a shared repertoire of resources for dental teachers (Wenger, 1999).

Although there is a practice of peer observation related to lectures, especially among senior clinical academics or senior clinical teachers, this practice is less common in clinical teaching, as described in the following quote:

I actually like listening, when you have the opportunity, to colleagues do undergraduate lectures because, although you know what they're saying, you learn how they say it, how they put it over, and [it can] actually can be quite some good insight to see that somebody's delivering something in a slightly different way and not necessarily plagiarising people, but actually learning from their experience as well... we work among ourselves and we go and sit in on each other's lectures and make comments on [them], and as long as everybody is happy with it and understands that it's being done—it's not easy to do it to your friends and your colleagues, but as long as it's being done honestly, then it works really well and it certainly improved me a lot. (FTCT09)

One participant strongly perceived peer reviews to be a way for novice teachers to learn how to teach:

It's actually quite difficult to support a truly novice teacher in those roles unless you can put them beside a more experienced individual who is simply there to help, partly peer review and partly just be available for second opinions or sounding boards. (CA06)

However, the same participant emphasised the difficulty of setting up a peer observation practice, particularly for novice dental teachers:

From the point of view of a novice teacher, I think that one of the things which is sometimes very difficult to set up is some peer observation initially and some experience of observing experienced teachers in a similar role. (CA06)

The majority of dental teachers who have experienced peer observation have done so during a teacher training programme:

I did do, a few years ago, a diploma in teaching where we did teaching observations and we had other people [in] the programme observing our teaching, and I think that was probably one

of the best times because you actually had the opportunity to reflect on what you did and also had the opportunity for them to [give] feedback to you. (FTCT09)

Another participant credited his/her understanding of the importance of peer observation to attending a teacher training programme:

You have somebody watching what you're doing every single second that you're with students. So, I became familiar with peer observation and how it could be used to [develop] teaching practice, and that's one of the things that I started developing when I came here, and it's something that I've continued to [do], despite obstacles here. (CA10)

It is important to consider why it is difficult to arrange peer observations generally and particularly in clinical teaching settings, as well as to learn what regulations are in place to help novice clinical teachers develop a consistent practice of peer observation and feedback.

My findings suggest that dental teachers may value peer review processes; however, they also reveal that there is no established practice of peer observation. Dental teachers with formal teacher training are more likely to have experienced peer observation during their training and may face tension employing it in their teaching practice. This may be related to the dental school culture, which fails to encourage consistent practices of peer observation (Cunningham and Lynch, 2016). Cunningham and Lynch (2016) further attributed this challenge to the fact that teaching is not a priority in dental schools and is frequently eclipsed by the more important activities of research and clinical services. Cunningham and Lynch (2016) distributed a questionnaire to all UK dental schools and found that the majority of dental schools in the UK employed a peer review scheme; however, these new and developing schemes faced several obstacles, such as a lack of consistency and part-time staff availability (Cunningham and Lynch, 2016).

These peer observation schemes are essential to foster a community of practice with focus on developing teaching- and education-related identities (Cunningham and Lynch, 2016). However, the ways in which these schemes employed and the tensions related to time restrictions and resources create challenges in the development of an effective peer observation practice. Employing a peer review scheme requires some staff to observe their peers, rather than teach students, during particular sessions, which can create challenges in cases of short staffs. The

teachers who are most likely to be affected by a lack of consistent peer review practices are part-time teachers, though these are the teachers who need peer review the most.

Some dental schools may use peer review schemes for employee evaluation. However, many authors (Cairns et al., 2013; Cunningham and Lynch, 2016; Sullivan et al., 2012) argued that collaborative, non-evaluative peer observation practices are more likely to be successful.

6.2.4 Attending short courses and conferences

A majority of dental teachers attend short courses on different areas of development, such as assessment:

But I've given—I mean, I've been [to] courses that have had specific objectives; assessment, for example. (CA40)

Most existing formal professional development opportunities have been delivered in the form of short courses run by dental schools, NHS hospitals or Royal Colleges, as described in the following quotes:

Yes, at the time I first started teaching, the concept of post-graduate certificates and diplomas just didn't exist. So most of my professional development for teaching was done on the basis of short courses, and I would say that they were definitely helpful. (CA06)

I've also attended various teaching things within the Royal College of Surgeons, be it how to teach, etc. (CA08)

Short—only short courses. So I've been on a couple of courses at the Royal College of Surgeons. Really more about specialist training. I didn't take this role on I've got now until too close to the end of my career to then do another course, so I didn't do one. (FTCT39)

This last participant praised short courses for giving him/her the opportunity to learn how to deliver effective lessons:

Well what—oh, well, it's certain specific things. I think the way I learnt to give lectures came a lot from those courses, so they were very, very useful. (FTCT39)

Some dental teachers prefer these kinds of courses because they are short and concise, without homework. This conception of short courses is illustrated in the following comment:

So what types of official development would I need? Well, I think, summaries, summary types of—how can I put it—updates on an occasional basis would probably be helpful. (CA06)

However, some view these courses as more superficial than the educational courses provided by educationalists, as suggested in the following quote:

...the odd course that supposedly helps us with clinical academics, but, in truth, they're not as good as [University Teacher Training Programme] ones, you know. They're far too superficial. (CA03)

Attending conferences is widely considered one of the main opportunities for dental teachers to present their work, listen to others and update their knowledge on the latest developments in their field. Conferences are considered to offer dental teachers opportunities to develop in their subject and their teaching skills, both in terms of their curriculum knowledge and their methods of teaching. There are two ways that teacher can use conferences to support their development: by watching the presenters and taking tips from them and by discussing curriculum issues with colleagues. Many dental teachers attend conferences either within the broad spectrum of dentistry or within their specialties. The following participant described how he/she attends conferences, listens to speakers that he/she thinks are good at lecturing and then analyses their speeches to try to understand what makes them 'good':

When I go to conferences, I suppose there are people that I think are very good at lecturing, and I try and work out why they're good. (HCT30)

Another participant described his/her regular attendance of conferences in both the field of education and in his/her specialty, as well as his/her active engagement in presentations at these conferences:

I attend no end of conferences, both scientific and educational, all during the year and have done for the last thirty five years. Well usually I pick a useful tip up from every conference I go to, either about new materials, about clinical procedures, teaching methods, teaching tools and suchlike. [University] runs a very good teacher training conference every year and we usually present papers at that and we certainly contribute to the seminars and tutorials. So there were lots of opportunities for learning new educational skills throughout the year. (CA05)

Dental teachers believe that conferences allow them to develop all aspects of their roles as practitioners, teachers and researchers. Conferences also give them opportunities to fulfil their CPD requirements.

6.2.5 Teacher training programmes

Teacher training programmes are broadly available in universities, and dental teachers are encouraged to participate in these programmes:

Many higher education institutions (HEIs) provide education and training for dental educators and offer opportunities to build credits towards postgraduate Certificates, Diploma and Masters in dental education. Postgraduate Deaneries also offer local induction courses for dental educators and other short courses relevant to dental educators. (COPDEND, 2013: 7)

One participant, however, showed no interest in the academic study of education, as illustrated in this quote:

I think that the way I teach and the subjects I teach, the delivery and the results speak reasonably well for themselves so I don't see a need for changing what I am doing and how I am doing it. It's evolving all the time anyway as the course evolves and as the students change. So to study education as such is not something that I would be at all inclined to do, as a subject, as an academic subject. As a practical job it's what I do but an academic study of education is not what I'm interested in. (CA07)

Within the participants, there was also a group of dental teachers with a special interest in the scholarship of teaching, though most participants preferred the shortest routes to professional development. Universities recommend teacher-training programmes, which are often sometimes imposed on dental teachers (as some participants perceived it) by their departments or dental schools as a part of a university's approach to professionalising teaching among higher education teachers. Many dental teachers choose to participate in these teacher-training programmes to fulfil job requirements or advance their careers; however, there are some dental teachers who do not find the time or motivation to join any university programme.

The main struggle associated with taking a professional degree in teaching is the time such a degree requires. Dental schools and departments encourage dental teachers to take teaching training, but dental teachers must also plan their lessons at the time of teaching, which is considered a challenge for clinical teachers who are taken away from their teaching, as illustrated by the following quote:

I constantly moan to my colleagues whom I've pushed very hard for all my colleagues to take teaching degrees as well and they're all mostly missing from clinic because they're all doing their teaching, which is great and they're loving it and I struggle. (FTCT11)

Details of participants' experiences of attending teacher-training programmes will be discussed in chapter 7.

Summary

There are inconsistent practices in both feedback and peer observation among dental teachers, and there is a lack of a systematic and constructive approach to feedback, despite a common tendency among senior clinical academics to talk about peer observation and mentoring. Despite the complexity of their challenging roles, senior educators have an advantage over

those with less experience, since they have clearer identities than other dental teachers, such as part-time practitioners or hospital consultants. Established communities of practice among full-time clinical academics allows these individuals to draw closer to the hidden roles and shared repertoires of resources within their communities (Wenger, 1998), and some have good opportunities to benefit from the hierarchical and collegial support available to them. In addition, clinical academics benefit from a culture of academic staff development. This support might not be equally available to other dental teachers, who are either part-time practitioners or hospital consultants working in venues that place less emphasis on academic rank, even though these teachers deliver most of the clinical teaching (Dental Schools Council, 2016).

6.3 Outcomes of their experiences

The HEA considers that standards will ensure that students receive the highest quality learning experience. Evidence suggests that educators who reflect on their own practice provide a learning environment in which students engage in critical contemplation, and that this will have a positive impact on patient safety. (COPDEND, 2013: 5)

Any dental teacher can be engaged in any type of professional development activity, including learning on the job. A fundamental outcome of such activities should be teaching effectiveness. To explore how dental teachers achieve teaching effectiveness, we should examine how they use and reflect on their professional development activities. All teaching standards, such as AoME and COPDEND, seek both activity outcomes or evidences and appropriate reflection.

One notable finding in my data is that the participants who were engaged in formal professional developmental activities, such as university teacher training programmes, were more likely than others to mention reflection as part of their approach to development and change, as illustrated by the following quote:

You had to do peer observation through your own teaching. Um... and gain feedback and reflect on the feedback, so there was a lot of sort of reflection. (HCT38)

Using the MAXQDA software, I ran a search for the word 'reflect', which yielded 70 hits by 13 participants (out of 27) who had completed or were engaged in teacher training programmes. By contrast, the same search yielded only three hits by two participants (out of 15) who did not attend teacher training programmes. This difference may reflect either an increase in the use of

educational language following a teacher training programme or the possibility that TTP actually encourages dental teachers to reflect on their practice.

Professional development activities alone may not lead to effectiveness in practice; thus, professional standards encourage reflection on these activities:

...describing dental education activity and critically reflecting on events, referencing theory and literature, or by seeking feedback about performance as an educator from learners and peers. (COPDEND, 2013: 7)

The same is true of AoME standards (2012). Some of the core values of AoME are:

Professional integrity: Reflects upon his or her own professional identity and develops an educational philosophy. (p.12)

Educational scholarship: Is committed to enhancing the practice of medical education through analysis and reflection (p.12)

Reflection: level 1: Is aware of the importance of reflection on practice (p.16)

Reflection: level 2: Engages learners in reflective practice. (p.17)

Reflection: level 2: Uses systems of teaching and training that incorporate reflective practice in self and others. (p.17)

Reflection: level 3: Demonstrates a commitment to reflective practice in self, learners and colleagues. (p.17)

However, engaging in teacher training encourages reflection. Radford *et al.* (2014) examined the autoethnographical reports of three clinical teachers at an outreach teaching clinic who attended a teacher training programme and found that these clinical teachers provided highly reflective accounts of their teaching practice. The participating clinical teachers reported developing awareness, confidence and personal philosophies related to their teaching practice (Radford et al., 2014).

What are the outcomes sought by these educators? They could include direct knowledge that can be applied to teaching practice or deep knowledge that requires a commitment to reflection and some intellectual effort. Not all dental teachers are equal with respect to the outcomes of their (un)chosen approaches to professional development. Individuals' activity choices and consistency in feedback, observation and reflection can help them achieve their desired levels of engagement and effectiveness. It could be proposed that technical (superficial) approaches have different outcomes than reflective (deep) approaches.

6.4 Challenges and constraints facing professional development

My data reveal many constraints related to professional development in teaching. The most obvious constraints are the time and difficulty associated with balancing professional developmental activities with other roles and CPD activities, even though institutions tend to encourage dental teachers to participate in formal teacher training. Other challenges tend to be related to beliefs and age.

Time always seems to be an issue for dental teachers. Finding time to develop as a teacher was noted as challenging by all participants. Dental teachers play multiple roles, and teaching is more likely than other roles to be marginalised. Teaching development is further marginalised in comparison to other activities. One participant, who also served in a leadership role in her/his department, explained the challenge of allowing a part-time teacher to use clinical teaching time to attend teacher training. Some dental teachers have to take time off from their practice for professional development:

Obviously one of the problems for a dental educator is they're also undergoing a specialist training programme as well and so they're having to do a lot of clinical practice and supervised clinical practice, at the same time learning their sort of teaching prowess as well. But I think we should be encouraging more uptake of that. I know a lot of our part time staff are also doing training with the [TTP] as well and doing the diplomas. It's then finding the time to actually take them out of teaching to cover their work so they can actually go and attend these things. So some of them take time out of their -, if they come in a day a week for teaching here, they might take time out of their practice work for -, in theory it should come out of their teaching time, but we don't have enough teachers to cover them to do it. So there's that conflict. But I think there is a model and it's how we use it is the important thing. (FTCT09)

This quote explains why it is difficult to make formal teacher training programme attendance compulsory for all dental teachers by their department. Some departments require their dental teachers to be available to teach in the teaching clinics, and some dental teachers who undertake TTP are required to take time off their other activities e.g. dental practice. Another participant explained that it is difficult to balance all activities and noted that formal teaching development activities are more likely to be marginalised or neglected than others:

I think the problem I have is there's so much, different things going on, it's hard to fit it all in. Because obviously I have to do clinical CPD. Because I'm an active researcher I have to go to research meetings and things and I would say educational CPD formally, deliberately saying right I'm going to go on this or particularly outside the school, is perhaps a weakness of mine. I have lots of, you know, every year I accumulate huge amount of what you might call verifiable CPD across my job, far more than I'm required to do, even you know sort of almost doing my five years in a year type of thing. But balancing it all out is difficult, just like the original question

about how do you balance the elements of your job, it's a really tough thing, one of the hardest things to do as someone who's doing all these three different things. (CA42)

Some participants indicated that they did not plan to undertake any formal professional teaching activities, as described in the following quote:

It's kind of really not planned to do. If it was offered and it was relatively straightforward to do it, then I wouldn't object to it because I always believe you never stop learning. (PTCT34)

This could be due to the fact that engagement in professional teaching development may require dental teachers to take time off from clinical practice. A lack of motivation to commence any form of professional development activity, particularly for teaching, may also play a role, as suggested by this participant:

There was a point when I started teaching that I thought that pursuing some educational study would be something I might do, but I haven't pursued that as yet, and I don't particularly have a strong ambition to do so. (PTCT33)

Certain organisational demands might prove challenging to dental teachers' abilities to engage in professional developmental activities. Schools' efforts to make their staff available for both teaching and clinical services poses challenges for dental teachers who wish to attend professional development activities. As one participant reflected:

So the whole set up does not allow you to engage in professional development. (CA10)

Radford *et al.* (2015) argued that effective teacher development can only be provided to part-time clinical teachers if the number of teaching staff hired for teaching is increased, thus allowing time for peer observation, mentorship and educational development.

Some beliefs related to professional development and teaching can also be restrictive. One participant expressed a belief that earning a teaching qualification would not contribute to his/her role as a clinical teacher:

No because – as I say when it's been suggested about doing a teaching qualification um... nobody has been able to explain to me clearly as to what benefits the teaching qualification will bring because, you know, I'd be surprised if my students didn't value what I teach and how I teach them. Yes if the students have started to may be give feedback that, you know, that this – they wonder what the point of me being here is then I might look into it, but like I say, you know, just as I learnt as a student, I appreciated the, you know, the general – I'm sure the general practitioners in those days who were coming in didn't have a teaching qualification, but they could guide me – because it's, you know, it's their hands-on in front of you rather than 'I'll refer you to such and such article or such and such journal'. You can't read experience full stop. And that's why – that's one of the reasons why, you know, I will resist personally going

through to having a teaching qualification because I've seen the process where others have done it, and my main thought has been 'well that would not enhance what I feel I can do when I teach'. (PTCT32)

The belief expressed here argues that participating in certain professional development activities (or any activities at all) will not support teacher effectiveness. The participant felt that all she/he needed to be effective as a clinical teacher was clinical experience. Clinical experience is valued by dental teachers; however, these teachers may find that they have the information to deliver experience, but not necessarily the necessary know-how (Steinert, 2010). Other restricting beliefs may involve professional development and reflections on learning. For example, some believe that training should be practical and directly applicable (e.g. tips for delivering presentations). Though such training represents an important aspect of teaching, these perceptions show that the value of devoting intellectual effort and committing to reflection is underappreciated.

The recent focus on the professionalisation of teaching has led to the development of more formal teaching activities. Some senior dental teachers may believe that they are too far advanced in their careers to begin a formal teaching training programme; however, they encourage junior members to join such programmes:

If I was younger now, I would definitely have wanted to have gone into a more specific teaching course. (FTCT39)

Mature dental teachers have developed their teaching practice habits and skills and are satisfied with their teaching practice, and they may not wish to change their routines (McKeachie, 1997). However, all dental teachers need to address contemporary changes in dental education. The context of dental education is evolving and growing more complex (Radford et al., 2014). Dental education, like other health education fields, is facing a shortage of resources, different student cohorts, newly incorporated technology in every aspect of service and practice and many other challenges. The increased complexity of the context of dental education requires dental teachers who acquire the necessary skills to adapt to a changing context. While clinicians need to develop critical and reflective approaches to clinical practice, dental teachers need to develop these skills in their teaching contexts. However, there are some senior participants in this study who showed an interest in education and educational research, and the scholarship of education that blossomed after they became professors.

This group of dental teachers may form communities of practice comprising interested members. However, two questions must be raised in relation to these groups: To what extent are these professionals engaged in educational activities, and how can we get more dental teachers involved? It is important for communities of practice (Lave and Wenger, 1991; Wenger, 1999; Wenger et al., 2002) to achieve their shared goals by creating shared repertoires of resources, including language, stories and practices.

Conclusion

Dental teachers approach their professional development as teachers in different ways. Apprenticeship is one main approach through which dental teachers develop their teaching practice. The majority of dental teachers begin to teach without prior teaching training. The call for formal training and teaching qualifications is coming from higher education—in other words, it is coming from outside the profession, not within. Dental teachers today are often encouraged by their dental schools to engage in teaching training.

Clinical academics have more advantages than other dental teachers. Primarily, since they work full-time, they are able to take advantage of their consistent presence and to belong to communities of practice comprising other clinical academics. By contrast, part-time teachers often do not benefit from communities of dental teachers due to their more limited availability.

There are inconsistent practices regarding professional development activities, such as eliciting student feedback and peer observation. The data analysis conducted in the present study shows that there are also constraints imposed by participants, including, primarily time constraints. Finding time for professional development activities for teaching appears to be very challenging, especially given the current financial constraints of dental schools and NHS hospitals.

Based on the present data, we can say that teaching has not achieved a level of priority equal to that of research and clinical services among dental teachers. In the same way, professional development for teaching is likely to be marginalised except when required by a particular department or school. Dental teachers may also join teacher training programmes in response to job requirements or to advance their careers. Furthermore, while there is a group of dental teachers who are interested in engaging in scholarly activities in education, some dental teachers show no interest in joining formal teaching training programmes.

The participants' responses illustrate the wide variations in teachers' approaches to learning how to teach; some show deep approaches, while others show more superficial ones. The participants who engage in superficial learning approaches are less likely to commit to longitudinal developmental activities for teaching and are also less likely to report reflection as a form of developmental engagement.

Chapter 7 Professional Development as a Dental Teacher:

Experiences of Teacher Training Programmes

I got the message that teaching isn't about delivery; it's about how students learn and that came here and that was doing the [TTP] here. (CA02)

In this chapter, I explore dental teachers' experiences while attending teacher training programmes. This chapter is structured around the research question: how do dental teachers reflect on their professional development through their experiences with teacher training programmes? I present the findings of interviews with 27 dental teachers (out of 42 participants in the study) who participated in a university teacher training programme (TTP). Nineteen of the participants were engaged in a TTP at the time of the interviews, while some had just started, finished a level of the TTP or chose to drop out of the TTP. Eight of the participants completed a TTP within the last 10 years. Although all participants were affiliated with a single institution, the participants completed their TTPs at different institutions, and some started modules at one institution and then moved to another TTP at another institution. Hence, this data analysis does not intend to evaluate a particular TTP; instead, I highlight the impact of these longitudinal programmes on the experiences of dental teachers. Unlike other short courses, the TTP is a long course that progresses towards a degree, starting from a certificate and then moving on to a diploma and a Master's degree. The certificate level extends over two years. The programmes have certain requirements, including attending lectures and seminars, completing reflective assignments or essays and teaching observations.

7.1 Motives to Join Teacher Training Programmes

There is some evidence which suggests that 'participant motivation' can be the most important factor that influences the impact of a teacher training programme (De Rijdt et al., 2013). Motivations to participate in a TTP varied among participants. Junior dental teachers initially had the sense that they were required to do this as a job requirement or for career advancement. However, the dental teachers had other motives to participate and remain engaged in the programmes. In this section, I explore the question of why dental teachers choose to join a TTP, and I also explore their motivations and engagement in a TTP.

7.1.1 Job requirement

Some dental teachers, especially junior dental teachers, perceived that their dental institute imposed engagement in a TTP. However, dental institutions and hospitals face some challenges, including the demands on and availability of their staff for teaching and clinical services. Dental teachers are generally encouraged to engage in formal teacher training, and some junior teachers perceived this as a requirement to engage in teacher training activities to satisfy the demands of their institute; at the same time, there were others who did not perceive a need to be involved in any kind of formal professional development activities. This participant perceived that the programme was imposed by the institute, but he/she engaged because he/she found it intellectually stimulating:

Well, originally, it was something that I felt was being imposed on me because I have no teaching qualifications, and yet, I felt I had a lot to offer as a clinical teacher. And, in respect of that desire for rigorousness, which was coming from the institute, and encouragement from them for me to pursue a teaching qualification, I went in for that reason. But having said that, now that I've started, I find it hugely intellectual and challenging. And I've really enjoyed the learning experience. For instance, I've enjoyed having my teaching observed, having to gain feedback, and I've enjoyed watching (in a peer way) other students' teaching and giving them feedback. I've enjoyed writing my teaching philosophy and thinking about what I...thinking in concrete terms...what I want to be as a teacher. So, a lot of these modules that I'm doing at the moment have facilitated that thinking. So, in a way, it's been quite formative for me in a way that I wasn't anticipating. So, with all the extra things that I do, I originally saw the MA as an extra weight on my shoulders, but now I see it as something that's facilitating me, and I embrace it. (PTCT23)

Another participant perceived that attending TTP is essential to learn how to teach:

But I also...it occurred to me that just because I was an experienced dentist did not at all mean in any way that I might be any good at teaching, and it was suggested in my contract that I look at doing some form of teaching course. But actually, I thought it essential that anyone who is involved in teaching should learn about teaching as opposed to just practicing their skills. So, I decided to enrol in the [TTP] course, and so I'm now about three quarters of the way through the postgraduate certificate. (PTCT13)

Another participant explained that he/she initially lacked intrinsic motivation, and he/she felt he/she had to do the programme. As a result, he/she was not engaged and did not put sufficient effort into the programme. He/she claimed that the programme did not meet his/her expectation of providing practical advice on teaching:

I guess I didn't have a lot of intrinsic motivation for this degree. I was expecting a lot more. I was hoping for a lot more. I was hoping to gain a lot of practical advice for my teaching. It just wasn't very applicable to what I'm doing. It was very theoretical. (HCT18)

This quote is aligned with my findings from the previous chapter that suggest that some dental teachers look for practical advice in their teacher development activities similar to 'how-to' knowledge that can be applied directly to their teaching practice.

Due to the demand of their departments to be available for teaching and clinical services, dental teachers' intrinsic motivations to join the TTP are important to their attendance and completion of the programme. Many dental teachers may need to take time off from their teaching and dental practices to attend and prepare for these TTPs. The majority of newly assigned dental teachers in my study are encouraged to attend a TTP; though some felt that attending a teacher qualification is compulsory, others perceived it as voluntary. These variations in perception can be related to variations in staffing demands among departments and hospitals. Dental schools and teaching hospitals still need their dental teachers to be available for teaching, and dental teachers may need to take time off from their practice or other commitments to join the programme.

7.1.2 Career advancement

Dental teachers may choose to participate in a TTP to enhance their careers and add a certificate to their resumes, as the two participants illustrate in the quotes below:

No, I don't have to do it. I think it looks good on my CV. (HCT19)

First and foremost, it gives you a qualification which, perhaps, improves careers and advancement into the world and recognition because I always was a junior person in a very widely experienced team, and I wasn't a specialist. So I wanted some credit of me having something to do in that I teach personally. (PTCT20)

Some participants believed that attending a TTP was not compulsory at the time but would be required in the near future, and that dental teachers with teacher training certificates would be more desired by dental institutes or teaching hospitals.

7.1.3 Legitimation of teaching or academic role

Having a formal qualification in teaching can be a way to legitimise a dental teacher's teaching or academic role, as explained by this participant:

Because I thought, you know, I've never done teaching before, and I think it's always good to be taught how it should be done because, obviously, if you just do what you think, it's appropriate, or it may be not. You don't know. So I just wanted to do some sort of official recognised qualification. (PTCT14)

Another participant perceived that he/she needed a qualification in teaching to support his full-time position as a senior clinical teacher and a leader in his/her department:

I had to do it. It was part of my job here because I don't have any formal teaching qualification, just as I don't have a PhD. So my only thing is I have a Master's degree, but I felt that it was important to do because I was in teaching. But, also, it was recommended that we do it because the University recommends that all teachers have some form of postgraduate teaching qualification. (FTCT27)

Although some dental teachers perceived attending TTP as a way to legitimise their teaching role, as my findings in the previous chapter suggest, there are some dental teachers who perceive teaching as a common sense practice that does not require academic qualification. These findings suggest that universities can play a key role in ensuring all dental teachers are trained to teach by making TTP a requirement.

7.1.4 Role of communities

The role of communities is significant in the motivation to participate in a TTP. Some dental teachers choose to start such programmes due to encouragement from their seniors or colleagues. There was a sense among the dental teachers that having a teaching qualification would help them keep their positions or become more employable by institutions and hospitals:

I did the [TTP]. Initially, it was a recommendation from one of the consultants, as I wasn't aware that there was a teaching to do with that. When I looked into it...I thought it was probably more of an essential aspect that I need to have rather than just a recommendation. (HCT28)

One of the senior members of the staff took the course to encourage his/her staff to join the TTP:

One of the reasons I did it was because I could have grand parented in, but I didn't want anybody to turn around to me when I told them to go and do a [TTP] and say, well, you haven't done it. But I can now say I have done it, and I've got the piece of paper to prove it. (CA02)

Even when the senior staff did not participate in the TTP, they recommended that their juniors do so:

Absolutely. I mean, I think, yes, definitely. I think it's pretty much expected now anyway. I don't really have to recommend it because if you're appointed, that would be one of the things that the college would ask of you, but most definitely. Perhaps the most important thing of my job now, as someone who, you know, could retire fairly soon, I mean, you know, in the next few years, is actually making sure that the juniors are coming through and they have done these things as well. (CA42)

Generally, dental teachers are encouraged by their departments and schools to participate in formal teacher training. However, teacher training did not reach such a level that it is compulsory for everyone.

7.1.5 Evidence-based teaching and intellectual experience

Some dental teachers seek evidence for the way they teach in the same way that they seek evidence for their clinical practice, as described in the following quote:

Um...yes and no. Um...I think it's a very good additional skill, and it brings a lot of educational kind of evidence because everything we do in dentistry is evidence-based. I like the fact that there's a lot of evidence in what we had to do and why we did certain things and...the reasons for doing things. I really like that. I think it's useful even within a clinical role because you still are supervising and teaching; it can help use elements from that there. If I wasn't made aware of it, my answer would be no, I wouldn't do it. But, if I knew about what the course involved, I would say yes, I think it's probably actually a good thing for SPRs to do, I think, personally. (FTCT27)

However, dental teachers may seek evidence for teaching in the way that they seek clinical evidence, which can be problematic, particularly if they expect that the evidence, itself, will be the same. This view can be seen in some clinical teachers who expect facts about teaching to be based on positivist approaches. In addition, the practical evidence that they may get from clinical trials is not the same as what they receive from the TTP, which involves more reflection and thinking:

It's sociology, and I find...I think all of us who do this course, we've all been fairly disenchanted by that. We...we're people. We're doers; that's the trouble. So, we're not thinkers, but it's a lot of what we do we want to pin down; you know, you do this, and you get that outcome. Whereas, with the sociology, you might or might not get that outcome. (PTCT22)

However, the same participant described his/her choice to participate in the TTP based on obtaining a qualification and being intellectually engaged:

So, I want to be intellectually engaged, and I thought it would be quite an interesting thing to do the [TTP] certificate from that point of view to give myself a qualification that I could possibly use, not merely just here at [teaching hospital] but also in other aspects of my life. (PTCT22)

Some participants chose to participate in the TTP for more intellectual reasons, seeking understanding and searching for answers. One participant wanted to know not only 'how' but also 'why' and, thus, focused on the learning process that he/she wanted to understand:

I wanted to know a bit more about why...you know, why you do the things the way you do and some of the background behind, you know, how people learn and how you could best enable them to learn as a clinical teacher. Because there's, you know, sort of...sometimes, you think there's an assumption that if you can do it, that you can teach other people to do it, but actually it's not necessarily the case, and once you learn a bit more about it you can kind of see peoples' strategies and how they help facilitate learning, or sometimes, you know, they don't help facilitate learning, and I thought it would be interesting to learn a bit more about the theory of that and, you know, a bit more practical advice about how to do it better. (HCT24)

Although some dental teachers seek the evidence of best teaching practice, others may seek more practical advice on how to teach. These findings suggest a combination of theory and practice, with consideration for individual variations which may seem more beneficial.

7.1.6 Improve their teaching practice

Some dental teachers participated in the TTP to improve their teaching practice and become better teachers:

I wanted to know about...improve my skills. I'm always satisfied with where I am, but I always want to improve how I do things, as well as read around the subject. And I always like to do something based on evidence, so I wanted to find out what's the evidence of doing things and how to improve it. (PTCT20)

For some dental teachers, especially the junior teachers, one of the reasons to join the TTP was to clarify their teaching skills and increase their confidence in their ability to teach effectively. It also helped them to anticipate the problems or challenges they might face in their teaching practice. The peer observation in these TTPs provided a platform for the dental teachers to receive feedback on their teaching that they might not get consistently in their departments:

Well, I think it was nice to have the positive feedback to confirm to myself that, yeah, maybe I am doing things right. (PTCT35)

Another participant reflected:

I thought that would be a fantastic idea...for me to have some experience in actual teaching rather than just thinking, "yes, I'm a good teacher". So, I want to know "am I a good teacher"? "Am I doing things right"? So, I picked up a lot of things from [TTP] that I employ now that were very helpful. So, doing the [TTP] was fantastic. The reason I did it is because I was already training the therapists, and I thought it would be something good to have under my belt as a credential and also to learn "am I teaching the right way"? "Am I a good teacher"? (PTCT29)

These comments suggest that some dental teachers are encouraged by their desire to improve their teaching practice and clarify their current teaching skills.

Summary

What motivates dental teachers to join a TTP? The main reason many newly assigned dental teachers join such programmes is the perception that having a teaching qualification is required by their schools or teaching hospitals. They also choose to participate to improve their resumes and career prospects. For some participants, it is a job requirement, and universities recommend that dental teachers participate in such a programme. The majority of dental teachers who participate in TTPs are junior or newly assigned dental teachers. While joining a TTP is not compulsory, the experience of the programme was a motivating factor for some dental teachers to continue to upper levels (e.g. from certificate to diploma to Master's). They

are not required to proceed with these levels, so their continued participation was based on career advancement or personal interest in studying education.

However, the motivation of senior dental teachers can be different, and an interest in the scholarship of teaching is to explore what they are looking for in terms of engagement and intellectual experience.

7.2 Impact of Teacher Training Programmes

In this section, I discuss the impact of TTPs on dental teachers based on their experiences. From the data, I highlight the experiences that dental teachers had after participating in TTP.

The findings confirm that dental teachers experienced impacts on their:

- Conceptions of teaching;
- Knowledge and skills;
- Teaching practices;
- Attitudes toward professional development; and
- Confidence and self-belief.

These findings are aligned with the literature on the impact of university TTPs (Rust, 2000; Gibbs and Coffey, 2004; Butcher and Stoncel, 2012; Parsons et al., 2012).

7.2.1 Impact on dental teachers' conceptions of teaching

Dental teachers experienced a shift in their conceptions after attending the TTP. For example, one participant described the initial conceptions he/she had as 'misconceptions':

...get surprised from time to time about other stuff you didn't know and new techniques in teaching and getting the students' attention that you didn't know or some of the misconceptions that I had before, and that's why I say it's quite useful actually and quite enlightening. (TA12)

The same participant described his/her previous methods of teaching using the 'wrong methods':

Some of the techniques, especially in working with a smaller group of students...some of the techniques I was using, for example, were wrong. I didn't know that, and they had something bad for the students. So, some of the materials I'm reading and some of the teaching is quite helpful in actually making me more effective in teaching. (TA12)

Two participants reported completely different perspectives regarding how they understand teaching and the learning process:

What it's done for me is it has given me a completely different way of looking at teaching, of questioning myself...of questioning "why do I teach the way I do"? (FTCT11)

It's helpful because you see teaching from a different perspective from a different faculty. Most of the people in the courses are from the arts faculties, where dentistry is always in with the science faculty, so it's completely different, and the way they actually approach problems is completely different. (CA03)

Further evidence of raising awareness can be found in the description of a junior dental teacher, in which he/she details his/her experience of such a transformation:

And, you know, maybe I was unaware of the different methods of teaching...the different methods of learning...learning styles that students have. Maybe I was a little bit old-school [to think] that, you know, students would believe anything a teacher would say. But, now, you realise, you know, that's wrong, in some ways, because, you know, if negative practices are being taught, that that'll just be consolidated in a student, really. (HCT16)

The dental teachers used different phrases to describe their teaching in the past: old school, misconceptions and lack of awareness of the learning process. Participating in the TTP helped them to view their practice differently and replace their old conceptions with new ones. One of these main conceptual changes was a shift toward more student-focused learning.

The most quoted theme that emerged from the analysis of data was the shift toward student-centredness. Dental teachers' improved understanding of the learning process caused them to regard teaching as a way to enable students' learning. This increase in student-centredness is expressed through the following quote:

I found it very useful because [of] certain scenarios they told me about teaching...you know, the student doesn't learn from you just telling them what to do. Get them involved. Get their opinions, you know, rather than giving them a lecture. Tell them to prepare things, and then you discuss it. Or, sometimes, because it's a clinical teaching, you can sit and ask them to ask you questions. So, that I never thought of...you know, because sometimes they have questions I assume they will ask. But it was nice that, sometimes, you just have to do tutorials, and I just answer their questions – clinical, non-clinical. So, that's very good. (PTCT29)

More awareness of the learning process helped these dental teachers to be more student-centred. There is some evidence that teachers who take a more student-focused approach,

their students are more likely to take deep approaches to the subject being taught (Prosser and Trigwell, 1999; Trigwell, 2012).

Another dental teacher experienced a change toward more interaction with students and stepped back to help them construct their knowledge. He/she described his/her previous teaching model as being proactive and doing things for students:

...what I'm learning now from my [TTP], as well, is you have to be a supervisor...maybe have to facilitate the education, so in terms of actually guiding your trainees and your students and, in some ways, just giving them support in that sense and then them coming back to you and saying, "Well, I've done that" and "I've achieved this" and, you know, "can we discuss this further"? And things like that. So, that's quite a difficult challenge 'cause I'm used to maybe doing things a lot myself and trying to be proactive, and so you have to sort of step back from that a little bit; otherwise, it just gets too difficult. (HCT16)

The transformation from a teacher-focused to a student-focused understanding of the learning process was a common finding among participants. Another participant shared his/her experience of this change in conception toward more student-centredness:

...changed my way of teaching in tutorials – for example, allowing me to engage with the students more. (PTCT20)

Another participant described the change in conception from teacher-focused to student-focused using the metaphor of transformation from 'the sage on the stage' to a 'guide':

...the biggest take home message for me was that it's not [just] teaching. It's about teaching and learning support, and it's more about being a guide rather than "the sage on the stage", so over the years, I've sort of moved on, you know, using ideas, you know, with activity theory. (CA10)

This participant emphasised the change in his/her conception of teaching after attending the TTP:

...definitely, you'll find answers in these courses that will help you to answer some deficiencies in your students; in your friends; in your colleagues. Because, when you're teaching, it's not about just giving information, it's also about you helping your students to develop. (PTCT25)

Another participant perceived the change in his/her thinking and understanding:

...but it totally changed my thinking and understanding of how you can deliver education in an exciting way for students who have very active minds. (CA04)

The finding of an increase in student-centredness among participants is consistent with the literature on the impact of TTP (Kember, 1997; Åkerlind, 2003; Gibbs and Coffey, 2004; Weurlander and Stenfors-Hayes, 2008). For some dental teachers, this conceptual change was unexpected. Postareff *et al.* (2007) suggest that there is a relation between the length of the

programme and the effect on approaches of teaching, and at least one year is required to see positive effects.

7.2.2 Impact on dental teachers' knowledge and skills

A large group of participants experienced an increase in knowledge and skills. This is aligned with the literature (ÅKERlind, 2003; Donnelly, 2006). Dental teachers who undertook TTP were introduced to educational theories. While some found this challenging (as I will discuss in the next section), others found it stimulating. One dental teacher reflected on how he/she found theory to be a way to validate his/her teaching approaches:

...learning about educational theory and then testing it and applying it in practice...Because I'm early in the teaching, having some assurance that my methods are validated by theory because I've always been told that I teach well, or even with my colleagues at [the] undergraduate [level], they would come back to me, and I would explain to them something. I'm enjoying that part. Or peers from younger years, I always did it unintentionally and [in an] un-informed way, and it's nice to see the theory and then reflect on my methods and say, okay, I found out that I use this method, or I use this method. (PTCT20)

One participant described his/her experience of developing knowledge of teaching methods and learning how to interact with students from different backgrounds:

Interestingly, I was just filling the feedback now and, mostly, the ability to interact with students from different disciplines. I know what they're teaching. I know different teaching methods they were using. So, I think that was the most important thing. The programme tutor was quite supportive and quite open to discussion, and she was the one who was running my group...in charge of my group. (TA12)

Another participant found the TTP to be an opportunity to gain insight into educational research, enabling him/her to perform research in education:

[TTP] affords you the opportunity to get a nice, broad view of what current theory is thinking and write a small...what you might call a special study module, really. (CA08)

Some participants perceived TTP as intellectually stimulating. One dental teacher explained how TTP helped him/her to expand his/her thinking from what he/she described as a 'rigid way':

So, it just helps to expand the way you think, and you don't think the same rigid way as you did before, so that's why it's helpful. (CA03)

Another participant described his/her experience of TTP as challenging, and he/she connected this to his/her enjoyment of the programme:

I went in for that reason, but having said that, now that I've started, I find it hugely intellectual and challenging. And I've really enjoyed the learning experience. (PTCT23)

Dental teachers have been introduced to paradigms that are different from the positivist paradigm of their dental culture. They have been introduced to methods of research that they might not be familiar with, as one participant reflected:

I didn't know a thing about...qualitative research. I may have been doing it, but I didn't even know what it was and how different it is from the sort of scientific research that I've always been involved in, and it gives you the edge to be able to see things from a very different perspective. (FTCT11)

Most dental teachers felt that they received knowledge and skills that were relevant to their teaching practices.

7.2.3 Impact on teaching practices

The participants perceived impacts on different aspects of their practice, ranging from the delivery of teaching to feedback and reflection. They gave examples of how engaging in the TTP helped them to change their practices. One participant gave an example of small group teaching and how he/she learned to apply his/her knowledge from TTP to practice:

One of the things I used to do...sitting in a small group and, in a way, to encourage everybody to participate in the discussion, I used to go around the table asking people to say their opinion or answer a question, and I was told actually this year that, well, it's not a good method because one student answers a question or, as they're getting ready to answer their own questions, you kind of disengage, so that's an example of how this course actually is quite useful for my teaching technique... (TA12)

Some dental teachers learned how to receive more structured feedback. Reflecting on the findings in previous chapters, the methods of receiving feedback in dental education are often inconsistent. One participant explained how he/she managed to implement structured feedback to his/her practice:

That was, for me...informal or subjective, but now, I'm hopefully doing a structured feedback to find out what ways we can improve on. (PTCT20)

Moreover, one participant took a further step, using his/her knowledge about feedback and assessment, as he/she helped a trainee to explain the assessment process:

It's been useful very directly with the specialist registrar trainee that we have at the moment...she is struggling with issues with the log book, with how she's receiving feedback. So, I've actually directly used knowledge that I've learnt from the certificate with her to help her to understand the process that she's going through...why there are all these different assessment tools, why she shouldn't just be looking at these as tick box exercises, that each work-based assessment tool is there for a specific reason, and she's found it really, really useful, and I've actually given her some of the papers that we had on the course for her to understand what the feedback and the assessment is all about. So, yeah, it's been invaluable. I'd recommend it definitely to anybody, whether they want to have a formal teaching role or not. (HCT17)

Comments like these are taken as evidence that dental teachers need to develop expertise in assessment and feedback. Their exposure to TTP helps them to develop tools for effective assessment. Developing effective assessment practices is important, as well as developing a scholarship of teaching and learning (Rust, 2007).

One participant described how the TTP helped him/her in giving feedback and how he/she experienced applying this in his/her own clinical practice with his/her therapist trainee:

Well, just recently, it was on this week I asked my therapist...she's in training, she's my new training therapist. So, I asked her to see a patient and come up with a treatment plan, and she came up with a treatment plan. So, one of my colleagues...I saw them do the same, so instead, the treatment plan was wrong. It wasn't wrong, but it wasn't the perfect treatment plan...So, instead of saying, "No, I will not do this", I said, "Well, that's good. How about this, this, this"...it was on the chair-side in front of a patient, and she found that very helpful. She came to me and said, "Oh, thank you so much, you know, that your treatment plan was right, but thank you for not embarrassing me in front of a patient", which I wouldn't do that anyway. So...we pick things up from [TTP] and other lectures...and the therapists appreciate it. (PTCT29)

One participant said that the TTP impacted his/her practice by changing his/her way of teaching from teacher-focused to a more student-focused approach:

...changed my way of teaching in tutorials – for example, allowing me to engage with the students more, check if I'm effective or not by checking their understanding rather than just imparting knowledge on them...Always making my learning based on the previous, building on previous learning, previous knowledge rather than just, at that point...Changing it, changing my content and delivery style depending on the audience. (PTCT20).

Another participant described how his/her participation in the TTP answered his/her questions and helped him/her to be a more effective teacher; he/she also experienced this through students' feedback:

And I have to say it's answered a lot of the questions that I'd asked myself. And I think, you know, even now, just two modules in, I'm a much better teacher. I think I'm much more effective as a teacher. The clinical supervision side of things, I think, has improved. Where I've been doing this teaching for undergraduates, I provide a seminar on a weekly basis and have actively been using some of the techniques that I've been taught. So, it's been really, really rewarding. And the feedback's been good from the students as well. (HCT17)

As mentioned in the literature review, the effect of these TTPs on teachers' practices is not linear (Healey, 2000; Gibbs and Coffey, 2004); the longitudinal nature of these courses and structures helps teachers to reflect on their practice and implement changes. It is difficult to obtain the same results from single events, such as short courses (Butcher and Stoncel, 2012). Donnelly (2006) points out that TTPs support the combination of theory and practice and display the significance of 'interdisciplinary learning'. These can be of great impact to the teaching practice of new teachers.

7.2.4 Impact on dental teachers' attitudes toward professional development

One of the most notable themes to emerge from the present study relates to dental teachers' attitudes toward their professional development as teachers. Some participants perceived the importance of adopting continuous professional development, such as reflection, peer review and getting feedback, in teaching at regular cases. For a group of participants, participation in TTP gave them motivation to review their needs and engage in further professional development activities. This accords with Butcher's findings (2012).

7.2.4.1 Observation and feedback

From the findings discussed in the previous chapter, many clinical teachers experienced a lack of teaching observation and feedback, and the TTP allowed them to experience teaching observation. One participant described such observations as encouraging:

...and, certainly, the teaching observations. I did that a second time after my diploma with one of the [TTP] people, and that was, again, very encouraging. (FTCT09)

Another participant perceived peer observation, observing other students and gaining feedback as enjoyable experiences:

For instance, I've enjoyed having my teaching observed – having to gain feedback – and I've enjoyed watching (in a peer way), other students' teaching and giving them feedback. (PTCT23)

Although some participants experienced challenges in the theoretical part of the TTP, they found the observation module useful:

I have to say that I think some of them...some other ideas are introduced, but certainly, so far as teaching, I mean, the last module I did was...the first one I did was the theory of teaching, and the second module I did was the observing teaching module. And I actually think being observed by one's peers is quite a useful thing. (PTCT22)

The experience of observation and feedback helped dental teachers to gain confidence in their teaching abilities. Teacher observation, as suggested by Hirst (2012), can bridge the gap between educational theory and practice. There is some evidence which suggests that teaching observation can encourage reflection (Hatzipanagos and Lygo-Baker, 2006a; Hatzipanagos and Lygo-Baker, 2006b).

7.2.4.2 Reflection

One of the most noteworthy themes to emerge from the data relates to the increase in reflection. The participants claimed that they reflected more on their teaching after participating in a TTP. These findings aligned with (Donnelly, 2006). Reflection is the most frequently reported finding among dental teachers who completed or are involved in a TTP. The time that teachers are given to reflect during the programme has a great influence on dental teachers' experiences of change. One participant claimed that he/she reflected on both good and bad things:

So, I think reflection, feedback...they're probably things that I've learned that would be more important to me in terms of my own professional development. And I probably would try and instil that in trainees...about the uses of reflection and feedback, as well. So, in professional development, I guess, it should be life-long. I agree with that. It should be focused on items that you've encountered. You know, negative experiences or even positive experiences. We tend to reflect on the negative things more than we do on the positive things, but there has to be a balance... (HCT16)

The same participant took a further step, reflecting on his/her clinical practice:

So, it does take a little bit of time, but when I reflect on these learning theories and things like that, I try and look back and say, "Well, actually, how can I apply that to my own clinical practice"? And that sort of helps me to get a better understanding...when I reflect back to my own practice, basically...Try and apply it clinically. (HCT16)

Many of the changes in conceptions, methods of teaching and techniques can be credited to learning the ability to reflect on teaching practice. There is some evidence from this research, which is in line with other literature, that the ability to reflect on teaching practice is one of the main outcomes of TTPs (Weurlander and Stenfors-Hayes, 2008; Butcher and Stoncel, 2012). The advantage of these courses is that they allow time for reflection through the assessment methods used. Unlike short courses, the longitudinal nature of TTPs that span over two years for a certificate level allows time for reflection (Postareff et al., 2007). While dental teachers may already reflect upon their clinical practices, TTP provides them with a space away from their home department to reflect on their teaching practice and the required tools to help them reflect effectively. There is some evidence that the courses have an effect on student learning in the way that students of teachers who have participated in a university teacher development course are more likely to use a deep approach to learning (Gibbs and Coffey, 2004).

7.2.4.3 Motivation to engage in further formal professional development

Some participants experienced a sense of added structure to their professional developmental activities. They had more structured feedback, observation and reflection. One participant described how the TTP added structure to his/her professional development as a teacher:

For example, it structured my development. I used forms for peer review. I can reflect on my own practice. It's given me a platform to reflect on my own practice and taught me reflection. (PTCT20)

He/she experienced this as learning a method to continually reflect on his/her practice and also having a guide or resource to refer to at any time:

...changed my way of doing things, and also, if I feel I'm not good at something, I can go. I know now what to read...how to evaluate things and how to look at it from a critical lens rather than just take it for what it is. (PTCT20)

Some participants valued the interdisciplinary interactions they experienced during the TTP:

So, it was nice to do [TTP] because we did not just learn the clinical side of teaching; we also learnt different sides of things. For example, a History student was told that, you know, it would be nice to take the student out into the actual field and show them, like me showing my students clinically. They would take them out to historical sites and actually teach them there. (PTCT29)

I mean, it's nice to sort of interact with different disciplines and see how everything changes. (PTCT15)

Some dental teachers who attended TTP were motivated to continue with the programme; they moved on from certificate to diploma, and some aspired to the MA level:

I'm looking at completing my Master's. I'm looking at maybe taking some leadership management courses and integrating more with my colleagues over at [TTP]. (FTCT11)

This comment indicates a focus on on-going learning about teaching. Although the certificate level is adequate to meet job requirements or support career advancement, some dental teachers were motivated by their experience with TTP to continue engaging in higher levels of training. This can be attributed to their interest in the scholarship of teaching, or they may appreciate more structure in their professional development while obtaining higher degrees. This may also be attributed to an increase in confidence and self-efficacy, which I explore in the next section.

7.2.5 Impact on confidence and self-belief (self-efficacy)

Confidence is a notable subtheme in the data. One of the participants reflected on his/her experience with the TTP and how he/she gained a sense of awareness after completing the

certificate level of the TTP. He/she then decided to continue to the Master's level of the TTP, and he/she developed a greater sense of confidence. He/she found that the first level of the course uncovered a lack of knowledge and understanding in teaching, which might be a reason for the confusion that many dental teachers face in the early stages of TTPs. This is a finding that echoes findings in research on TTPs more generally (Healey, 2000; Postareff et al., 2007). He/she decided to upgrade in level to diploma then to Master's level, where he/she acquired more knowledge and greater confidence in his/her abilities:

...I did a Graduate Certificate of [TTP] – that was in my SPR training – and then, I upgraded to Diploma. I mean, it showed me that there's more aspects to teaching that, probably, I didn't really, fully understand. And the evidence and the literature behind teaching, as well – I mean, it is quite theoretical and quite abstract, in many ways, but you can apply that to your clinical practice. And, you know, maybe I was unaware of the different methods of teaching, the different methods of learning...learning styles that students have. Maybe I was a little bit old-school [to think] that, you know, students would believe anything a teacher would say. But now, you realise, you know, that's wrong, in some ways, because, you know, if negative practices are being taught, that that'll just be consolidated in a student, really. So...doing the MA in [TTP] gives me, probably, the security that I know that...rather than students saying to me that, you know, "Okay, you're good. Thank you for teaching" and things like that, maybe I wanted to know that I was being effective, as well – that I'm delivering the highest-quality teaching, that it is effective, that it is validated and that I can practice what I preach, ultimately. Rather than students just telling me that, "Oh, thank you for the teaching" and things, maybe I didn't believe it at the time. So, maybe, I want to ensure that I'm giving the best for them, as well. So, that's probably one of the...probably the only driver, as well, basically, I guess, for doing the MA in [TTP]...to develop further learning styles. Because, going back to the other question about "how do I manage it in my practice", my work is difficult. There's only a certain amount of time that I have, and I need to know about other skills/other learning opportunities that I can deliver effectively. (HCT16)

One dental teacher described this as a sense of reassurance; the TTP gave him/her tools and a methodology for reflection that he/she utilises in his/her teaching, as well as in clinical practice:

So, I would say it was helpful for that. I think it also helped to reassure me that a lot of my...what these days would be called self-reflection, I think...is actually [about] being a good teacher... [and] a good clinician as well. You actually have to think about what you're doing and think about what worked...think about why it, perhaps, didn't work or if it didn't and then try and learn from that and make sure that, next time you do something similar, you don't repeat your own mistakes...you open up the teaching and learning to a higher proportion of the people that you're trying to teach. (PTCT20)

This increase in confidence can give dental teachers the courage to change teaching practices and implement new methods (Butcher and Stoncel, 2012). The impact of TTP on confidence and self-efficacy is obvious, and this directly relates to the dental practitioners becoming dental teachers and gaining a sense of identity, especially as non-academic dentists with more academic roles in dental education. Thus, I believe that the impact of TTPs on dental teachers' identities is worth noting.

The shift in professional identity occurs especially in newly assigned teachers who are coming from practice. Having a legitimate presence as a practitioner in an academic practice drives some newly assigned practitioners to attend a teaching qualification. However, as I pointed out in the previous chapter, some dental practitioners see themselves as experts that came to dental school to share their practice, experience and knowledge. These practitioners are less likely to develop teaching identities, their teaching practice may operate at the operational level, i.e. routine, and they may not reflect on their teaching practice.

My findings support the importance of early teacher training to avoid developing negative practices and teacher-centred approaches (Gibbs and Coffey, 2004). These TTPs offer an 'alternative culture' that helps dental teachers to rectify the possible negative impacts of their department's culture (Gibbs and Coffey, 2004).

Dental teachers who attend TTPs come from different backgrounds of teaching experience and also have a variety of motives for their professional development. Thus, TTP that accommodates all of these teachers and tailors teacher training to different groups of teachers will have the greatest impact on attending teachers (Butcher and Stoncel, 2012; Åkerlind, 2007; Pill, 2005). The shift to a student-centred approach is possible after training for four to 18 months (Gibbs and Coffey, 2004; Postareff et al., 2007; Parsons et al., 2012). The longitudinal nature of these programmes requires commitments that may fade with time if dental teachers do not get the required support from their schools.

The TTP is an environment where dental teachers are most likely to experience different perspectives on their teaching practices. All the subthemes under the impact of TTPs on dental teachers play a role in shaping the identity of a dentist that is inwardly expressed by the dental profession's values and virtues. Being a clinical practitioner at any level results in some sense of isolation when engaging in dental education. Before participating in the TTP, many dental teachers held different perspectives and conceptions on teaching and professional development in teaching. These pre-existing values, skills and knowledge are deeply embedded in dental

culture. Dental teachers start learning 'how to teach' from their experience as students by watching their teachers. Through this apprenticeship of observation and role modelling, they develop their models of good teachers and hold all aspects of their culture – either negatives or positives. Early exposure to university teacher training helps them to negotiate and critique their cultural values before acquiring the negative practices of their professional and academic cultures (Gibbs and Coffey, 2004).

The confidence mentioned here, in regard to professional identity, highlights how all the above impacts contribute to the challenged sense of professional identity as teachers and educators. As previously mentioned, TTP may encourage reflective practice, and reflection may reshape identity.

The impact of TTPs on professional identity has been explored by Butcher (2012). In this paper, the authors highlight this impact in terms of the sense of confidence and competence as higher education professionals. Attending TTP gives the participants a sense of belonging to a community of university teachers. This sense of belonging helps them to develop an identity toward their role as teachers and brings out their latent teaching identity to reflect upon. Attending such programmes, as I pointed out earlier, provides a space for dental teachers away from the comfort of a dental school or hospital to reflect on their roles as teachers. Exposing dental teachers to higher education activities, such as TTPs, takes them away from their clinical spaces and allows them to interact with other disciplines within the university, where they share one goal: developing their teaching practices. Regardless of the differences in teaching practices between these disciplines, the ability to appreciate the process of engaging with others in development has a great influence on dental identity.

In the next section, I highlight the challenges dental teachers may face during their participation in TTPs.

7.3 Challenges and Constraints

In this section, I present some of the constraints that dental teachers face in their experience with TTPs. Time is at the top of this list of constraints; another constraint relates to unfamiliarity with the TTP compared to what the teachers are used to in dentistry or dental education.

7.3.1 Time

As mentioned before, time is the main constraint for many dental teachers, who may find it difficult to fit the TTP into their already busy schedules. There are some constraints in terms of teachers' availability due to their other roles of teaching and clinical services. Despite the time flexibility that has been added to many TTPs, some dental teachers find it difficult to balance the programmes with their other roles and professional developmental activities. In the face of these time constraints, dental teachers must be highly motivated to commit to such programmes. One participant shared his/her experience with challenging time constraints, which led him/her to suspend studies:

Well, it's difficult for me whether I find it useful or not because I struggled with doing it. I completed one unit, and then, I just didn't have enough time to carry on with other units. So, it's kind of on hold at the moment. I'll just, you know, I have some things, unforeseen, which unfortunately made me stop for a while, but I'm going to start again probably in April. So, it's kind of on hold at the moment, so that's why it's difficult for me to tell you whether I find it useful or not. Looking at the units...I think it will be useful. (PTCT14)

For this reason, the TTP provides time flexibility, both in terms of when it starts and ends. It is structured in a modular form to help university teachers fit it into their busy schedules:

I mean, we don't even have enough time to do our job, and you can just imagine when I have to spend a morning every two weeks or something, and then, on top of that, there is the writing essay and assignment. However, having said that, I mean, if I'd known about it, I would definitely do the reading. I mean, the reading was quite useful. Most of it is quite useful, and I think it's quite important. But I would not have gone to take a course if I didn't have to take it at this stage of my life, even given that we agree that's a very useful course...but because of the time, because of the lack of time, yes. (TA12)

Another participant described the challenge of finding time for reading the literature and writing the essays:

The most challenging thing for me was finding the time to do the background reading, to access the papers. There were more practical issues in actually sitting down and finding the time to read through them, the mountain of papers that we were being recommended to read. And I found the essays quite challenging because of the time commitment. I have to travel. I couldn't work at home because I found it too disruptive you know being in a family home and finding the quiet time so I would have to get the tube to go down to [University campus] and then literally spend sometimes the whole weekend from like you know ten o'clock in the morning when the library would open until often you know eleven, twelve o'clock at night and just literally living off you know, the snacks that they have there. It was nice in a way because it

was my time and it was my time to focus but towards the end I remember thinking I'm not sure I can do this for much longer do you know what I mean? Because it was the weekend. Very often the weekend would go and then you know my family would miss me. I would be having to dedicate time away from home life and then of course I'd be faced with having to work full time as a dentist in my own practice the next day. So it was time. (PTCT23)

Despite the struggle, the same participant found this experience is rewarding:

Although I have to say that it was yeah, I mean if we're talking about challenges that was the main issue, the time. But balanced with that I found it incredibly rewarding for an intellectual perspective. I really, really enjoyed the engagement with that type of literature and opening my mind up to all the different inputs, I really got a kick out of that. And I enjoyed doing the essays even though I found them practically a struggle. (PTCT23)

The above quotes show the importance of supporting dental teachers in undertaking TTP by their schools and departments. Ideally, they need to be provided with more time for attending TTP and engaging in its activities.

7.3.2 Unfamiliarity

Some dental teachers find the delivery of teaching, assignments and academic language in TTPs to be unfamiliar. One participant described the language of the programme as 'alien':

So, a lot of it...I think the language was a bit, very alien...but because a lot of the stuff is...such new language, such very, very different ways of dealing with things, I found that a little bit trickier, and I don't think I found that as useful. (FTCT27)

One participant perceived unfamiliarity in the educational literature compared to what he/she was used to as a dental practitioner; he/she found expressing this literature in writing to be challenging, although he/she argued that it seemed common sense:

On teaching education, the literature? Well, it's sociology, and I find...we've all been fairly disenchanted by that. We...we're people. We're doers; that's the trouble. So, we're not thinkers, but it's a lot of what we do we want to pin down; you know, you do this, and you get that outcome. Whereas, with sociology, you might or might not get that outcome. On the other hand, someone else's theory might yield you this outcome...I find it sort of quite interesting but difficult to write my essays...really difficult to pin down ideas and, actually, quite a lot of it felt sort of like common sense in a way. (PTCT22)

Dental teachers are not familiar with this type of teaching and development. Due to this unfamiliarity, some dental teachers experienced or anticipated difficulties in the application of TTP knowledge in their teaching practices. Recognising the difficulties that dental teachers face during their participation in TTPs will aid in the development of TTPs that better fit their time, identities and needs. Personalised TTPs have been suggested by some authors to address these individual and professional group variations (Rust, 2000; Butcher and Stoncel, 2012).

7.3.3 Not relevant or limited use

Of the 27 participants, six found the TTP to be irrelevant or of limited value. Some participants claimed that TTPs were relevant to a different type of teaching: more to lecture-type teaching than to clinical teaching. In addition, these participants believed the TTP was relevant to disciplines other than clinical or dental:

So, yeah, I don't know how useful it's been quite honestly. I think it's helped me to sort of think a little bit more about the way I do it, but the problem with teaching dentistry, especially clinical dentistry, it's so different from other forms of teaching, you know...there is a real show and do element about it, which by definition, tends to be a bit didactic. (PTCT22)

They are teaching all of us from philosophies, people who are doing philosophy, anatomy, medicine, engineering...they're teaching us how to teach, but we all teach in different ways...Someone who's reading or teaching philosophy will be teaching in a very different way than someone who's teaching a science subject because one's very subjective, one's very objective. So, it's incompatible what they're doing. (HCT26)

The participants emphasised that the teaching in clinics is different and learning how to teach is more about experience:

I don't know if it has much use to actual dental...teaching in the way that we do it in the clinic because it's almost more like an apprenticeship thing. When you have your group of students, you're closely watching them, and they watch you. So, I don't know if you can apply that, but certainly, I can appreciate that some students will have different learning styles than others, and I think the more experiences that you get in teaching, over time, you learn to identify these things, but it's not something that comes easily. (PTCT15)

Some participants described TTP as more theoretical and less practical:

It was very theoretical without many practical components, and I gained very little information out of the papers that I was recommended to read, although the papers were very long. So, the conclusions and outcomes that the authors could have outlined in just a few lines, they were dragged into many, many chapters and basically many paragraphs very unnecessarily in my opinion. (HCT18)

The same participant went on to describe the challenges of writing the assignment:

The way that I was asked to write the assignment was different to how I have always been taught. It was a lot of reflective writing, which takes you some time to get used to. Some modules were easier, or some assignments were easier to do than others. (HCT18)

This suggests that some dental teachers were not familiar with this kind of reflective writing. However, the majority of dental teachers appreciated this experience after they completed a large part of the course. There is some evidence in the literature that attending TTPs may lead to confusion if the programme is less than a year or if the student is within the first few months of a long course or attending short courses (Postareff et al., 2007). Dental teachers may get confused by the sheer amount of new knowledge and the paradigm shift required to absorb it. While some took the time to reflect and engage, others found it difficult to continue, so they dropped out of the TTP after the first one or two modules. In addition, the expectations that

many dental teachers have prior to attending the TTP can influence their experience (Butcher and Stoncel, 2012). Some may expect more technical tips and immediate effects on their teaching practice, so they may get confused or disappointed.

Many other factors affect the experience of the programme and may have an impact on dental teachers. For example, the progression as a teacher is often not linear (Healey, 2000), and dental teachers may stop at certain levels or become inspired to engage more in upper levels that they feel have a greater impact on their teaching practices. Perhaps, most importantly, teachers may get confused by all the new knowledge, especially when it comes from a different perspective.

Conclusion

I found that TTPs were experienced in various qualitatively different ways. The variations in dental clinical teachers' experiences highlight the heterogeneity of the dental clinical teacher cohort. Perceptions of 'conceptual change' and 'stimulating reflection' were identified as the main outcomes of joining a TTP. The main challenges were identified as time and the unfamiliarity of the new language of educational literature. My findings suggest that, although dental teachers engage in relatively similar teaching practices, they may exhibit varying approaches to their teaching practices and development as clinical teachers due to their qualitatively different perspectives on teaching.

Most dental teachers joined the TTP based on a job requirement or on the recommendation of their departments. Some dental teachers perceived it to be a way to legitimise their presence in the dental school or their role as a clinical teacher in a hospital. Some junior dental teachers perceived it as an addition to their C.V. and a pathway for career advancement.

Making TTP, more or less, compulsory may help in getting dental teachers to participate in the programme, but it will not help them to become engaged. However, encouraging junior dental teachers to join the programme through their school and department helps them to commit to TTP. As a result, they may continue to higher levels, restructure their professional development or look at their teaching practices differently.

The majority of participants generally experienced an impact on their conceptions of teaching, knowledge, skills, teaching practices, attitudes toward their professional development and self-confidence. Dental teachers' participation in TTPs will help them gain other perspectives on teaching and learning outside the dental environment, which will impact their sense of identity as dental teachers and challenge their view of the educational process. These TTPs in this qualitative study transformed the dental teachers' understandings of teaching and learning and helped shift the focus from the teaching delivery to the learner. Teachers who focus on learners and adopt more student-centred approaches will encourage their students to embrace deep rather than surface approaches to learning (Gibbs and Coffey, 2004).

There were a few participants who perceived constraints of time and unfamiliarity with these TTPs; fewer participants found the TTP to be of limited use. Dental teachers in the first year of their TTP may find it less relevant to their practice. This is likely related to confusion caused by new knowledge and reduced self-efficacy, resulting from their previous knowledge being challenged (Postareff et al., 2007). Suggestions to overcome perceived constraints include making attending TTP compulsory for newly assigned dental teachers and tailoring these TTPs to accommodate individual and discipline variations.

There were variations in the experiences among dental teachers while experiencing their development as clinical teachers. As they reflected on these experiences, tensions and challenges were identified. Common themes emerged from the data that could be highlighted for professional development curricula. Taken together, these findings have important implications for the literature on professional education, suggesting that teacher training should

be compulsory for all dental teachers. Dental schools should not only encourage dental teachers to participate in teacher training programmes but also put a system in place to allow more time for dental teachers to engage in these programmes.

Chapter 8 Discussion and Conclusion

'train teachers as educators, not solely experts in content, and reward educational excellence as fully as excellence in biomedical research or clinical practice' the 1988 Edinburgh Declaration¹.

This study arose out of a concern for how dental teachers develop their educational identities in an era of the decline of academic dentistry and an increased dependence on part-time dental practitioners. It is a response to the need for an in-depth understanding of the complex professional identities of dental teachers and educators within the specific sociocultural context of current higher education practice. It aims to advance the understanding of, and provide a framework for, dental teachers' professional development.

The previous chapters set out the research methodology and the analysis of the data. The research explores, in particular, the tensions that can arise between commitments to dental practice, research and education and the role that these tensions play in shaping dental teachers' professional identities and orientations.

There is a commonly-held belief in the profession that any qualified dentist can teach dentistry to dental students. I argue that all dental teachers should develop educator identities and there is a need for a commitment toward scholarship of teaching and learning that requires a shift in the professional identity towards becoming an effective educator.

In this chapter I set out my argument, answering the following research questions:

The main research question: How do dental teachers and educators describe their professional identities in contemporary dental education?

1. How do they perceive their teaching role?

¹ Warren, K. (1988). World conference on medical education, Edinburgh. The Lancet, 332(8608), 462–462. adopted from Scanlon L. (2011a) *Becoming a professional*, London: Springer.

2. How do dental teachers understand effective teaching? How do their professional identities influence their conceptions of teaching?
3. How do dental teachers approach professional development?
4. How do dental teachers reflect on their professional development through their experience of Teacher-training programmes?
5. What are the tensions they perceive in developing their teacher and educator identities?

This chapter is structured into five main themes to address the above research questions. Following a summary of the main findings of the research, some implications of the findings for improvements in dental teaching practice are outlined. In the final section, I offer some personal reflections on the experience of undertaking the research. In the next section I highlight the nature of teaching role as perceived by different groups of teachers in dental education.

8.1 Perceptions of the teaching role

In this section I discuss the findings that answer the research question: How do dental teachers perceive their teaching role? As discussed in the earlier chapters, there has been a change in the structure of dental education with a decline in traditional academic dentistry and an increased dependence on general practitioners (Dental Schools Council, 2016). Although there have been efforts in medical education to define medical educators and medical teachers (Bleakley et al., 2011), in dental education there has not been much insistence on defining these roles. Dental teachers are required to be qualified dentists in order to be able to act as teachers in chairside teaching. The dental educator role has mainly been played by clinical academics (Dental Schools Council, 2016). Many part-time clinical teachers are now coming from practice, and there is an increased dependence on alternative clinical academics (senior clinical teachers and clinical teachers) to take on the role of dental teacher and educator (Dental Schools Council, 2016). In this section, I discuss my findings in the light of these significant changes in dental education.

8.1.1 Summary of findings

-The separate and diffuse nature of the teaching role

Dental teachers occupy various positions within higher education institutions, and therefore unsurprisingly there are different perspectives on their role. Part-time clinical teachers perceive teaching as a separate role to their clinical practice. They work in their practice most of the days, and they teach for one or two days a week at the dental school. They do not perceive their teaching role as competing with their other roles, as they teach on separate days. Indeed, they experience teaching as a relief from their busy dental practice. In contrast, the teaching role of clinical academics and hospital clinical teachers is more diffuse with other roles related to research and clinical services. They perceive teaching as part of their job. The majority of these participants in my research seem to perceive teaching as enjoyable and as an opportunity to enhance their clinical practice and knowledge, which resonates with research undertaken elsewhere (Walker, 1988; Howe and Carter, 2003; Puryer et al., 2015).

-Teaching is low priority

In general, for dental educators teaching is perceived to be a lower priority than and in competition with the other roles that dental teachers have to do. This is very much related to how the teaching role is undervalued in comparison with their other roles (Parry, 1987). Clinical academics face great pressures managing their multiple roles. They are required to meet the demands of the dental school, the trust and the GDC registration requirements. Because they are greatly under pressure from their universities to publish, their research output is at the top of their priorities. Although full-time clinical teachers (FTCT) do not have the same pressures to publish, they have to cover busy clinical academics' educational administration and leadership roles. Hospital clinical teachers and part-time clinical teachers (PTCT) cover most of the chairside teaching for undergraduates and postgraduates. For hospital clinical teachers, clinical services are prioritised above teaching (Mannion and Brotherton, 2014; Bleakley et al., 2011).

8.1.2 Teacher and educator identity is an inherent part of their professional identity

The findings suggest that identity as a teacher is inherent in dentists' identities and not separate from it and this is in accord with some literature (Stenfors-Hayes, 2011). Their professional identity brings more status in comparison to their teaching identity. Dental education plays a role

in shaping professional identity, and this is connected with dentists' clinical experience and 'direct patient care' (Morison et al., 2011). Dental teachers prefer to be tagged with either their dental or academic identity rather than as educators. In this sense, they prefer their educator identity to be latent, subsumed within their dental identity.

The results reveal that dental teachers use their clinical skills to deal with teaching problems. For example, they use their communication skills with patients to deal with their students. This confirms the findings of many authors who have suggested that doctors use their clinical skills (e.g., problem solving) in their teaching practice (Ten Cate, 2006; Pitts, 1996). However, a potential problem arises when dental teachers use these clinical skills in their educational practice without critical reflection, assuming that these two practices are alike.

Clinical academics have always played the role of educator in dental education. However, there is a perception that 'dental educator' is not a favourable title for clinical academics. Although there is a group of clinical academics who have an interest in the scholarship of teaching and learning, they do not want to be primarily identified with this as it can suggest that they are not producing enough research to be a clinical academic. This is why most clinical academics develop an interest in educational development and research after they become professors. This trend suggests that there is a resistance to being identified by the term 'dental educator'. In the dental profession, gaining an associated status comes to dental students before the development of a professional identity, even before entering dental school. There is a connection between this status and one's contact with patients. Being a clinician brings more status to those in the profession, even though being a dental teacher brings other opportunities, such as building confidence while still maintaining one's clinician identity. My question here, then, is whether all dental teachers should be a dedicated dental educator? The need for more committed educators requires a process of professionalisation, according to Bleakley:

The identity of the medical educator is by nature a hybrid identity. Unlike medicine, it is still not clear who is a legitimate practitioner. There are so few medical educators that it is hard to reject anyone who is willing to teach, no matter how badly they perform or how uncommitted they are. Such issues of standards and quality are being addressed through the establishment of processes of professionalisation, including formal educational qualification and peer recognition, through bodies such as the UK-based Academy of Medical Educators.

(Bleakley et al., 2011: 95)

Some clinical academics reveal an interest in dental education, considering the role of a dental educator to be one that requires thought and dedication; however, their educator identity tends to be latent and subsumed within their clinical academic identity. There is also no apparent community of practice to represent this group of dedicated dental educators. Communities of practice are defined by Wenger as 'groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis' (Wenger et al., 2002: 4). There is a tendency in the dental community members not to acknowledge the specific role of a dental teacher or educator and to refuse to accept this role as one with which to identify.

This role resistance can be attributed to the self-imposed status of dental educators, who identify themselves as clinical academics or clinicians but not as educators. The educator role is seen as a temporary role that they play that takes up part of their job but with which they do not identify professionally. If it is assumed that dental education is a community of practising dental teachers and educators, who is considered to be at the centre of this community? Clinical academics can act as dental educators (Bleakley et al., 2011), but if clinical academics are in decline, alternative clinical academics must be allowed to fill these positions. However, the educator identity may still remain latent and marginalised in these roles.

The professional identities of dental educators develop through learning and participation in the community practice of dental educators (Wenger, 1999). However, Stone (2002) points out that the communities of practice of medical educators are weak in comparison to other well-established clinical communities of practice. Significantly, all participants in this research were able to self identify with a single role. Traditional clinical academics show a strong, singular academic identity geared to being clinical academics. Other participants, including Full-time clinical teachers (FTCTs), identify as clinicians.

Although the development of a professional identity with respect to dental education seems more of a philosophical than practical step towards effective dental teaching, AoME considers

that reflecting on professional identity and developing an educational philosophy is a way to demonstrate the core value of professional integrity (Academy of Medical Educators, 2012). Therefore, developing a professional identity as an educator can be considered as important (Foster, 2011). However, while there has been a discussion of the professional identity of medical educators in medical education, there has been no similar discussion concerning dental educators.

Dental students develop a professional identity through participation in a community of practice of dental professionals where they are peripheral legitimate participants. During this participation, they construct their identities in order to become qualified dentists and members of the profession. Their constructed dental identities keep evolving and shaping over time and with further engagement. If a person is a member of this profession and this community of practice, he or she is eligible to teach the newcomers. Membership of the profession is key to being able to teach.

Dental professionals go through an intensive dental training and education during their years in dental school. This training, as described by many educationalists, is a training in identity formation (Bleakley et al., 2011; Montgomery, 2006). When dental students enter dental school, they seek a certain status and are ready to join a community of practice where their identities are strongly shaped by their community of practice. Qualified dentists continue with this identity shaping, as described by Wenger, as their identity continues to change through their participation in their practice. Their dental identity is initially situated in the dental school, but as graduate dentists move into practice, it becomes located in the place where they practise their dental roles.

Dental teachers' identities are often shaped by their particular trajectories (Wenger, 1999). Dental teachers who work in hospitals develop different identities from dental teachers who work in a solo practice. Because of the isolating nature of dental practice, part time clinical teachers value their networking with other members of their society. Dental professionals

engage in a community of practice of like-minded professionals. This can be a community of practice of general practitioners who work in their own practice or a subject-specific community of practice in dental schools and hospitals across the country. Dental teachers value networking and connections because of the nature of dental practice in any setting where the dentist or the specialist is the main team player. From this, we can understand that dental teachers from all backgrounds are engaged in a community of like-minded dental teachers. Dentistry is a small profession, and its members are likely to be connected. The literature shows that dental professionals value networking and use it as a way to share dental practices (Stone et al., 2014; Sweet et al., 2008a; Sweet, 2011).

Clinical academics have a more established community of practice. However, the findings of the study suggest that newcomers to the clinical academic community struggle to engage in this community as it requires the development of practice and identity (Smith and Boyd, 2012). This is a community where knowledge is mostly tacit and implicit in nature. However, clinical academics have a stronger sense of academic identity in comparison with clinical teachers. Part-time dental teachers have a strong dental identity as they work in their practices and engage in a network of dental professionals. However, the largely implicit nature of teaching practice in dentistry makes it difficult for newcomers to share in this practice. They can share practice through role modelling and apprenticeships, but they are less likely to be critical of and informed about their choices in teaching.

The findings reveal that there are tensions in developing an identity as a dental educator. PTCTs do not consider teaching to be their main role, and they have a sense of separation between their two roles. They do not feel pressure to prioritise their teaching practice, and they have a strong practitioner identity.

The latent nature of educator identity can be a barrier against developing these identities. As a result, teaching and education may remain at an operational level and teachers are less likely to develop any emotional connection toward an educator identity (Sabel and Archer, 2014).

8.2 Conceptions of effective teaching

In this section I present my analysis of the findings that address the following questions:

-How do dental teachers understand effective teaching?

-How do their professional identities influence their conceptions of teaching?

8.2.1 Summary of findings

-Conceptions of teaching is influenced by the context.

The participants expressed differences in their conceptions of teaching depending on the setting. For example, some dental teachers believe that it is difficult to open a discussion in a lecture because of the large number of students; however, they will encourage discussions during clinical sessions (Ramsden, 2003; Williams and Klamen, 2006; Stenfors-Hayes et al., 2011).

-Effectiveness is sharing dental practice.

The findings of the present study suggest that dental teachers value their practice knowledge and their interpersonal skills. They believe that they have developed these qualities in their dental practice, and they understand that these qualities are what helps them conduct effective chairside teaching. Therefore, they share their knowledge and their communication skills with their students.

-Dental teachers who are trained in teaching are more likely to understand teaching as more of student-focused.

The findings of this study suggest that dental teachers who attended TTP tend to focus more on students' needs and learning. As mentioned in the literature review, student-focused conceptions tend to lead to better outcomes and deeper learning (Prosser and Trigwell, 1999; Trigwell, 2012).

8.2.2 Teaching knowledge is tacit

The use of professional values and skills in teaching suggests the strong and familiar identity that dental teachers have with respect to their profession. Apprenticeship and transmission models of teaching (Pratt, 1998) are the status quo in dental education; changing the system will require a great deal of effort as dental teachers tend to adhere to the comfort of their identities.

McMillan (2011) suggests ways to make tacit knowledge more explicit and accessible to the conscious of both dental students and dental teachers. She suggests questioning students to help them recover what they learned and to apply it in new contexts; and through verbalising and thinking about their understanding they are able to make connections between 'isolated knowledge'. Through 'concept mapping', Kinchin *et al.* (2008a; 2008b) suggests using links between chains to reveal the practitioner's knowledge and experience to understanding and examination.

Because learning is situated in dental education, a tacit knowledge has developed that needs to be articulated. Some authors suggest (Emig, 1977; Flower and Hayes, 1981; Day, 1993) using reflective writing to make tacit knowledge more explicit. In fact, dental teachers find their own ways to do this, often using metaphors (e.g., tell, show, and do). Sometimes, telling or writing is not enough, so showing through demonstration and observation can make things more explicit; in this way, students can figure out more of the tacit knowledge. Dental teachers in their teaching have found ways to deal with this issue in dental education. These ways of teaching in dentistry can be considered as the 'signature pedagogies' of dental education. These signature pedagogies are defined by Shulman (2005) as 'types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions' (p.52). The main purpose of knowing these pedagogies is to understand the teaching practices that make for effective teaching in a specific discipline or profession (Shulman, 2005). Dental teachers try to explain their internalised knowledge by finding ways to make their knowledge more explicit to their students. In doing so, they are likely to borrow approaches from their clinical practice.

The concept of signature pedagogies (Shulman, 2005) was first used to analyse the teaching practices of disciplines; however, as professions contain multiple disciplines, developing signature pedagogies means developing multiple pedagogies (Poole, 2008). Each discipline and profession has its own signature pedagogies (Donald, 2010). Dentistry, in particular, has its own signature that is unique to dentistry. Poole (2008) has described the profession as having 'boundaries with guards' (p.54), and these powerful forces are necessary for developing a professional identity. As a closed and small profession, dentistry has developed a strong professional identity. Dentistry is different from other health professions and has developed its own unique teaching practices.

The epistemological framework of the profession, as well as the traditions of the professional community to which dental teachers belong and the traditions within a particular institute, determines the context of teaching (Becher and Trowler, 2001; Kreber, 2010). If these traditions are more implicit in nature, not all dental teachers have the opportunities to understand and utilise them. Seniority plays a role in this, as does the position of the dental teacher and his or her presence in the teaching environment (Poole, 2008). Thus it is important to explore how the teaching in a particular subject is approached and how learning occurs to help dental teachers construct 'pedagogical content knowledge' (Shulman, 1987). 'Pedagogical content knowledge' is defined by Shulman as the 'blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction' (Shulman, 1987: 4). Kreber (2010) argues that academics should reflect on their 'pedagogical content knowledge' to understand why they approach teaching in their department in a certain way.

Dental teachers put great value on their subject knowledge, which is related to how dental professionals, as members of a well-established profession, value their professional knowledge and experience. However, expert knowledge is not enough to make effective teaching happen. Its effectiveness depends on how teachers integrate their knowledge with pedagogical knowledge.

Learning how to teach is 'situated' in a profession in the same way that learning to be a professional is situated in a profession (Lave and Wenger, 1991; Wenger, 1999; Eraut, 2000). This 'situatedness', as Kreber argues, requires profession-specific support. The situated assumptions concerning how to teach and assess a subject are shared by members of departmental and professional communities (Kreber, 2010). However, they are not naturally evident for the community members, often remaining 'tacit' (Polanyi and Sen, 2009). Engaging in communication with members from the profession or from other disciplines can help make these 'tacit assumptions' (Trowler and Knight, 2000) more explicit.

8.2.3 Conservatism and tensions towards change

Dental teachers value their clinical knowledge and believe that to be effective they must share their accumulated knowledge. Although there is an increased emphasis on student-centred approaches in dental education, the focus has now moved more to the nurturing of students (Sweet, 2011). In lecturing, the main mode of teaching is teacher-focused transmission. Some participants in the study said that they experienced changes from the status quo with difficulty, such as the move from 'sage on the stage' to engage more with the students through a dialogue— a move away from didactic teaching in the lecture theatre. Chairside teaching has always tended to be more student-centred and more focused on students' activities, given the format. Non-trained dental teachers show more of an affinity for transmission and apprenticeships, whereas trained dental teachers understand nurturing as part of teaching (Pratt, 1998).

In light of the tendency towards professional conservatism amongst dental professionals, many challenges are perceived with respect to changing dental teaching practices. Few participants perceive an ability to change the status quo in order to apply their educational knowledge and understanding of student-centred teaching. Dental education, particularly chairside teaching, is complex; this complexity can be overlooked or oversimplified.

As explained earlier, teaching is situated, and much teaching knowledge is tacit in nature; there is therefore a need to create more explicit narratives in teaching practices in order to develop a 'shared repertoire' among community members (Wenger, 1999). This would be useful for both newcomers (who could share in it) and educational developers (who could challenge it so solve arising problems or suggest more effective approaches). However, this mission is very challenging for educational developers, as suggested by Sweet:

Very often senior academics need to be more open and supportive of change and stop pulling back younger, educationally trained staff, with innovative ideas. Academics who are educationally trained need to ensure that they do not become brittle and inflexible in their educational approach and that they are continually maintaining a dialogue to improve their practice. Educational developers need to continue their professional development to ensure that their vision and approach is appropriate when acting as agents of change.

(Sweet, 2011: 193)

Tensions against change can be related to the pressure on dental education and the relative low priority of teaching when it compared with clinical services and research.

8.3 Professional development as a dental teacher: Approaches and challenges

The findings of the study suggest that professional development for teaching is a low priority compared to the highly prioritised professional development required for GDC registration. However, thanks to increasing encouragement from their departments, dental teachers are now more engaged in their professional development with regard to teaching. The calls for engaging in professional development in teaching are mainly coming from higher education (universities and dental schools), not from the dental profession. However, in medical education, the calls for professional development are coming also from the profession and its regulatory body, the General Medical Council GMC (General Medical Council, 2009; General Medical Council, 2013; General Medical Council, 2017). In August 2016, while I was writing up my findings, the Royal College of Surgeons of Edinburgh launched the new Faculty of Dental Trainers (The Faculty of Dental Trainers, 2016). I believe this will be a great step towards valuing teaching in undergraduate and postgraduate dental education. The launch of a dental-specific faculty of trainers will encourage the professional development of teaching and support the notion that teaching has an important role in dental education. The launch of this faculty is based on the

urgent need for a home for dental teachers where standards of good practice can be identified and appreciated (The Faculty of Dental Trainers, 2016).

In this next section I discuss the research question related to the above discussion: How do dental teachers approach professional development?

8.3.1 Summary of findings

- Constraints to engagement in professional development

The data analysis for the present study shows that participants perceived constraints in relation to development. The main constraint is time. Based on the present data, we can say that teaching has not become a priority for this group (compared to other activities such as research and clinical services). Professional development tends to be marginalised unless imposed by the department or school. However, dental teachers may join teacher training programmes in response to job requirements or for career advancement purposes. Some dental teachers are not interested in joining formal teacher training sessions, but there does exist a group of dental teachers who are interested in engaging in scholarly activities in education.

- Inconsistent practices in professional development

There are inconsistent practices regarding professional development activities such as eliciting student feedback and peer observation. The participants' responses show wide variations in their approaches to learning how to teach; some reveal deep approaches, while others reveal superficial approaches. The participants who have superficial approaches to learning are less likely to commit to longitudinal developmental activities for teaching and less likely to consider reflection to be a form of developmental engagement.

8.3.2 Teaching practice is implicit and, unlike clinical practice, not shared

Clinical academics have more advantages than others because they work full-time. Their consistent presence enables them to belong to a community of practice made up of clinical academics. By contrast, part-time teachers are less embedded in the educational environment, and they often do not benefit from a community of dental teachers due to their lack of availability.

Sharing clinical practice knowledge is one of the values that dental teachers reported holding. However, sharing teaching knowledge is not encouraged at the same level. There is a need for communities of practice that cultivate a strong teaching culture where dental teachers and educators share their pedagogic knowledge. Although dental teachers put a great emphasis on their practice knowledge, for teaching they need more than just their subject knowledge. Shulman's concept of pedagogic knowledge could usefully be fostered for dental education, along with subject knowledge, for effective teaching to happen (Shulman, 2005). There is some evidence suggesting that dental practitioners share their clinical knowledge with other like-minded expert peers (Stone et al., 2014). They can also use their clinical experience as a filter in order to decide the applicability of knowledge (Stone et al., 2014). In other words, dental teachers value practical knowledge that can be implemented directly in their practice. This recalls Stone's findings when investigating general practitioners' perceptions of professional development in dentistry: 'A potential barrier to implementing clinical techniques in practice was when subjects and clinical interventions were viewed as being "academic"' (Stone et al., 2014: 2).

Dental teachers as practitioners also seek expert peers to support their learning in their clinical practice: 'Typically, expert peers were described as being active in undergraduate and postgraduate education or they were experienced practitioners with private practice commitments' (Stone et al., 2014: 3). However, dental teachers are less likely to seek their peers' advice for teaching, and this could be related to the private and secretive nature of teaching (Elton, 2003). Networking with like-minded and expert peers is considered to provide great opportunities for dental professionals to develop their practice (Stone et al., 2014). In fact,

networking is one of the reasons why clinical practitioners choose to teach in a dental school. However, dental professionals can face time pressures that can limit their networking opportunities (Stone et al., 2014).

It would be advantageous if the dental profession could encourage educational networking between dental teachers for the purpose of discussing their teaching practices and their 'pedagogical content knowledge' (Shulman, 2005). This can be achieved by cultivating communities of practice (Wenger et al., 2002) of dental teachers and educators who share a 'repertoire' of pedagogical content knowledge that challenges their tacit assumptions (Trowler and Knight, 2000).

8.4 The professional development of dental teachers: Experiences of teacher training programmes

The study found that TTPs were experienced in qualitatively different ways. The variations in dental clinical teachers' experiences highlight the heterogeneity of the dental clinical teacher cohort. My findings suggest that although dental teachers engage in relatively similar teaching practices, they may exhibit varying approaches to their teaching practices and development as clinical teachers due to their qualitatively different perspectives on teaching.

In this section I discuss findings related to the research question:

-How do dental teachers reflect on their professional development through their experience of Teacher-training programmes?

8.4.1 Summary of Findings

-TTP introduces dental teachers to professional development practices such as reflection, observation and feedback

Dental teachers appreciated the added structure to professional development programme, and they identify 'stimulating reflection' as the main outcome of joining a TTP. Learning different approaches to and perspectives on teaching encourages dental teachers who join TTP to look at their practices more critically. Encouraging profession-focused dialogue combined with inter-professional or 'cross-disciplinary exchanges' in a supportive culture helps bring about a sustainable reflective practice (Brookfield, 1987; Kreber, 2010).

-Changes with respect to conceptions of teaching

The TTPs transform the dental teachers' understanding of teaching and learning and help shift the focus from the teaching delivery to the learner. Teachers who focus on learners and adopt more student-centred approaches encourage their students to embrace deep rather than surface approaches to learning (Gibbs and Coffey, 2004). Dental teachers' participation in TTPs helps them gain other perspectives on teaching and learning from outside the dental environment, which will affect their sense of identity as dental teachers and challenge their views concerning the educational process.

-Motives for joining teacher training programmes

Most dental teachers perceive that gaining a qualification in teaching is a job requirement, especially for newly assigned dental teachers. Some dental teachers perceive it to be a way to legitimise their presence in a dental school or their role as a clinical teacher in a hospital. Other junior dental teachers perceive it as an addition to their C.V. and a pathway for career advancement. However, gaining a qualification in teaching is not compulsory in dental school and teaching hospitals. If it were more or less compulsory, this might help in getting dental teachers to participate in the programme, but it would not help them to become engaged with the programme. For that, more calls are needed from within the dental profession to encourage a culture of sharing knowledge and expertise with respect to teaching and learning in dental education. Encouraging junior dental teachers to join the programme provides an initial motivation for them to get started, and their intrinsic motivation may then cause them to become

engaged with and complete the programme. As a result, they may continue to higher levels, restructuring their professional development and looking at their teaching practices differently.

8.4.2 Challenges in applying the learning to the context of dental education

Some tensions and challenges were identified as the participants reflected on their experiences. Certain common themes emerged from the data that can be highlighted for professional development curricula. Taken together, these findings have important implications for the literature on professional education. The main challenges identified were time and the unfamiliarity of the new language of educational literature.

Despite the challenges, the participants generally experienced positive impacts on their knowledge, skills, teaching practices and attitudes towards their professional development. However, some participants found the TTP to be of limited use. Dental teachers in the first year of their TTP may find it less relevant to their practice. This is likely to be related to the confusion caused by the new knowledge and to teachers' reduced self-efficacy as a result of the challenges it poses to their previous knowledge (Healey, 2000). To address the limitations and individual variations, we should ask what type of TTP is fit for purpose for dental teachers.

Kember (2009) finds that university teachers with teacher-centred conceptions of teaching are less likely to join TTP. The lack of engagement in professional development from a group of teachers not only affects their knowledge and understanding of teaching but also affects the progress of others who are engaged in professional development activities (Weurlander and Stenfors-Hayes, 2008; Bamber, 2008). Teachers who apply educational knowledge may face resistance in a community where change in teaching practice or adopting new concepts into teaching are not embraced by some community members.

8.4.3 Impact on their professional identity

Before joining the programme, the majority of dental teachers do not see themselves as university teachers; they see themselves more as clinical teachers. Teacher training programmes help develop university teachers but not necessarily clinical teachers. There is no clear sense of identity toward the first role, but participants in this study identified themselves in the second.

Dental teachers' participation in TTP helps them gain other perspectives on teaching and learning from outside the dental environment, which has an impact on their sense of identity as teachers and challenges their views of the educational process. TTP can provide a space for dental teachers to reconstruct their professional identities by moving them away from their dental practice, hospital or school (Walker, 1988). In addition, TTP introduce professional development practices such as peer review and reflections which, if sustained, can help in shaping their teaching identities.

Formal teaching training may not always lead to a sustainable teacher identity. However, teacher training provides a shared language and understanding for dental teachers to share with others in order to develop their teaching practice. TTP can help dental teachers to challenge their 'tacit assumptions' (Trowler and Knight, 2000), making implicit knowledge of teaching more explicit and providing the tools for a shared repertoire for dental teachers to use as they develop their teacher identities (Lave and Wenger, 1991; Wenger, 1999). As my findings suggest trained dental teachers tend to use an educational language to explain their understanding of teaching. However, professional development requires more than just attending a TTP. Efforts from within the profession can help in developing these identities towards teaching and learning. TTP helps dental teachers to develop the required language to develop a dialogue, enabling dental teachers to share their pedagogical content knowledge (Shulman, 2005). Content knowledge is a key factor in the effectiveness of dental teachers. However, content knowledge is not enough, and teachers need to develop an understanding of teaching and learning (Prosser et al., 2005). A combination of pedagogical and content

knowledge is what dental teachers need to develop their effectiveness in teaching (Shulman, 2005).

Although participation in TTP can make dental teachers' 'tacit assumptions' more explicit and offer alternative teaching and learning regimes (TLR) (Sharpe et al., 2004; Trowler and Cooper, 2002), dental teachers may face resistance in their teaching culture towards these new approaches (Knight et al., 2006). My findings confirm that there is indeed resistance to change from within the profession.

The length of engagement in TTP and the time post-TTP play a role in developing reflective practices (Postareff et al., 2007; Postareff et al., 2008). As my findings revealed, the changes are more evident in dental teachers who completed and finished their TTP few years ago. They tend to be more reflective about their teaching practice, a skill which does develop over time.

Further discussion and implications

A teacher training programme (TTP) that offers a combination of cross-discipline and subject-specific content will arguably provide the breadth and depth of both educational and disciplinary perspectives. TTPs should bridge both generic and disciplinary pedagogies.

As my findings suggested, dental teachers experienced TTPs in different ways. Although dental teachers belong to the same profession, they are not homogenous in their epistemological beliefs and professional background. Rust (2000) suggests that, for conceptual change to occur, a TTP should be personalised to address the variations among participants, which will help in developing reflective practitioners.

My findings suggest that dental teachers use their own clinical skills (e.g. their communication and problem-solving abilities) in their teaching practice. Educational developers need to

recognise the capabilities dental professionals already have and help them to understand how these skills can be transformed into teaching practice (Lake and Bell, 2016). Separating the two practices may not help or work for dental teachers. However, an educator of dental teachers needs to understand the connections between the two practices and help the dental teachers to see, use and reflect on this complex relationship within the TTP. Trautwein *et al.* (2015) suggest that 'a clear connection to academics' immediate practices should be established, for example, by structuring the courses alongside participants' practice-related problems and questions' (p.655).

Hager and Hodkinson (2011) emphasise the importance of learning in teams and as individuals, which is suggested by learning theories that highlight the concept of participation for learning to happen (Lave and Wenger, 1991; Wenger, 1999). Gibbs (2010) underscores the importance of learning how to teach, which arises from discussions between members of a community of practice; this discussion involves everything related to solving teaching problems and facilitating learning for all students. Tinsley and Lebak (2009) defined the concept of a *zone of reflective practice*. This concept describes how an adult's capacity for reflection can be increased through collaboration and interaction with like-minded adults over long periods of time. Peer observation and completing reflective portfolios help develop teaching skills and reflective capacities. In addition, theories like Vygotsky's theory support the role of social interaction in the construction of knowledge and skills (Daniels, 2005). At another level, all barriers as far as possible should be eliminated for better communication and collaboration between disparate departments and schools to share experiences of effective teaching practice in dental education.

8.5 Professionalising teaching in dental education: challenges and implications

The shift in one's identity towards an effective educator requires a process of professionalisation and developing an interest in scholarly teaching as well as a scholarship of teaching and learning. The professionalisation of teaching may mean setting standards for teaching and learning practice in dental education. Alternatively, such professionalism may

mean regulating the practice of teaching. The professionalisation of teaching means making teaching in dental education a professional commitment that is regulated and requires training, qualifications for membership, and ongoing reflection and development. To achieve a level of scholarly teaching and scholarship of teaching and learning, there is a need for a professionalisation process. In light of my data, there are some challenges facing the professionalisation of teaching in dental education:

- *the perception that teaching and education are undervalued and a lower priority.*
- *the cultural and individual perception that teaching is a common-sense practice and any expert clinician can teach dental students.*
- *the lack of consistent organisational support that allows time and resources for consistent professional development practices to occur.*
- *the challenge of developing cultural change to share pedagogical knowledge.*

Lueddeke (2003) finds that discipline and the conceptualisation of teaching are the main factors that affect approaches to the scholarship of teaching. Staff with teaching training are more likely to explore different curriculum approaches and are more committed to continuing with their own professional development (Lueddeke, 2003). Some of the current study participants are surprised by the shift in their understanding after joining a TTP; some may expect teaching to be a common-sense practice and a TTP only a qualification. Some may not see the value of learning theories of teaching, so they never attain a foundation on which to construct their understanding. Attending a TTP imparts the opportunity to examine their conception of teaching and debunk their old assumptions about the practice. However, some are less likely to benefit from attending these TTPs if they are harbouring old assumptions about teaching and expecting only the acquisition of a few practical skills regarding how to teach.

In addition, support from dental schools is needed. Radford *et al.* (2014) argue that leaders in dental education need to enhance the educational experience of students and attract highly

qualified clinicians to teaching. Thus, such leaders are required to play more vital roles in ensuring that new clinical teachers are supported in terms of reduced teaching load and increased professional development opportunities in teaching, like being able to request peer observation. Not only newly assigned teachers will benefit from professional development activities, but experienced dental teachers and educators also will benefit greatly from the improvement of their pedagogic practice. Although senior experienced dental teachers develop their own practices and habits that are difficult to change, many of them find solutions for arising problems if they are given the required support to investigate alternative approaches and reflect on their teaching practice (McKeachie, 1997). It is important to provide the required support for an existing peer assessment scheme and continually develop this scheme with the clear purpose of enhancing teachers' practice, not using it as another faculty evaluation method (Cairns et al., 2013; Cunningham and Lynch, 2016).

It has been argued that teachers learn in informal and social practices more than courses (Knight et al., 2006). Trained dental teachers may face cultural resistance if the school or hospital context is not supportive. Bamber (2008) argues the implementation of newly gained understandings can be prevented by the lack of educational knowledge by peers or the cultural opposition to change. This can limit academics to the confines of their practice, even though they reflect and think critically on their own teaching (Robson, 2006).

Lueddeke (2003) suggests that academic staff have an interest in an 'ongoing dialogue' regarding issues related to teaching and learning; fostering 'communities of practice' can encourage this dialogue. Another way to foster a dialogue on teaching and learning, as Lueddeke suggests, is by encouraging staff to earn a teaching qualification and pursue a higher degree in their subject area. These will provide staff with opportunities to participate in pedagogical content research.

Staniforth and Harland (2006) emphasise the importance of contact between peers and developing a dialogue for professional development. There are different approaches to creating

a supportive context, including establishing communities of practice (Wenger, 1999). The aim of these communities is to enhance students' learning experience. These communities of practice can work by developing mutual understandings of effective teaching practices and educational theories concerning learning and teaching. These interactions and conversations can lead to the development of new content pedagogical knowledge applicable to their practice (Lieberman, 2007). Meaningful engagement, rather than superficial involvement, with pedagogy and educational practice will empower these communities (MacKenzie et al., 2010).

The enhancement of student learning is not dependent on a single teacher or individual contribution; collaborative efforts are required to recognise effective practice in its continuing development. Scholarly teaching and the scholarship of teaching and learning can be developed through 'faculty learning communities' that provide the required support to help faculty members develop into scholars of teaching (Richlin and Cox, 2004). Knight and Trowler (2000) argue that departments are the loci of change toward developing good teaching practices in higher education. Trowler (2008) suggests encouraging dialogue between staff members in the same department – he called them 'workgroups' – that is, the colleagues with whom the individual works every day. Moreover, Heinrich (2015) suggests identifying teaching groups instructing the same subject within the same department or across departments. Teaching groups in a department may have some risk of not getting into deep discussions because of members' involvement in day-to-day tasks and administration. Frequently, their discussion will centre on superficial and administrative matters. Hence, the planning and critical awareness of discussions is vital to the success of these groups. For a cultural shift toward the scholarship of teaching and learning, teaching needs to be considered a 'professional calling' for academic teachers to devote effort to it (Lueddeke, 2003).

The goal of professionalising teaching should be enhancing student learning and development, not just 'performance goals'. Undoubtedly, there is pressure on students and dental teachers to perform better on national student surveys – and the grades that signify their completion. At an intensive research university, there is a need to augment or maintain rankings: hence, the drive to set 'performance goals' (Dweck, 1986) instead of 'learning goals'.

Identifying excellence and rewarding it is important to increase teaching's value. University staff believe teaching is not recognised to the same degree as research; Cashmore and Ramsden (2009) suggest that a promotion is the only way for teaching to be rewarded and valued.

Conclusion

The purpose of this research was to examine dental educators' perceptions of their teaching role, approaches, values and professional development by investigating the experience of being a dental teacher in an era of the professionalisation of teaching practices in higher education. I was particularly interested in exploring the tensions that might arise among commitments to dental practice, research and education, as well as the challenges resisting the movement toward scholarly teaching and the scholarship of teaching and learning in dental education.

Based on the theoretical framework of constructionism, this research employed a qualitative approach to assess the experiences of dental teachers regarding their teaching practices and professional teaching development. The research was conducted in a UK-based research-intensive institution, and ethical approval was obtained prior to the start of the research.

An important finding of this thesis is the relationship between dental teachers' other roles and teaching, the diffuse nature of the teaching role in comparison with academic and clinical roles of clinical academics and hospital consultants, and the separate nature of the teaching role for part-time clinical teachers. Teachers' and educators' identities are latent within their primary identity. Additionally, teaching is more likely to take a lower priority when it is competing with other roles, contributing to the latency of an educator identity. Moreover, dental teachers hold on to their primary identities as clinicians and clinical academics.

For dental teachers, effective teaching consisted of sharing knowledge and clinical experience. There are variations among dental teachers in their conceptions of teaching, and there are disparities regarding the conception of teaching in different settings. In addition, there are challenges in introducing student-focused approaches instead of the transmission mode of lecturing. In clinical teaching, dental teachers value nurturing approaches to teaching. The close relationship between clinical and teaching practice led many dental teachers to use their professional skills, such as communication and problem solving, in their teaching practice.

The majority of dental teachers begin teaching without prior training, and they approach their professional development as teachers in different ways. Apprenticeship was the main approach for dental teachers to develop their instructional practice. The call for formal training and teaching qualifications comes from higher education – in other words, from outside the profession, not within. Thus, dental teachers today are often encouraged by their dental school to engage in teacher training programmes.

Clinical academics have more opportunities than others to work full-time to take advantage of their consistent presence and belonging to a community of practice made up of clinical academics. By contrast, part-time teachers are less fortunate, as they often do not benefit from a community of dental teachers due to their only partial availability.

There are inconsistent practices regarding professional development activities, such as eliciting student feedback and peer observation. The data analysis of the present study shows that there are also constraints imposed by participants; the main constraint was time. Facilitating time for professional development activities for teaching appears to be very challenging, especially considering current financial constraints in dental schools and NHS hospitals.

Based on the present data, we can say that teaching has not reached a priority level among many dental teachers as have their other activities of research and clinical services. In the same

way, the professional development of teaching is more likely to be marginalised unless one's department or school imposes it. In addition, dental teachers may join teacher-training programmes in response to job requirements or for career advancement purposes. However, there is a group of dental teachers who are interested in engaging in scholarly educational activities; conversely, some dental teachers showed no interest in joining formal teacher training programmes.

I found that TTPs could be experienced in qualitatively different ways. The variations in dental clinical teachers' experiences highlight the heterogeneity of the dental clinical teacher cohort. Perceptions of 'conceptual change' and 'stimulating reflection' were identified as the main outcomes of joining a TTP. The main challenges were identified as time and the unfamiliarity of the new language of educational literature.

Most participants generally experienced a TTP's impact on their conceptions of teaching, knowledge, skills, teaching practices, attitudes toward their professional development and self-confidence. Dental teachers' participation in TTPs will help them gain other perspectives on teaching and learning outside the dental environment that will impact their sense of identity as dental teachers and challenge their view of the educational process. The TTPs in this qualitative study transformed the dental teachers' understandings of teaching and learning and helped shift the focus from the delivery of teaching to the learner.

Therefore, this qualitative study of dental teachers and educators' perceptions illustrates the experiences of my participants during their daily teaching practice. I can summarise my conclusion as follows: first, for clinicians and clinical academics, their teaching identity remains somewhat latent, while their primary professional identity as clinicians shapes their teaching practices. Overall, the professional identity of a dentist has a strong influence on dental teachers' teaching practice. Second, dental teachers perceived that a variety of opportunities for developing their clinical professional practice grew from their teaching, such as sharpening their clinical skills and knowledge, and networking. Third, teacher-training programmes significantly

help dental teachers reflect on and shape their teaching identities. Fourth, there is no top down incentive to make teacher training compulsory for dental educators, which means their education identities are likely to remain latent.

Implications and recommendations

This thesis is a starting point for addressing questions of developing educator identities in dental education. It provides an understanding of the professional identity of dental teachers and how this may impact the conceptions of their teaching and the development of their teaching practice.

Common themes have emerged from the data that could be useful for professional development curricula. These findings have important implications for the literature on professional education. In addition, they can be helpful in developing a model for professionalising teaching in dental education with the aim of improving students' experiences. This study provides insight into how dental teachers experience their teaching practices and how they develop these practices, and some recommendations can be made in this regard. Understanding the forces that help develop or hinder educator identities will give insights into an optimal professional development curriculum.

Dental institutions

Dental institutions can play a role in recruiting highly qualified dental professionals and training them in teaching. Dental institutions may need to make joining a teacher training programme compulsory for newly assigned dental teachers. However, due to the nature of these programmes, dental departments need to provide support and encouragement to their teachers through providing time off their normal teaching sessions to allow them to attend.

In addition, my study suggests it is important to develop effective teaching communities of practice within departments and schools. Dental institutions can also play a role in this by

providing space, both in terms of time and resources, for dental teachers to share their teaching experiences and discuss challenges more explicitly. Inviting educational developers to provide CPD within dental schools can be of great benefit to dental teachers by encouraging intradisciplinary educational dialogue and also by encouraging and supplementing the scholarship of teaching and learning in dental schools.

Dental institutions could help to support consistent practices of professional development through providing a consistent system of observation, peer review and feedback, along with continuous review and reflection on its application.

Dental teachers and educators

Dental educators should reflect on their teaching role in terms of knowledge, abilities and experience. Leaders in dental education need to be more open to opportunities for change and development. They should be looking for opportunities for cross faculty partnership and be providing a platform for open discussion on issues related to teaching and education. More attention should be given to negotiating identities and context instead of solely focussing on the technical and administrative aspects of teaching.

Professional bodies

The General Dental Council (GDC), as a regulatory council, can play a powerful role in encouraging good teaching practice and professional development of dental teachers. This can be through establishing standards that support dental teachers in engaging in reflection and educational development. With the increased need for recognising the teaching role as an important one to be played by dental professionals, the GDC can play a part in encouraging a professional commitment toward teaching. The GDC may encourage educational development through supporting educational CPD, especially for dental professionals who are involved in teaching and training.

The Royal College of Surgeons in Edinburgh has identified the need for recognition of the teaching role that is played by dental professionals, and they recently established the Faculty of Dental Trainers (FDT). The FDT can play a role in encouraging a culture of sharing knowledge and expertise with respect to teaching and learning in dental education within the dental profession. The FDT could encourage educational networking between dental teachers for the purpose of discussing their teaching practices and their 'pedagogical content knowledge' (Shulman, 2005).

Educational developers

My findings suggest that dental teachers teach through the lens of their professional identity. Understanding how that professional identity influences their teaching practice helps educational developers design a curriculum that enables dental teachers to share and reflect on their latent teaching identities. Dental teachers use their own clinical skills (e.g. their communication and problem-solving abilities) in their teaching practice; educational developers need to recognise the capabilities dental professionals already have and to help them understand how these skills can be transformed into teaching practice through reflection. Additionally, an educator of dental teachers needs to understand the connections between the two practices and to help dental teachers to see, use and reflect on this complex relationship within the TTP. Aligning teacher training programmes more closely with teachers' practice, as suggested by Trautwein *et al.* (2015), can be established through structuring teacher training programmes around known practice issues.

In addition, the practical and technical nature of dental practice plays a role in dental teachers' approach to and expectations of a teacher-training programme. A combination of theory and practice with consideration for individual variations will support dental teachers' engagement in teacher training.

However, dental teachers may greatly benefit from cross-disciplinary connection to gain a different perspective to what they are used to. This would help them to reflect on their teaching practice instead of being completely adherent to their professional dental practice.

My findings suggest that dental teachers with different teaching experiences have different aims and that they may experience learning to teach differently; educational developers may need to consider these variations and to tailor teacher training to different groups of dental teachers.

Finally, the implicit nature of teaching identities suggests the need for educational developers to support communities of practice that encourage both interdisciplinary and intradisciplinary dialogue.

Areas for Further Research

- A longitudinal study to follow up the impact of the professional development activities investigated could provide richer insights into the development of teacher and educator identities.
- I also suggest investigation into the new clinical academic pathway that was introduced and how this may influence both teaching practice and the quality of teaching in dental education.
- In addition, I would suggest a study that looks at teaching from the students' perspective by investigating student satisfaction and student learning outcomes.
- I would also suggest a study that adopts a model of communities of practice for dental teachers to develop educator identities, emphasising the development of a dialogue to share teaching knowledge.
- In addition, I suggest conducting research that uses Activity Theory to illuminate the perspectives of all relevant stakeholders, including students and patients, on developing teacher and educator identities.

Reflection

In this last section, I will reflect on how this research and the journey I took during the process shaped my identity as an emerging researcher, dental teacher and practicing clinician. Stepping out of the comfort zone of my profession was a more challenging experience than I had anticipated. Although I had always felt my views were not limited by the positivist paradigm of my profession, I struggled to integrate the unfamiliar knowledge of what I encountered through the research. I felt challenged to interpret and understand the language of the social science literature and to internalise other perspectives.

Because of the setbacks I met while trying to adapt to a new area, I doubted my choice at various stages of this educational journey. The extensive literature with which I needed to become familiar required time and patience. I returned to the literature at all stages; and every time I did, I gained a new perspective on my research.

For the first time, I conducted face-to-face interviews, which turned out to be the most enjoyable part of the work. Again, though, this methodological approach was a stretch out of my comfort zone. Besides being unfamiliar with the process, the most difficult aspect was dealing with participants who gave brief answers, upon which I had to work to elicit answers.

After multiple readings through the 49 transcripts and starting my preliminary analysis, I was anxious and uncertain. I realised the complexity of qualitative research. My only recourse was to keep reading, coding and categorising until themes and patterns emerged. Patience, openness to new discoveries and my supervisors' encouragement were with me throughout this process.

Putting my findings in writing was the most thought-provoking part of my journey. During the early stages of writing, I struggled to communicate my understanding and interpretation of results. Over time, I developed the courage to communicate my findings in writing, and refine my argument. To ensure robustness, I sought to interpret my findings carefully and critically.

Notwithstanding my delight with the progress I made, writing this chapter was the most arduous of all the chapters.

My doctoral journey has been the hardest step of my professional career. However, it was a tremendous learning experience; I developed new skills and methodologies the ability to handle uncertainty until I reached the finish line. Additionally, I realised I am eager to employ a constant process that requires continued openness to exploration.

My doctoral journey forced me to engage in reflection at both a personal and professional level. As a result, I discovered that I am not the same person I was at the beginning of the process. The time and space I allowed myself for my professional development helped me become a lifelong learner. My view of professional development became deeper and more positive. Professional development is not just CPD points I accumulate to maintain my register, it is a way to increase personal awareness of my professional and teaching identity and to be more open to change and critique. I continually participate in reflective experiences that expand my views about teaching and clinical practice. I developed a sense of identity and purpose regarding my role as a dental teacher. This doctoral experience helped me develop an identity as a dental educator and researcher.

My journey and the findings helped me look constructively at cultural issues in dental education and how these issues impact my teaching practice. The research opened my eyes to the complexity of qualitative enquiry and how I may use my experience in pursuing more research to solve complex problems in dental education.

During this experience, I was privileged to listen to the stories of other dental teachers. Interacting with participants and listening to their narratives helped me appreciate my colleagues' professional and teaching practices. The information I gained allowed me to expand my views about what makes us effective as professionals. This cognizance prompted me to

contemplate my own teaching practice, research and clinical practice. I found that listening to each other's stories and becoming involved in dialogue helps us examine and articulate our values to develop a more authentic professional identity.

While I learnt to step out my profession's boundaries, it did not come without discomfort. This experience taught me that we can create knowledge and look at our problems differently if we are open to challenges to our values and beliefs. Now I encourage myself and my colleagues to cross the boundaries of the profession and explore beyond its borders. This can be a way to develop our teaching and clinical practice. I realised that our teaching as dental educators is still at the operational level. We need to be more thoughtful about our roles as teachers and our impact on dental education and dental practice. Some voices within dental education are asking for reforms. However, reform is a result of a collaborative, not only individual, effort. The nature of the power relationships between dental professionals and regulating bodies is complex. Any proposed reforms will face these relationships and require some degree of change in how dental professionals see themselves.

In conclusion, this research process led to substantial learning and an extremely valuable experience, both personally and professionally. I realised the need to challenge the way we view our teaching practices and ourselves as professionals. We can achieve this by engaging in dialogue and testing our status quo as professionals. The study's findings provide new knowledge and understanding of the professional development of dental educators and, in a way, improve students' and patients' experiences.

Appendices

Appendix 1: Ethical Approval

Appendix 2: Information sheets and Consent forms

Appendix 3: A sample of email sent to prospective participants

Appendix 4: Short Biographical Questionnaire

Appendix 5: A sample of interview transcript

Appendix 6: Conferences presentations

Appendix 1: Ethical Approval

Research Ethics Office
King's College London
Rm 5.2 FWB (Waterloo Bridge Wing)
Stamford Street
London
SE1 9NH

3rd March 2014

TO: Salha Aljohani

SUBJECT: Approval of ethics application

Dear Salha,

REP/13/14-25 - Dental Education: the role of communities in the development of competencies, and identities towards dentistry and education

I am pleased to inform you that full approval for your project has been granted by the **E&M** Research Ethics Panel. Any specific conditions of approval are laid out at the end of this letter which should be followed in addition to the standard terms and conditions of approval, to be overseen by your Supervisor:

- Ethical approval is granted for a period of **two years** from **3rd March 2014**. You will not receive a reminder that your approval is about to lapse so it is your responsibility to apply for an extension prior to the project lapsing if you need one (see below for instructions).
- You should report any untoward events or unforeseen ethical problems arising from the project to the panel Chairman within a week of the occurrence. Information about the panel may be accessed at:
<http://www.kcl.ac.uk/innovation/research/support/ethics/committees/sshl/rep/index.aspx>
- If you wish to change your project or request an extension of approval, please complete the Modification Proforma. A signed hard copy of this should be submitted to the Research Ethics Office, along with an electronic version to crec-lowrisk@kcl.ac.uk. Please be sure to quote your low risk reference number on all correspondence. Details of how to fill a modification request can be found at:
<http://www.kcl.ac.uk/innovation/research/support/ethics/applications/modifications.aspx>
- All research should be conducted in accordance with the King's College London *Guidelines on Good Practice in Academic Research* available at:
<http://www.kcl.ac.uk/iop/research/office/help/Assets/good20practice20Sept200920FINAL.pdf>

If you require signed confirmation of your approval please email crec-lowrisk@kcl.ac.uk indicating why it is required and the address you would like it to be sent to.

Please would you also note that we may, for the purposes of audit, contact you from time to time to ascertain the status of your research.

We wish you every success with this work.

With best wishes

Approved: conditional on the points below being carried out to the satisfaction of your supervisor
Primary Comments:
This study would appear to require gatekeeper agreement from the King's Dental Institute. Please ensure that such consent has been or will be sought before data collection begins.
Further Amendments to Application (please identify the relevant section number before each comment):
Please provide more information as to how participants will be selected and recruited for the study.
Amendments to Information Sheet and Consent Form:
Please note that the contact in case of concern as to harm arising from the study must be an academic supervisor, although questions about the study more generally may be directed to the researcher. Please amend the ordering of the information sheet to reflect this'

Appendix 2: Interview Information Sheets and consent forms

INFORMATION SHEET FOR PARTICIPANTS

Key Informants Interviews

REC Reference Number: REP/13/14-25

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of study

Dental Education: the role of communities in the development of competencies, and identities towards dentistry and education

I would like to invite you to participate in this original postgraduate research project. You should only participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

What is the purpose of the study? This study aims to explore the dental educators' values and commitments to dental practice and dental education, and also to explore the potential role of the professional communities in their professional orientation and development toward teaching. This work aims to inform and improve the teaching practice in dental education. Proposed outcomes and benefits will include more attention to the changes in the dental education, and a greater understanding of the dimensions of the teaching practice in dental education and the needs of professional development of dental educators.

Who is being recruited? I am recruiting academic dental professionals who teach undergraduate and/or postgraduate students at King's Dental Institute, King's College London.

What will participation involve? If you agree to take part in this study, you will be interviewed at the time of your choice and at any of King's College London campuses or any place you prefer. The interview will last for about one hour. This interview is intended as an opportunity for you to express your experiences and your thoughts about teaching in dental education from your view. The interviews will be audio recorded, subject to your permission, and later will be transcribed into text form.

As part of the presentation of results, your own words may be used in text form. This will be anonymised, so that you cannot be identified from what you said. All of the research data will be stored on my own PC until the completion of my research project in the next three years. Please note that:

- You can decide to stop the interview at any point
- You need not answer questions that you do not wish to
- Your name will be removed from the information and anonymised. It will not be possible to identify anyone from my reports on this study.
- The information you provide will not be shared with anyone else.

It is up to you to decide whether to take part or not. If you decide to take part you are still free to withdraw during the interview or any time up until 1st December 2015 and without giving a reason. I mention this date because this is expected to be the final stage of my data analysis. If you withdraw from the study, all data will be withdrawn and destroyed. If you do decide to take part, you will be given this Information Sheet to keep and be asked to sign a Consent Form.

Any risks: I cannot foresee any risks to your taking part in this research. All the interviews will focus on your experiences, ideas and thoughts of teaching, and there is no reason to predict that any delicate issues will be

brought to the centre of the conversation. You are welcome to interrupt the interview or withdraw from the research at any time.

Possible benefits: I believe that taking part in this research will give you a chance to participate in a research that will, hopefully, contribute to the improvement and enrichment of the field of teaching and learning in higher education. After the completion of my research project, you will be given a comprehensive report of my research findings.

Arrangements for ensuring anonymity and confidentiality: To ensure compliance with the Data Protection Act 1998 you must be informed of what information will be held about you and who will have access to it. As mentioned above, the interviews will be audio recorded, subject to your permission and later will be transcribed into text form. It should be made clear that no one else (external agency) is being used to transcribe data. Your identity will be kept confidential; the transcription of interviews will be carried out by myself and on the transcripts I will use the pseudonyms that you will choose. To ensure your anonymity, the final report will mention only these pseudonyms and any other information that could lead to the identification of you or other particular people mentioned will be omitted or changed. Furthermore, I will only use my personal computer and electronic devices during the research, all the data will be encrypted following King's College Encryption Guidance and I will use passwords which I will select and secure according to the guidance of King's College London IT Security Framework (Password Policy).

If this study has harmed you in any way you can contact King's College London using the details below for further advice and information:

Primary Supervisor: Dr. Kelly Coate, Senior Lecturer in Higher Education

King's Learning Institute, King's College London Room 5.20, Waterloo Bridge Wing, Franklin-Wilkins Building,
Waterloo Road, London SE1 9NN

Contact Telephone: +44 (0)20 7848 3853
Email: kelly.coate@kcl.ac.uk

Secondary Supervisor: Dr. Camille Kandiko, Research Fellow in Higher Education

King's Learning Institute, King's College London, Room 5.19, Waterloo Bridge Wing, Franklin-Wilkins Building,
Waterloo Road, London, SE1 9NN

Telephone: +44 (0)20 7848 3081

Email: camille.kandiko@kcl.ac.uk

For any questions about the study more generally may be directed to the researcher:

Researcher: Salha Aljohani, MPhil/PhD student, King's Learning Institute, King's College London, Waterloo Bridge
Wing (Franklin-Wilkins Building), Waterloo Road, London, SE1 9NN

Tel: +44 (0)20 7848 3115

E-mail: salha.aljohani@kcl.ac.uk

**Thank you for reading this information sheet and for considering taking part
in this research.**

CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and listened to an explanation about the research.

Title of Study: Dental Education: the role of communities in the development of competencies, and identities towards dentistry and education

King's College Research Ethics Committee Ref: REP/13/14-25

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Please tick if you agree. Otherwise, leave the initial box blank:

- I consent to being audio-recorded during interview. ☐
- I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researcher involved and withdraw from it immediately without giving any reason.

Furthermore, I understand that I will be able to withdraw my data up to the 1st of December 2015. ☐

- I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the Data Protection Act 1998. ☐

Participant's Statement:

I _____

agree that the research project named above has been explained to me to my satisfaction and I agree to take part in the study. I have read both the notes written above and the Information Sheet about the project, and understand what the research study involves.

Signed

Date

Investigator's Statement:

I _____

confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed

Date

INFORMATION SHEET FOR PARTICIPANTS

Case Study-2 Interviews

REC Reference Number: REP/13/14-25

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of study

Dental Education: the role of communities in the development of competencies, and identities towards dentistry and education

I would like to invite you to participate in this original postgraduate research project. You should only participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

What is the purpose of the study? This study aims to explore the dental educators' values and commitments to dental practice and dental education, and also to explore the potential role of the professional communities in their professional orientation and development toward teaching. This work aims to inform and improve the teaching practice in dental education. Proposed outcomes and benefits will include more attention to the changes in the dental education, and a greater understanding of the dimensions of the teaching practice in dental education and the needs of professional development of dental educators.

Who is being recruited? I am recruiting dental educators who teach undergraduate and/or postgraduate programmes at King's Dental Institute.

What will participation involve? If you agree to take part in this study, you will be interviewed at the time of your choice and at any of King's College London's campuses or any place you prefer. The interview will last for one hour maximum. This interview is intended as an opportunity for you to express your experiences and your thoughts about teaching in dental education from your view. The interviews will be audio recorded, subject to your permission, and later will be transcribed into text form.

As part of the presentation of results, your own words may be used in text form. This will be anonymised, so that you cannot be identified from what you said. All of the research data will be stored on my own PC until the completion of my research project in the next three years. Please note that:

- You can decide to stop the recording during the meetings at any point
- Your name will be removed from the information and anonymised. It will not be possible to identify anyone from my reports on this study.
- You can decide to stop the later interview at any point, and you need not answer questions that you do not wish to
- The information you provide will not be shared with anyone else.

It is up to you to decide whether to take part or not. If you decide to take part you are still free to withdraw during the meeting/interview or any time up until 1st December 2015 and without giving a reason. I mention this date because this is expected to be the final stage of my data analysis. If you withdraw from the study, all data will be withdrawn and destroyed. If you do decide to take part, you will be given this Information Sheet to keep and be asked to sign a Consent Form.

Any risks: I cannot foresee any risks to your taking part in this research. All the interviews will focus on your experiences, ideas and practices, and there is no reason to predict that any delicate issues will be brought to the centre of the conversation. You are welcome to interrupt the interview or withdraw from the research at any time.

Possible benefits: I believe that taking part in this research will give you a chance to participate in a research that will, hopefully, contribute to the improvement and enrichment of the field of teaching and learning in higher education. After the completion of my research project, you will be given a comprehensive report of my research findings.

Arrangements for ensuring anonymity and confidentiality: To ensure compliance with the Data Protection Act 1998 you must be informed of what information will be held about you and who will have access to it. As mentioned above, the meetings/interviews will be audio recorded, subject to your permission and later will be transcribed into text form. It should be made clear that no one else (external agency) is being used to transcribe data. Your identity will be kept confidential; the transcription of interviews will be carried out by myself and on the transcripts I will use the pseudonyms that you will choose. To ensure your anonymity, the final report will mention only these pseudonyms and any other information that could lead to the identification of you or other particular people mentioned will be omitted or changed. Furthermore, I will only use my personal computer and electronic devices during the research, all the data will be encrypted following King's College Encryption Guidance and I will use passwords which I will select and secure according to the guidance of King's College London IT Security Framework (Password Policy).

If this study has harmed you in any way you can contact King's College London using the details below for further advice and information:

Primary Supervisor: Dr. Kelly Coate, Senior Lecturer in Higher Education

King's Learning Institute, King's College London Room 5.20, Waterloo Bridge Wing, Franklin-Wilkins Building, Waterloo Road, London SE1 9NN

Contact Telephone: +44 (0)20 7848 3853
Email: kelly.coate@kcl.ac.uk

Secondary Supervisor: Dr. Camille Kandiko, Research Fellow in Higher Education

King's Learning Institute, King's College London, Room 5.19, Waterloo Bridge Wing, Franklin-Wilkins Building,
Waterloo Road, London, SE1 9NN

Telephone: +44 (0)20 7848 3081

Email: camille.kandiko@kcl.ac.uk

For any questions about the study more generally may be directed to the researcher:

Researcher: Salha Aljohani, MPhil/PhD student, King's Learning Institute, King's College London, Waterloo Bridge Wing (Franklin-Wilkins Building), Waterloo Road, London, SE1 9NN

Tel: +44 (0)20 7848 3115

E-mail: salha.aljohani@kcl.ac.uk

Thank you for reading this information sheet and for considering taking part in this research.

CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and listened to an explanation about the research.

Title of Study: Dental Education: the role of communities in the development of competencies, and identities towards dentistry and education

King's College Research Ethics Committee Ref: REP/13/14-25

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Please tick if you agree. Otherwise, leave the initial box blank:

- I consent to being audio-recorded during interview. ☐
- I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researcher involved and withdraw from it immediately without giving any reason. Furthermore, I understand that I will be able to withdraw my data up to the 1st of December 2015. ☐
- I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the Data Protection Act 1998. ☐

Participant's Statement:

I _____

agree that the research project named above has been explained to me to my satisfaction and I agree to take part in the study. I have read both the notes written above and the Information Sheet about the project, and understand what the research study involves.

Signed

Date

Investigator's Statement:

I _____

confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed

Date

INFORMATION SHEET FOR PARTICIPANTS

Case Study-1 Interviews

REC Reference Number: REP/13/14-25

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of study

Dental Education: the role of communities in the development of competencies, and identities towards dentistry and education

I would like to invite you to participate in this original postgraduate research project. You should only participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

What is the purpose of the study? This study aims to explore the dental educators' values and commitments to dental practice and dental education, and also to explore the potential role of the professional communities in their professional orientation and development toward teaching. This work aims to inform and improve the teaching practice in dental education. Proposed outcomes and benefits will include more attention to the changes in the dental education, and a greater understanding of the dimensions of the teaching practice in dental education and the needs of professional development of dental educators.

Who is being recruited? I am recruiting dental professionals who are attending a programme in Academic Practice or Clinical Education at King's Learning Institute, King's College London.

What will participation involve? If you agree to take part in this study, you will be interviewed two times during 2014-2015 academic year at the time of your choice and at King's College London or any place you prefer. The participation will involve interviews at two different time points:

-January-February 2015

-June-July 2015

Every interview will last for an hour maximum. This interview is intended as an opportunity for you to express your experiences and your thoughts about teaching in dental education from your view. The interviews will be audio recorded, subject to your permission, and later will be transcribed into text form.

As part of the presentation of results, your own words may be used in text form. This will be anonymised, so that you cannot be identified from what you said. All of the research data will be stored on my own PC until the completion of my research project in the next three years. Please note that:

- You can decide to stop the recording during the meetings at any point
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It is up to you to decide whether to take part or not. If you decide to take part you are still free to withdraw during the meeting/interview or any time up until 1st December 2015 and without giving a reason. I mention this date because this is expected to be the final stage of my data analysis. If you withdraw from the study, all data will be withdrawn and destroyed. If you do decide to take part, you will be given this Information Sheet to keep and be asked to sign a Consent Form.

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Possible benefits: I believe that taking part in this research will give you a chance to participate in a research that will, hopefully, contribute to the improvement and enrichment of the field of teaching and learning in higher education. After the completion of my research project, you will be given a comprehensive report of my research findings.

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Waterloo Road, London, SE1 9NN

Telephone: +44 (0)20 7848 3081
Email: camille.kandiko@kcl.ac.uk

For any questions about the study more generally may be directed to the researcher:

Researcher: Salha Aljohani, PhD student, King's Learning Institute, King's College London, Waterloo Bridge Wing
(Franklin-Wilkins Building), Waterloo Road, London, SE1 9NN

Tel: +44 (0)20 7848 3115

E-mail: salha.aljohani@kcl.ac.uk

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- I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researcher involved and withdraw from it immediately without giving any reason. Furthermore, I understand that I will be able to withdraw my data up to the 1st of December 2015. ☐
- I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the Data Protection Act 1998. ☐

Participant's Statement:

I _____

agree that the research project named above has been explained to me to my satisfaction and I agree to take part in the study. I have read both the notes written above and the Information Sheet about the project, and understand what the research study involves.

Signed

Date

Investigator's Statement:

I _____

confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed

Date

Appendix 3: A sample of email sent to prospective participants

Dear Colleague

You have been invited to participate in a research study about dental professionals' experiences with teaching and professional development in teaching. The study will be carried out by myself. I am a PhD student at King's Learning Institute and a former MSc student at King's Dental Institute. Please take time to read the attached information sheet carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

This study aims to explore the dental professionals' values and commitments to dental practice and dental education, and also to explore the potential role of the professional communities in their professional orientation and development toward teaching. This work aims to inform and improve the teaching practice in dental education.

Your participation will involve an interview during which you will be asked questions about your experiences of teaching and professional development in teaching. The time commitment for the interview will be about 30-60 minutes and will take place at a time and location convenient to you. Your participation in this study is entirely voluntary and you may withdraw your consent at any time without any consequences. Nothing for you to prepare and questions are very open.

If you are able to agree I will send you the formal consent form and we can arrange for a convenient time and place.

Thank you

Best regards

Salha

Appendix 4: Short Biographical Questionnaire

Code:

Age:

Gender:

Nationality:

Current position (Job Title):

Academic and professional qualifications (+year of qualification)

Teaching Experience:

How long have you been teaching?

How many days/sessions per week?

Undergraduate/postgraduate/both?

Chairside/Tutorial/Lectures/Simulation?

Educational/teaching training:

Appendix 5: A sample of interview transcript

Interviewer

How would you describe your career trajectory since the time of being graduated as a dentist?

Respondent

Unplanned ...um... irregular [pause] but more successful than I thought it would be, because I switched from being a lecturer fulltime to then working mostly in practice with an NHS consultants post, and then coming back at the end of my career to carry on teaching. So it's been quite a rollercoaster.

Interviewer

And how was teaching as a part of your career trajectory?

Respondent

Well I started teaching very soon after I qualified, and I have always taught, so I've always kept a role in the dental issue. Um... so it's always been there but it's a got bigger and a smaller percentage of my time over the years.

Interviewer

What roles are you are playing and how do you balance between those roles?

Respondent

Well that's an interesting one. I suppose there are – first of all there were all the immediate things that have to be sorted out at the time. So you have to get those things done for the smooth running of the Institute, and then you have to have separately a

longer term view of some strategic changes you want to make, and you need to keep pushing that agenda otherwise things don't happen. So you need to be consistent in all of those small decisions so that they all help towards the bigger picture you're trying to create. So how do I balance it? I balanced it by – well I balanced it personally by giving up lots of my other roles. So I gave up my clinical dentistry about three years ago so I could concentrate on education and on the specific changes that we wanted to make in the Institute. And I don't think I could have done that without having given something up. I also don't do any research anymore. I've been involved in clinical trials over the years; I don't do that anymore.

Interviewer

When did you stop this work?

Respondent

The last clinical trials we stopped about five years ago.

Interviewer

How did you decide to choose a post that involved teaching?

Respondent

Um... partly by chance I suppose, but when I qualified there were not very many clear training programmes around if you wanted to be a specialist. It was actually nowhere near as organised as it is now. So for me the only real training was to stay within a teaching hospital and a teaching environment, and I was fortunate that I was encouraged to take on a lecturer's post very early on. So after only 18 months of – since qualifying I was invited to teach, and I enjoyed it. I think I was quite good at it, and so I – that's

why I've always kept it as part of my daily – my weekly schedule. Did I actually specifically do it because I wanted to teach? No, not to start with anyway. It was there as part of the job really that one had to do that in order to get the training.

Interviewer

How much do you teach now and how long have you been teaching, by years,

Respondent

Well I've been teaching since [year], so that's 35 years. I stopped – so now – the last two years I haven't taught specifically. I have gone and helped with the teaching when we've had staff shortages and things like that. We're really – my job the last two years has been organising the teachers. The last teaching – specific teaching role that I was in I had consultant clinics where I had the undergraduate students with me, so I did that weekly. And for the last ten years I have been very involved with the postgraduate teaching, teaching [subject] to all of our postgraduates. So I ran a hands-on and lecture programme. Hands-on [...] lecture programme and I taught on the clinic the postgraduate students for one day a week.

Interviewer

What's teaching for you?

Respondent

Teaching for me is ...um... main aspect would be I suppose I really do enjoy being with the students. Most of them really want to be here. They're interested. They ask questions, and I love seeing them develop and become independent professional people. I think that's a really rewarding thing to do, and I love seeing them right at the start and

then five years later how they've changed and what they can do. So I enjoy that. I think it's very good for me because it has made me, I think, good at explaining things. It's made my knowledge clear in my mind because I have to understand it well enough to impart it to other people, and it's made me keep up to date because you – it would be embarrassing not to know your subject well enough. So therefore it makes you be good at what you do I think. That's how it worked for me. Um... may not be the same for everybody but for me that's the case.

Interviewer

Can you describe a particular incident in which you thought you were being an effective teacher?

Respondent

I think one of the things that I was really good at would be working with the students – the undergraduate students who had never ever done anything before. So there - for the start of their clinical skills course and taking them in a very short time period to the stage where they could cut a cavity, restore it, and have the confidence to do that in front of an examiner and pass, because that took a lot of – it wasn't just telling them what to do, it was also making them mentally prepared and have the confidence to do something quite alien and to effectively, you know, become young professionals in a few months. And I think I was always ...um... had a little success in doing that, and the students that I used to teach for that still come – stay in contact with me. So I still have that ongoing relationship with them. So I find that quite – I think that that must mean I was fairly good at what I did.

Interviewer

What enables you to be effective in your role as a teacher? What do you think helps you?

Respondent

I think what helps me would be listening to the feedback from the students, adapting things. If they haven't understood it, making – try and do it different ways so they understand it. But I think also here being confident enough that they also will do what you ask them to do. There are a lots of situations where you can't have a discussion or it's not a discussion at the time, you have a discussion afterwards. But at the time you have to have the authority to actually get them to do what you want them to do, but you have to do that in a way where they are happy to accept your authority, you're not just shouting or being aggressive or assertive with them, you actually can do it by working with them. And I think that's – I'm quite a calm person and I don't – the students never see me get stressed or upset. I manage to keep my cool all the time. So I think that they actually will listen to what I say. I think also because I ran – when I was with the postgraduate students because I ran a very successful practice, and then I was coming in here and teaching the students they respected me because they knew I was actually doing the job that they were training to do. So they listened to me because they knew I had succeeded. Quite important to be successful.

Interviewer

What do you find challenging or constrains your ability to teach effectively?

Respondent

Gosh. Well number one, students who really – you can't – you don't really understand why they are with you. So I'm – I really find students who don't turn up or don't listen or give the impression they don't really want to be here – that is a challenge to me, because I really don't understand that because I was so keen to do it, and I would – if I was asked to do something or I was asked to be somewhere at a certain time I would be there. So I find it quite difficult to understand why students don't want to do that, because most of them do. So it's a small minority. So that's very difficult because I feel then that what we do is spend our time concentrating on those students who are not really giving everything to the course, and I think that's to the detriment of the students who do. So I suppose that I would get frustrated if I felt I wasn't able to properly teach the students who really were here, and concentrate on people who I think really aren't worth it. Give them lots of chances but if ultimately the students are not bothering with the course then why should we spend even more time worrying about them. It's very hard, a very difficult decision to make, and I would always tend to I think be too generous with them, so that makes it frustrating. And what else makes it frustrating? I mean really frustrating when there are things that, you know, bits of technology or things that you want to do that you get stopped from doing because there's a system doesn't allow you to do things that way. I think we're very constrained these days in independence, you know, we have to do things a certain way, and the students get upset if one teacher does things differently to another. So it ends up I think often that you all compromise on the easiest thing to do, which isn't always the best thing to do.

Appendix 6: Conferences Presentations

Aljohani, S. (2013) *The role of the professional identity in clinical dental teaching*. King's Learning Institute, PhD Students Presentations Day.

Aljohani, S. (2013) *Using 'communities of practice' to theorise 'identity' in dental education*. The Society for Research into Higher Education (SRHE) New Researchers Conference. Newport, Wales

Aljohani, S. (2014) *Professionalisation of teaching in dental education: dental educators' teaching practices*. the 7th Excellence in Teaching Conference at King's Learning Institute. King's College London

Aljohani, S. (2016) *The motivations and experiences of dental clinical teachers attending two teacher-training programmes*. The Association for the Study of Medical Education (ASME) Annual Scientific Meeting. Belfast

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