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BEING AND BECOMING A TEACHER IN MEDICAL EDUCATION

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ABSTRACT

Medical teachers' conceptions of teaching have implications for student learning. The way teachers understand what it means to be a good teacher and what it means to develop as a teacher affect their aims and practice as teachers and their motivation for engaging in development activities. The aim of this thesis was to clarify how medical teachers understand being lecturers, clinical supervisors and mentors and also how they understand teaching and development as a teacher. In this thesis, the term medical teacher is used for everyone teaching or supervising undergraduate students in medicine or allied health professions at a university campus or associated hospitals.

Thirty-nine medical teachers were interviewed. The interviews were semi-structured and analysed using a phenomenographic approach. The findings include qualitatively different ways of understanding:

- Being a teacher in the teaching roles of being a lecturer, clinical supervisor and mentor (Study I and II)
- Development as a teacher and of teaching (Study III)
- Teaching; particularly in relation to how opportunities and barriers for development are perceived (Study IV)

The findings of the studies are further elaborated in three ways: 1) By using a model of learning and teaching to explore the different understandings of what it means to be and become a teacher. 2) By exploring perceived differences and similarities between the three teaching roles as described by the individual respondents, 3) By analysing the relationship between different ways of understanding the phenomena studied on an individual level.

The way being and becoming a teacher is understood is dynamic and changes over time. Teachers' understanding of their role constitutes a fundamental dimension of their development as teachers and exerts a significant influence on their teaching. By exploring the effects of various contexts and perceptions of different facets of the teacher role, aspects important to supporting student learning can be addressed.

LIST OF PUBLICATIONS

I. **Stenfors-Hayes, T.**, Hult, H., Dahlgren, LO. (2011) What Does it Mean to be a Good Teacher and Clinical Supervisor in Medical Education? *Advances in Health Care Sciences and Education*. Vol 16 no 2 p.197-210.

II. **Stenfors-Hayes, T.**, Hult, H., Dahlgren, LO. What Does it Mean to be a Mentor in Medical Education? *Medical Teacher*. Accepted for publication.

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IV. **Stenfors-Hayes, T.**, Weurlander, M., Dahlgren, LO., Hult, H. (2010) Medical Teachers' Perceived Barriers and Opportunities for Educational Development. *Teaching in Higher Education*. Vol 15 no 4 p.399-408.

CONTENTS

1 INTRODUCTION

Higher education has undergone some major changes in the last few decades. This has brought into question what it means to be a faculty member and the roles this entails. For instance, the number of roles expected to be fulfilled has increased and research has become the dominant one of these (Barnett, 2003, Behar-Horenstein et al., 2008). Other changes include increased pressure in terms of individual performance and productivity, and the ability to apply for and receive external grants, follow quality assurance procedures and adapt to curriculum reforms.

Significant developments in how teaching and learning is viewed (O'Sullivan, 2010, Korthagen, 2004) coupled with an increase in the number of students and changes in student demographics such as greater diversity when it comes to age, experience, socio-economic status and background (Tight, 2002b, O'Sullivan, 2010) has all had an impact on both faculty and students (Harris, 2005, Knight and Trowler, 2000, Tight, 2002a, Wilkerson and Irby, 1998, Olsen and Peters, 2005, Lea and Callaghan, 2008). The influence of context at all levels from government policy to discipline, department and community also affects the teacher and the way they understand teaching (Lea and Callaghan, 2008, Trowler and Cooper, 2002, Wenger, 1999).

The success of educational reform ultimately lies with teachers and their capacity, as individuals and as teams, to implement them (Hendricson et al., 2007). Staff or faculty development is therefore thought to be an essential ingredient for developing medical education (Hendricson et al., 2007). This can be seen as part of an increasing awareness of the idea that responsibility for good learning opportunities lies within all institutional levels (Hofgaard Lycke, 1999). Organised staff development activities have been found to have positive effects on teaching and thereby also on students' outcomes (Prebble et al., 2004). The demands and increased complexity of being a faculty member might, however, be perceived as challenging, and many feel that they do not get enough support or credit for their teaching. Others, however, appreciate the teaching aspect of academic or clinical work and find motivation elsewhere.

> *The better you are, the easier it gets, the more fun it gets, the more secure you feel, the better it [the teaching and learning] becomes. So I don't need any incentives to do it. (p 402, Stenfors-Hayes et al., 2010b)*

> *The interaction between these three fields makes you a good teacher. What you learn in your clinical work affects your research and your research affects your teaching. The students ask me questions that help me see things in a new light and may turn into research hypotheses that may be tested. So the interaction between these fields is very dynamic [. . .] I like research and clinical work and to be a good researcher and clinician, I need to be a good teacher too. They complement each other. (p. 406, Stenfors-Hayes et al., 2010b)*

To be able to support teachers, all aspects of teaching and being a teacher need to be understood. The aim of this thesis is to clarify how medical teachers understand being lecturers, clinical supervisors and mentors and also how they understand teaching and

development as a teacher. A model of learning and teaching is used to explore these phenomena and the relationships between them. To best suit the aims of this research, qualitative research methods were used.

In this thesis, the term medical education is used as an umbrella term for all allied health profession and biomedicine education programmes, as this is how the term is used at Karolinska Institutet where this research was conducted. The term medical teacher is used for everyone teaching or supervising undergraduate students in medicine or allied health professions at the university campus or associated hospitals.

TEACHING IN UNDERGRADUATE MEDICAL EDUCATION

Teaching is not only what teachers know and do, but also a result of who they are (Dall'Alba, 2005). Teachers (and learners), have their own personalities, prior experiences, knowledge, skills, beliefs, missions, attitudes and other commitments that may impact on the learners' learning and the teachers' teaching. The way teaching and learning is understood by teachers and learners will affect their attitudes towards each other, the teaching and learning activities chosen, the situation and the use and significance of content. Teachers need to be aware of their own conceptions of teaching and learning, but also ascertain their students' conceptions. Both learners' and teachers' disciplinary perspectives, personal and professional experiences and their knowledge can be drawn upon in a learning and teaching situation (Anderson and Hounsell, 2007, Hounsell, 1984). The knowledge that learners and teachers need differs, but both roles includes learning and the sources of knowledge include their communities, the context and formal and informal learning activities (Tight, 2002b). Furthermore, the shared reflection in the student and teacher group itself is another important resource (Rowland, 1999). With the more diverse group of learners that higher education sees today (Biggs, 1999), using all this prior knowledge and experience becomes even more important. For teachers, content knowledge is fundamental, but it is not enough for effective teaching. Knowledge from other domains is also necessary to, for example, facilitate learning and improve teaching (Irby, 1993, Shulman, 1986). The teacher needs to understand what facilitates or acts as an obstacle when learning a specific topic, and the students' preconceptions of the topic. This means that teachers need integrated pedagogical and subject knowledge (Shulman, 1986, Booth, 1997).

The interactions between teacher and learner have been modelled by Ross and Stenfors-Hayes (2008) (Figure 1). This model can be used to exemplify the central components of learning and teaching in undergraduate medical education. It is however important to remember that the model is a simplification, as in reality there may be parallel interactions between multiple learners, teachers and others. The assignment of the roles is furthermore not static, as teachers also learn, often from the learners, and learners also learn from other learners.

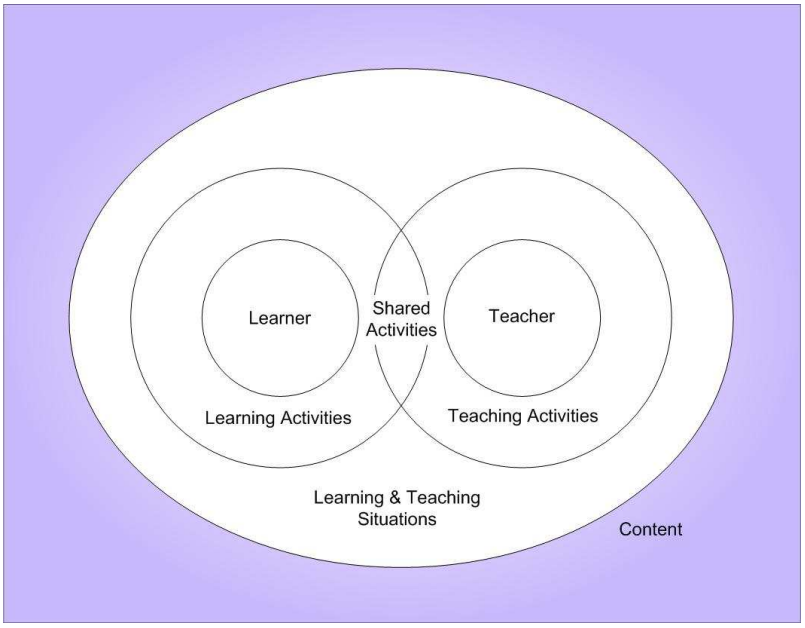

Figure 1. The Learning and Teaching Model (Ross & Stenfors-Hayes, 2008)

Learners and teachers engage, respectively, in **Learning Activities** and **Teaching Activities** aimed at enabling the learners to learn. Learners go about learning in qualitatively different ways and their outcomes are qualitatively as well as quantitatively different. Eliciting and exploring students' understanding can be made an integral part of the learning activities so support their learning and be able to adjust the teaching accordingly (Hounsell, 1984).

Most teaching and learning takes place when teachers and learners are not in direct contact with each other (Tight, 2002b). **Shared Activities** involve some dialogue or transaction between learner and teacher, either face-to-face or at a distance. In this area, the trend in the last decade has been towards student-centred activities. Today, a plethora of teaching methods are available, but the teacher still needs to make sure that the tasks of learning are integrated into the world the learners experience (Booth, 1997). Students' understanding of workload, assessment, etc. will influence their learning strategies and learning activities (Ramsden, 2003). Teachers can thus influence the learner's approach to learning by changing their learning context. Naturally, many teaching and learning activities also lead to learning for the teacher.

All teaching and learning activities take place in **Learning & Teaching Situations** which can both promote or hinder development of current understanding (Dall'Alba and Sandberg, 2006). The situation can be described by variables such as physical location (classroom, library, home, clinic, etc.) or the number of learners that are present (individual, small group and large group teaching, etc.). The learning and teaching situation may be technology mediated, with students and teacher actually being in different locations or by the use of virtual patients.

The **Content** of teaching in medical undergraduate education is aimed at improving theoretical knowledge, clinical skills and personal development. A major change in the last few years is the increased use of outcome-based curricula and competency frameworks instead of the previous approach of listing content areas for a particular course.

This thesis will focus on one of the cores of the model (Figure 1), namely the teacher. The model does not illustrate the influence of the context and community in which the teaching and learning take place in a distinct manner, instead this is mediated through the individuals, i.e. the learner and teacher. This thesis focuses not only on the teacher and three facets of their teacher role, but also on what it means to develop as a teacher. Consequently, the theoretical background has two parts: Being a teacher and Becoming (or developing as) a teacher.

2 BEING A TEACHER

Being a teacher is just one of the concurrent and competing roles many medical teachers have. Most teachers do not even regard themselves as teachers, but see themselves primarily as researchers and/or as clinicians. Therefore their first responsibility may be patient care or research rather than education (Taylor et al., 2007, MacDougall and Drummond, 2005, Stark, 2003, Rotem and Bandaranayake, 1981, Schofield et al., 2010, Hand, 2006, Knight, 1998, McInnins, 2000, Young, 2006). The issue of the teacher role not being sufficiently recognised compared to doing research or clinical work is not new, having already been noted in the 1890s (Calman, 2007). Today, teaching is still often not discussed and is just something you do (Handal, 1999, Rotem and Bandaranayake, 1981, Young, 2006). Therefore the possibilities, intricacies, challenges and opportunities involved in being a teacher may be lost. In the case of teachers in medical education, a lot of attention is often paid to the content being taught, but less to the teaching roles expected of the teacher (Harden and Crosby, 2000) and the wide range of activities related to student learning. This means that in some respects a teacher may be an expert, but in other respects a novice (Lindberg-Sand and Sonesson, 2008).

WHAT DO TEACHERS DO?

To explore what being a teacher in medical education entails, a framework of teaching activities can be used (Ross and Stenfors-Hayes, 2008). These teaching activities correspond to teaching activities and shared Activities in the model of learning and teaching previously introduced (Figure 1). The activities are grouped into three domains:

1. **Facilitating**: These teaching activities can be described as ‘hands-on’ teaching. They are often shared activities involving direct interaction with learners.
2. **Managing**: Teaching activities in this domain are those that are undertaken to ensure that facilitating activities can take place.
3. **Learning and community building**: These activities relate to the professional development of the teacher themselves and of the broader medical education community.

The managing and learning and community building activities also aim to enable learners to learn, but generally in a less direct and explicit manner than facilitating activities. Learners may not even be aware that some of these teaching activities occur. Not all teachers engage in all activities, some may simultaneously engage in multiple activities and the activities are closely related to one another. Each teaching activity can be further broken down into specific tasks related to planning, administering and resourcing, implementing and evaluating the activity. All activities as listed in Table 1 may be more or less appropriate in different contexts, but there is no hierarchy intended between the activities or parts of the framework.

1. Facilitating

1a) Facilitating content learning (theoretical and practical)
Maximising learning opportunities; minimising barriers to learning; ensuring adequate facilities (i.e. library, computing, and simulators); providing questions for private study and access to patients; and tutoring/supervising.

1b) Facilitating personal and professional development
Fostering the development of appropriate attitudes towards lifelong learning, team-working, patient-centeredness, ethical practice and teaching others; encouraging reflective practice and guiding learners in areas such as work-life balance, career planning, time management, study and writing skills.

1c) Relating to learners and providing perspectives
Using the learners' own prior experience to guide teaching; engaging students using patient stories, film clips, virtual patients and the teacher's own personal experiences; developing mutual respect and trust and helping students with specific difficulties.

1d) Giving information and demonstrating
Presenting information via lectures; creating learning resources (presentations, handouts, videos); answering questions; demonstrating practical clinical skills (history-taking, physical examination, procedures) and role modelling.

1e) Assessment with feedback
A range of informal, formative and summative assessment activities: deciding what, when and how to assess; blueprinting, writing questions and setting standards; assessing clinical skills and written work; observing practice, oral questioning and giving feedback.

2. Managing

2a) Leading learning and teaching sessions
Coordinating the delivery of teaching and the sequence of learning and teaching activities during a session; managing time, reacting to unexpected changes in circumstances and maintaining focus and managing and balancing the potentially conflicting needs of learners, patients and teacher.

2b) Session and course organisation and development
Selecting appropriate activities for learning and teaching session(s); constructively aligning the teaching, assessment, evaluation and other aspects of courses; planning, timetabling and producing course documentation and training teachers to deliver each session as appropriate. This does not include actual delivery of teaching sessions (1a-e).

2c) Developing learning environments
Creating and developing supportive, safe and adequately resourced learning spaces, including clinical skills centres, teaching wards and hospitals, teaching laboratories and virtual learning environments. Developing the institutional policy and learning climate, systems and support networks to prevent all forms of discrimination, humiliation or abuse.

2d) Curriculum development, governance and policy
Curriculum planning, development and evaluation; defining top-level learning outcomes of the programme; curriculum mapping to show how and when particular outcomes and objectives are learned and assessed; quality assurance and responding to external policy and guidelines (e.g. from the EU or national regulatory bodies).

2e) Recruitment
Strategic planning, advertising, selecting and enrolment of appropriate learners, patients and staff; internal recruitment of students for non-compulsory activities, and recruitment of teachers or patients for specific sessions.

3. Learning and community building
3a) Informal reflective practice Ongoing activities in which the teacher seeks to continuously improve quality by reflecting (individually or with colleagues) on their approach to teaching and on particular problems, and by gathering and interpreting feedback and evaluation from learners and peers. 3b) Formal training and development Includes structured identification of personal learning needs using logbooks and 360° evaluations; active participation in formal educational events and staff development (as 'Learner' rather than 'Teacher') and further study to gain qualifications in teaching and in education. 3c) Local community-building Building good working relationships with colleagues, learners, stakeholders and others such as patient groups; organising and participating in meetings and contributing to academic life in the institution; offering feedback and support to colleagues and developing the working climate. 3d) National and international community-building Engaging with healthcare systems and organisations, regulating bodies, professional associations and other institutions; active participation in national and international healthcare education activities (such as conferences and workshops); peer-reviewing and writing for publication. 3e) Research Undertaking subject-specific (what to teach) and educational (how to teach) research. The research can take a variety of forms including literature reviews, ethnography and randomised controlled trials.

Table 1. The Framework of medical undergraduate teaching activities (p, 920 Ross and Stenfors-Hayes 2008)

CONTEXTUAL INFLUENCES ON TEACHING

One element of the teaching and learning context is the content disciplines (Anderson and Hounsell, 2007). These affect the way teaching is understood and conducted partly because the discipline affects the social context of the teachers (Beecher and Trowler, 2001, Neumann et al., 2002, Trowler, 2009, Lindblom-Ylänne et al., 2006, Johnston and Gifford, 1996, Kreber and Castleden, 2008, Neumann, 2001). Disciplinary groups may also have their own norms, values, epistemological beliefs, language and practices (Beecher and Trowler, 2001, Becher, 1994, Anderson and Hounsell, 2007).

Teaching and Learning Regimes

A Teaching and Learning Regime (TLR) is often described as a tacit collection of governing traditions, rules and assumptions about teaching and learning that guide everyday teaching practice at a department. The TLR is socially constructed over time and includes development and attribution of meaning, codes of signification, discursive repertoires and a sense of what is appropriate (Trowler and Cooper, 2002). These shared norms guide the sense-making processes and behaviours in the group, sometimes without the teachers being aware of it (Roxå et al., 2010). However, there might be differences between espoused versions of the regime and the way it is realised (Trowler and Cooper, 2002). The TLR is affected both at the macro level by national agendas and research findings, but also at the micro level, i.e. the individuals and their

beliefs and behaviours (Fanghanel, 2008). New teachers or doctoral students internalise the way of understanding in the TLR in an apprentice-like manner. The TLR does not directly control individual teachers, but influences them by enacting certain assumptions or teaching methods more commonly than others. The teacher will be influenced by the regime in that the way the teacher acts will either comply with or be in conflict with the regime. Some teachers find it easy to move between different TLRs and adjust accordingly whilst others do not (Trowler and Cooper, 2002).

Communities of practice

The term Community of Practice (CoP) was first used when describing apprenticeship as a learning model (Lave and Wenger, 1991). A CoP has a shared domain of interest and membership implies a commitment to the domain. The members engage in joint discussions, they help each other and share information. Furthermore, all members in a CoP are practitioners and develop a shared practice, more or less consciously (Wenger, 1999). CoPs have been described as the groups or networks that regulate, guide and make meaning of our lives (Tight, 2008). Teachers are likely to be part of more than one community and to be more or less central in these. These communities may be related to different contexts in which the teachers teach or to their subject; another community may be related to a staff development activity or group.

As can be seen from the short descriptions above, the two concepts of CoP and TLR share a lot of similarities with each other. However, the TLR analogy was developed specifically for studying higher education, whilst CoP is used in a more general sense. CoPs focus more strongly on learning and enculturation in the development of the community whilst TLRs give more weight to traditions, power, authority, agency and to the development of individuals throughout their career (Tight, 2008).

HOW CAN 'BEING A TEACHER' BE UNDERSTOOD?

The way teachers understand what it means to be teaching is usually referred to as their conceptions of or perspectives on teaching. Conceptions can also be said to be lenses through which we see the world and interpret and act on what we see (Pratt, 1992). Pratt further describes conceptions of teaching as a 'dynamic and interdependent trilogy of Actions, Intentions and Beliefs' (Pratt, 1997). Entwistle et al. (2000) describe conceptions as made up of different sources such as experiences, knowledge and images. The way we understand teaching provides direction and justification for what we do as teachers, but it also forms the epistemic basis for normative roles and expectations regarding acceptable forms of teaching, which means that it also affects how we perceive the teaching of, for example, our peers (Courneya et al., 2008). Teachers' values and beliefs may also be affected by the teacher's discipline (Knight and Trowler, 2000) and differences in conceptions of teaching have been reported based on respondents' disciplinary background (Jarvis-Selinger et al., 2007).

Previous research on conceptions of teaching

A number of studies show that the differences in understanding teaching in higher education appear to range from a strong control on the part of the teacher to a strong emphasis on students' influence over form and content. These differences can be

described as teacher-centred or student-centred where the focus is on either the teacher and his/her strategies, or the students and their learning.

Pratt (1992), however, presents five perspectives on good teaching, based on interviews with 218 teachers of adults. His respondents came from five different countries and represented different contexts such as industry, health education, higher education and vocational education. Using a phenomenographic approach together with an assumption that the conceptions were based on content, learners, teachers, ideals and context, he found the following conceptions of good teaching:

- The **Engineering (or transmission)** perspective is characterised as the notion that good teaching is equal to a deep engagement with the content of the teaching. This perspective focuses on the teacher and the content and how content can be delivered and goals achieved most efficiently.
- The **Apprenticeship** perspective brings with it an ambition of enculturating students into a set of social norms and ways of working. The teacher is perceived as inseparable from the content as he/she exemplifies the values and knowledge to be learned.
- The **Developmental** perspective is an approach to teaching that entails planning and implementing teaching according to students' current knowledge with a focus on helping learners develop their abilities in critical thinking and their personal autonomy. This requires that the teacher knows how learners think and reason about content. Knowledge is interrogated and the teacher's authority is open to discussion.
- The **Nurturing** perspective emphasises creating a climate characterised by safety and support which minimises feelings of failure among the students. Emotional support, personal relationships, mutual trust and respect are emphasised.
- The **Social reform** perspective provides a society-oriented perspective where the function of teaching is to reform practice and/or society. The focus is therefore on the collective rather than the individual. Students are encouraged to take a critical stance to empower themselves to take social action.

These dimensions are philosophical orientations to knowledge, learning and the responsibility of being a teacher. Pratt emphasises that neither of these perspectives are good or bad as they all have epistemological and philosophical roots consonant with certain people, contexts and purposes. Furthermore, the perspectives are not exclusive. People usually hold two or three, of which one is dominant (Pratt, 1992).

In a literature review based on eleven qualitative studies, Kember (1997) confirmed the two main orientations found in previous research; teacher- and student-centred, and also found a linking category labelled student-teacher interaction. His five conceptions of teaching were: Imparting information, Transmitting structured knowledge, Teacher-student interaction, Facilitating understanding and Conceptual change. Kember notes, however, that Pratt's (1992) findings do not match this range of orientations. Kember furthermore suggests that the conceptions are ordered, but not hierarchical, which means that when a change occurs, elements of the previous belief are not retained.

Later studies (Postareff and Lindblom-Ylänne, 2008, Samuelovicz and Bain, 2001, Kember and Kwan, 2000, Wood, 2000, Åkerlind, 2004) largely support Kember's findings although some (including Kember himself in a later study) do not find

empirical support for the transitional category (Samuelovicz and Bain, 2001, Kember and Kwan, 2000). Other researchers (Wood, 2000, Åkerlind, 2004) argue for the categories to be inclusive and hierarchical in their levels of understanding. Despite the variation of research methods used to explore conceptions of teaching, the commonality in the themes discovered is still clear.

In phenomenographic research, conceptions, ways of understanding, experience, meanings, views, understandings and perspectives etc are sometimes used inter-changeably (Åkerlind, 2004). For the research presented in this thesis, I have chosen to use 'understanding'.

Conceptions of clinical supervision

In many of the previous studies in higher education, no distinction is made between different types of teaching, e.g. between lecturing and clinical supervision. Research focusing on doctors' attitudes towards clinical teaching is limited (Stone et al., 2002). However, Williams and Klamen (2006) compared core teaching beliefs among medical teachers and found no reliable indication of differences between classroom teachers and clinical teachers in terms of their core beliefs. They also found links between their three conceptions and Pratt's (1992) nurturing, transmission (engineering), and apprenticeship perspectives. Taylor et al. (2007) found support for Pratt's develop-mental, transmission and apprenticeship orientations among teachers in a clinical setting. Stone et al. (2002) interviewed ten clinical supervisors and found four different aspects of teacher identity: 1) An underlying humanitarianism, 2) Familiarity with adult education principles and practices, 3) Appreciation of the benefits and drawbacks of teaching, and 4) The image of self as teacher. This fourth aspect includes stories of how external prompts may have triggered the sense of being a teacher, although many saw themselves primarily as doctors. The first of these aspects shares similarities with Pratt's social reform perspective.

Approaches to teaching

Conceptions of teaching have been found to influence teachers' approaches to teaching and a high level of correspondence between the two has been identified (Trigwell and Prosser, 1996a, Kember and Kwan, 2000). However, those two studies have both been criticised as they only include espoused theories of action rather than actual observational data (Kane et al., 2002). Postareff and Lindblom-Ylänne (2008) add that the theory of approaches to teaching should go beyond the dichotomy of student/teacher-centred and include the purpose of teaching. Norton et al. (2005) describe teaching intentions as a compromise between conceptions of teaching and the academic and social context. Other researchers also found a close relationship between a teacher's intention and his/her practice. For example, Martin, Trigwell, Prosser, Ramsden & Benjamin (2000) conducted a study of teachers' intentions with teaching. In their study, interviews were carried out immediately before and after a teaching session and all participating teachers were observed during two lectures. The teachers who had a student-centred approach to teaching and conceived of students' learning as changes in understanding of phenomena in the surrounding world showed a propensity to focus on the students' understanding in a relational way. This meant that they encouraged the students to link the content of the teaching to their own experiences or

to apply their knowledge to practice in the same way as practitioners do. Teachers who applied a more teacher-centred approach emphasising transmission of information, on the other hand, conceived of knowledge as external to the students. These teachers were occupied with presenting the content in an accurate and well-structured way.

It has been suggested that the approach used in teaching is largely based on the teacher's conception of teaching, but if the two do not correlate, this is likely to be due to contextual factors such as institutional influence, curriculum design or knowledge, values and experiences that the students bring with them (Kember and Kwan, 2000, Norton et al., 2005). Another factor that has been identified as causing a disjunction between conceptions of teaching and claimed practices is insufficient support or training (Murray and Macdonald, 1997). Approaches to teaching have also been found to change depending on context and to differ between disciplines (Samuelovicz and Bain, 2001, Lindblom-Ylänne et al., 2006, Prosser and Trigwell, 1997). Teachers who adopt a student-centred approach have been found more likely to report that their departments value teaching, that they could control what was taught and how it was taught and that the classes were not too large (Richardson, 2005). Better coherence between conceptions and practice is likely to increase efficiency and decrease teacher frustration (Murray and Macdonald, 1997).

Research on the relationship between approaches to teaching, conceptions of teaching and perceptions of the environment can be summarised as shown in Figure 2.

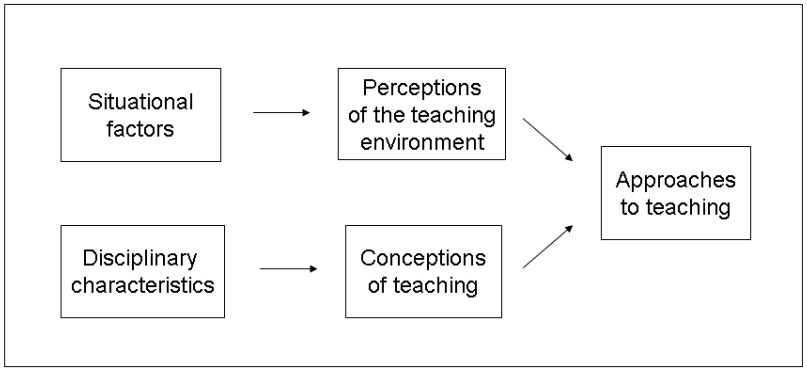

Figure 2. An integrated model of teachers' approaches to teaching, conceptions of teaching and perceptions of the teaching environment (Richardson, 2005)

Other studies, some of which used a phenomenographic approach, have documented connections between teachers' approaches to teaching and students' approaches to learning (Martin et al., 2000, Trigwell and Prosser, 1996b, Trigwell et al., 1994, Trigwell et al., 1999). A teacher-centred teaching approach has been associated with reproduction and a surface approach to learning whilst a student-centred teaching approach may instead support understanding and meaning and thereby better learning outcomes (Trigwell et al., 1999, Kember, 1997, Martin et al., 2000).

WHICH TEACHING ROLES DO BEING A TEACHER ENTAIL?

The terminology used to describe different teaching roles varies and the same title may mean something else at a different university or in a different programme. What the different roles entail is seldom discussed or specified. Some of the titles used are supervisor, clinical teacher, mentor, advisor, promoter, tutor, educator, lecturer and facilitator.

In this thesis, I have chosen to focus on the two most commonly known teaching roles of a medical teacher in the given context, namely that of a lecturer and a clinical supervisor. The third role explored in this thesis is that of a mentor as mentor programmes are becoming increasingly popular and, beginning five years ago, have been an integrated part of some of the undergraduate programmes at the university where this study was conducted. These three teaching roles are given or taken on by teachers in different circumstances and can be seen as facets of the teacher role. The functions of the roles are often unspecified or taken for granted and there is generally an overlap between them. In all three teaching roles, the aim is to facilitate students' learning, and all roles can be considered as facets of being a teacher.

Being a lecturer

In this thesis, lecturing also includes tutoring, running workshops, assessing, and other teaching tasks non-clinical teachers may be involved in. Lecturing as defined in this thesis includes the type of teaching that is generally referred to when discussing teaching, i.e. that takes place in classrooms, in schools, on university campuses, etc. Lecturing is a universal method used in many educational contexts although today, other activities such as running workshops or tutoring a problem-based learning group are also common tasks for a lecturer. A lecturer may only meet the students once, although to present their topic of expertise, however, a lecturer may also supervise small groups or individual students and work closely with them over a longer period of time. A lecturer may, for example, first introduce a topic in a lecture and follow up with discussions in seminar groups and with individual assignment written by the students.

Being a clinical supervisor

For this study, and at the university where the study took place, clinical supervision was defined as teaching and supervision in a clinical setting where the doctor/dentist or similar meets and treats patients together with one or a small number of students. For many clinicians, the teacher identity is implicitly included in the doctor/dentist identity rather than being a separate identity. Clinical supervisors may at the same time be responsible for patients as well as students, which means that they need to adopt different roles simultaneously (Higgs and McAllister, 2005). For doctors, dentists and other clinicians, teaching may be part of the clinical activity and has therefore sometimes been described as 'teaching on the fly'. A patient's clinical condition is unpredictable, which further reduces the opportunity to prepare for teaching (Irby, 1986, Taylor et al., 2007). The teaching role as a clinician can be somewhat diffuse and it has been shown that supervisors and students do not always perceive the same occasion as a teaching session, for example, some doctors may see students participating in the operating theatre as quality teaching time, whilst students see it as a

cultural experience (Stark, 2003). In the same study, doctors also referred to models of teaching such as apprenticeship teaching that were not perceived by the students (Stark, 2003). In their clinical practice, some clinical supervisors describe their role as a bridge between classroom and clinic and the role of a supervisor as not necessarily being separated from that of a doctor (Mann et al., 2001).

The role model function of the clinical supervisor is often highlighted (Parsell and Bligh, 2001, Prideaux et al., 2000, Weissmann et al., 2006). Irby (1986) emphasises that role modelling should be intentional and include the articulation of reasoning processes rather than just the solutions. The role model is sometimes referred to as the most powerful teaching strategy available to clinical supervisors (Harden and Crosby, 2000). The importance of role modelling lies in that it expands teaching to not only address the knowledge and skills that the students need, but also includes enacting and embodying these as a teacher/clinician/supervisor (Dall'Alba, 2009).

Being a mentor

Mentor programmes are increasingly common in undergraduate medicine and dentistry programmes. Many positive effects on students have been reported (Buddeberg-Fischer and Herta, 2006, Dorsey and Baker, 2004, Blanchard and Blanchard, 2006). In this thesis, a mentor is defined as someone with the profession for which the mentee is training. The mentors in this thesis are also teachers and the mentees are undergraduate students. A mentor programme may be an explicit part of the undergraduate programme or an additional opportunity for the students. Harden and Crosby define the mentor role as being less about reviewing performance and more about a wider view of issues related to the student (Harden and Crosby, 2000). Various aims and tasks may be included in the mentor role and the definitions of a mentor in the literature are not consistent.

The mentor role is often misunderstood or ambiguous (Harden and Crosby, 2000). Different interpretations of being a mentor may lead to role confusion for the mentors, who may also be supervisors, examiners or teachers (Neary, 2000, Atkins and Williams, 1995, Bray and Nettleton, 2007), and conflicts with mentees regarding expectations may occur. In some programmes, mentors are not supposed to teach or assess their mentees and the role is not described as a teaching role. However, as the mentor-mentee relationship is a relationship between a teacher and a student, it is still included in this study. Furthermore, previous studies (Stenfors-Hayes et al., 2010a, Stenfors-Hayes et al., 2011) show that even if mentors' role description is clearly defined as separate from a teaching role, most activities they perform as mentors are still identical to many teaching activities. In those two studies, all teaching activities that related to facilitating learning in the framework of learning and teaching (Table 1) were found to be included in the concept of being a mentor. Most strongly linked were 'relating to learners and providing perspectives' (1c) and 'facilitating personal and professional development' (1b). Most mentors also believed that they were functioning as a role model for the student.

3 BECOMING A TEACHER

Teachers in medical education do not usually take part in any teacher training before they start teaching. Therefore, becoming a teacher (or starting to teach) is something that often happens 'overnight'. However, the way they act as teachers and see their teacher role is formed from previous experiences and related to their own learning experiences as students (Knight et al., 2006, MacDougall and Drummond, 2005). Previous studies have identified qualitatively different ways in which development as a teacher is understood (Åkerlind, 2003, McKenzie, 1999). These range from a focus on the teacher and their comfort and knowledge to a focus on the students and their learning. When comparing these with the same respondents' conceptions of teaching, Åkerlind (2003) found that teachers with a teacher-focused conception of teaching tended to have a conception of development as being focused on comfort or new knowledge and skills, whilst teachers with a student-focused conception of teaching saw teacher development as a matter of acquiring knowledge and skills as well as increasing student learning. In a later study, these conceptions were linked to different approaches to development (Åkerlind, 2007). The way development is understood also influences what teachers gain from, for example, a staff development activity and in turn, their subsequent development.

Dall'Alba and Sandberg (2006) suggest that when practice is understood in a certain way, knowledge and skills will be developed and used accordingly. Development as a teacher can thereby be seen in two dimensions: skill progression and/or development of understanding. Some may make progress in skills such as presentation technique whilst keeping their teacher-focused conception of teaching. Others may develop their understanding of teaching and thereby also start focusing on a new set of skills.

Contextual influences on development as a teacher

Contextualised informal learning has been found to play an important part in teachers' development in many previous studies (Knight et al., 2006, Nicholls, 2005, Sharpe, 2004, Viskovic, 2006, van Eekelen et al., 2005). This means that development as a teacher is also influenced by peers, communities, the Teaching and Learning Regime, the organisation and the context (Dall'Alba and Sandberg, 2006, Knight et al., 2006, van Eekelen et al., 2005, Irby, 1993, Ballantyne et al., 1999, Dall'Alba, 2005). It is often suggested that it is through the interactions, rules and relationships between individuals that the most powerful change processes take place (McClean et al., 2008). Trowler and Knight (2000) refer to these smaller units as 'cultural powerhouses of university life'.

Some of the tacit knowledge gained through experience can be externalised through dialogue with peers, which also means that the externalisation process not only benefits the individual's learning but also the community in which he/she belongs. Roxå and Mårtensson (2009) found that teachers rely on a small number of people with whom they discuss their teaching and who affect their learning and development as teachers. Awareness of how others understand learning and teaching is a central step in developing our own understanding (Prosser and Trigwell, 1999). This may, however,

be difficult as we see others' teaching through our own way of understanding teaching (Courneya et al., 2008).

Approaches to development as a teacher

A teacher's past experiences and teaching practices may limit the perceived possibilities available for development (Dall'Alba, 2009). If a teacher's understanding of what development may mean is limited, the ways in which they approach their own development will also be restricted (Åkerlind, 2007). This, in turn, will affect the activities they choose to participate in and what they get out of them. A lot of learning related to professional development is non-formal and unintentional. However, if this is the sole focus of attention there may be a risk of 'staleness, professional obsolescence and institutional sclerosis' (Knight et al., 2006) as it may lead to skill progression only, rather than leading to development of understanding. Furthermore, it is important not to see the teacher only as someone passively created by their past experiences and thereby forgetting about the teacher's personal agency (Haggis, 2003).

In the last few years, a change can be seen with more staff development opportunities for teachers available and discussions about career paths for teachers and the scholarship of teaching (Trigwell and Shale, 2004). Literature reviews of faculty development also indicate an increasing importance of the field (Skeff et al., 2007, Steinert et al., 2006). The focus in faculty development has shifted over time, from skills practice, teaching aids and communication to, for example, student-centeredness, self-directed learning, collaborative learning and learning environments (McClean et al., 2008, Wilkerson and Irby, 1998). Staff development activities that are used today include: workshops, consultations, mentoring, reflective diaries, self assessment, student and peer feedback, role play, critical incident analysis, auscultations and scholarship activities etc. (Steinert et al., 2006, McLeod and Steinert, 2010, McClean et al., 2008, Prebble et al., 2004, Tight, 2002b). For in-depth understanding of teaching and development, reflection is generally considered a prerequisite (Tigelaar et al., 2008). This can be done individually, with peers, formally or informally. However, not all reflection leads to development and learning. Reflection needs to be framed within the learning context in which it takes place (Boud and Walker, 1998) and is considered more effective when related to experience (Sharpe, 2004).

Some staff development activities take place in mixed groups with teachers from different departments or with teachers from different faculties or universities. Other activities are retained within a certain group of teachers, such as people running a course together or working in the same ward. There is also an increased awareness of the need to work within an institution's context/culture to support the development within the communities of practice or Teaching and Learning Regimes. One such successful approach is described in Laksov (2007).

Despite the increased awareness of staff development needs, barriers to attending staff development programmes still exist. These include: the clinical reality (lack of time), a perceived lack of direction from management, a perceived lack of recognition and financial rewards for teaching and logistical issues (Steinert et al., 2009, Zibrowski et al., 2008). Other barriers include teachers' attitudes and misconceptions, a lack of belief

in the relationship between teacher training and teaching excellence, the utility in teaching skills and an underestimated need for training (Skeff et al., 1997). It has also been found that older faculty members are less interested in self-development than younger staff members (O'Sullivan, 2010). The institutional culture may become a barrier in various ways such as the lack of support or priority or reward (Knight and Trowler, 2000, Healey, 2000, Norton et al., 2005, Richardson, 2005). Some teachers may also feel 'disconnected' and disappointed with higher education as a whole (Steinert et al., 2009).

Effects of development activities

The value of participating in staff development activities may sometimes be intangible rather than directly related to changes in teaching practice, understandings of teaching or improved student learning. Student learning is subject to influences that are both direct and indirect, intentional and unintended, dynamic and complex (Hounsell, 1984). This means that the effects of a staff training intervention can be difficult to measure in those terms. One of the often reported positive outcomes is the value of meeting other teachers and discussing with them (Steinert et al., 2010). Some participants also value the identification of a conceptual framework or language for their teaching (Steinert, 2005, Weurlander and Stenfors-Hayes, 2008). Personal and professional growth, learning and self-improvement are also reported outcomes (Steinert et al., 2010). Courses may also be a way to capture and share implicit knowledge (Knight et al., 2006, Weurlander and Stenfors-Hayes, 2008) and thereby help making conceptions clearer. Other studies also report on increased awareness of, or changes in the teachers' conception of teaching (Postareff et al., 2007, Rust, 2000, Weurlander and Stenfors-Hayes, 2008).

In 2006, a systematic review of faculty development initiatives in medicine was published (Steinert et al., 2006). The outcomes of the reviewed initiatives were generally based on self-reports from participants using questionnaires designed for the specific studies. The most commonly reported outcomes for the participants were: positive changes in attitudes towards staff development and teaching, gains in knowledge and skills, changes in teaching behaviour, greater involvement in educational activities and improved networks of colleagues. Participants were highly satisfied with the initiatives and also reported on awareness of own strengths and limitations, increased motivation and appreciation of benefits to professional development. Little comparative research on which components of staff development are the most effective exists. One study in the review showed that longer interventions may lead to more lasting outcomes (Steinert et al., 2006).

Another synthesis of previous research (Prebble et al., 2004) found limited impact of short courses on changing teaching behaviour. However, activities within a work group were found effective for developing complex knowledge, attitudes and skills involved in teaching. Prebble et al. also found that personal feedback, advice and support helped teachers improve the quality of their teaching. Their study shows that teacher's beliefs about teaching and learning as well as their teaching practice can be transformed by a development programme if the programme is intensive and comprehensive.

Ho et al. (2001) linked outcomes of a staff development course with student ratings and found that teachers who had developed their conceptions of teaching during the course received better ratings from students in the following year and many students' approaches to studying were also developed.

Staff development courses or other centrally arranged activities can also provide opportunities for an alternative Teaching and Learning Regime to emerge where the participants' tacit assumptions can be made explicit or challenged (Sharpe, 2004, Trowler and Cooper, 2002). However, the culture may pose an obstacle if a teacher wants to make changes after having participated in a course (Knight et al., 2006). A teacher may find it difficult to tackle the influence of the local Teaching and Learning Regime, if it is counterproductive to the new knowledge and insights acquired. Incongruity between the Teaching and Learning Regime of the staff development unit and that of the participating teacher may have a significant impact on the quality of learning and teaching in the programme (Fanghanel, 2004).

Other factors may also affect the impact of a staff development activity. For example, progression as a teacher is often not linear (Healey, 2000, Dall'Alba and Sandberg, 2006), and people may plateau in their teaching skills and sometimes a trigger, such as doing something radically different, may result in a leap forward. It may also be possible that teaching skills actually go backwards as a result of further training if a teacher, for example, becomes self-conscious or confused by new knowledge (Healey, 2000). Another possibility is that when teachers are made aware of their own conceptions of teaching and the learning process of students, their self-efficacy beliefs decrease (Postareff et al., 2007). Shorter courses have been found to make teachers more uncertain of themselves whilst a longer course increased the teachers' self-efficacy beliefs (Postareff et al., 2007).

Summary

Being a teacher is only one of the often competing roles medical teachers have, and it is often not the most prioritised or recognised role. Very little is known about the teachers' views of their own situation and the needs and challenges they perceive (Huwendiek et al., 2010). A review of previous research showed that teachers' conceptions of the nature of teaching and learning are among the most important influences on how they teach (Prebble et al., 2004). To achieve positive fundamental development in the quality of teaching, it is often claimed that conceptions of teaching need to be addressed first (Trigwell and Prosser, 1996a, Richardson, 2005, Kember and Kwan, 2000, Åkerlind, 2008, Knight and Bligh, 2006).

The way teachers understand their role is affected by their previous experiences and the context, such as the discipline and the Teaching and Learning Regime. The way teachers understand their role, what it means to be a good teacher and what it means to develop as a teacher will affect their aims and activities as teachers and their motivation for engaging in development activities. The teacher, who understands being a good teacher as a function of the ability to be an effective presenter, will focus on presentation technique. Developing other skills will be perceived as unimportant and as a result not prioritised.

For these reasons, it is often suggested that staff development courses should provide opportunities for teachers to discuss their assumptions about teaching (Taylor et al., 2007, Trowler and Cooper, 2002). Staff development activities can either be tailored to the participants' intentions and understandings or focus on expanding their understanding (Trigwell and Prosser, 1996a, Ho et al., 2001, Kember and Kwan, 2000, Åkerlind, 2008, Åkerlind, 2007). Either way, teachers' understanding of what being a teacher, teaching and development means is central when developing support for teachers.

4 METHODOLOGY AND METHODS

The research field of medical education is multi disciplinary and research perspectives include those of medical doctors and other health professionals, anthropologists, sociologists, statisticians and educationalists. The most common research paradigm in medical education research is positivism due to its links to medical research (Bunniss and Kelly, 2010). There is, however, an increasing diversity in approaches used and qualitative approaches are also accepted (Harris, 2002, Bunniss and Kelly, 2010). The field has grown significantly over the last two decades with, for example, new journals and conferences being established. However, many see the field as a service tool for medical faculties and therefore the research is to a large extent applied and aims at problem solving and knowledge production for non-peers with practical outcomes as an important criterion (Albert et al., 2006). Most studies are justification/effectiveness studies or description studies (Cook et al., 2008, Bordage, 2006) and many fail to build on previous results (Regehr, 2004). Clarification studies asking for example of how and why are needed to deepen our understanding and advance the field (Cook et al., 2008, Bordage, 2006). In this thesis, the findings are related to their application and practical use even if the research questions themselves are of a more theoretical nature, therefore this thesis may facilitate linking the two poles of science and service (Albert et al., 2006) and aspire to inform theory, policy, and practice.

AIM

The aim of this thesis is to clarify how medical teachers understand being lecturers, clinical supervisors and mentors and also how they understand teaching and development as a teacher.

The specific aims of the four studies are as follows:

I. To explore the different ways in which undergraduate teachers at a medical university understand what constitutes being a good lecturer and a good clinical supervisor and how they relate the two roles.
II. To explore how undergraduate teachers in medical and dental education understand their (new, formalised and additional) role as mentors.
III. To explore how undergraduate teachers in medical and dental education understand development as teachers.
IV. To explore how undergraduate teachers at a medical university perceive opportunities and difficulties regarding their development as teachers and of their teaching.

    The aim of the reanalysis of study IV is as follows:

    To explore how teaching is understood particularly in relation to how opportunities and barriers for development are perceived.

This thesis aims to provide further theoretical, methodological and case-specific context to the studies. The thesis is written from a perspective of medical teachers and focuses on the way they understand three different teaching roles (study I and II). In the thesis, I use a model of learning and teaching and a framework of teaching activities to frame and explore these roles and the relationship between them. Study III and IV widen the perspective from an understanding of the roles to how medical teachers think

it is possible to go about becoming a better teacher (study III). Teachers' understanding of the barriers and opportunities they may face when developing their teaching or as teachers are further explored in study IV. The fourth study also explores how teaching is understood by the respondents. To best suit the aims of this research, an exploratory approach and qualitative methods were used.

METHODOLOGY

Phenomenography has been defined as a set of assumptions about science, humans and how we can acquire knowledge about other people's ways of experiencing the world (Sjöström and Dahlgren, 2002). Phenomenography is neither a method in itself, nor a theory of experience. It is a way of identifying, formulating and tackling certain research questions. Phenomenographic research is complementary to other kinds of research and aims at describing, analysing and understanding people's experiences of phenomena in the surrounding world (Marton, 1981). It is particularly aimed at questions related to learning and understanding. In this thesis, three of the included studies are based on a phenomenographic approach. The fourth study uses a thematic analysis, but with the same underlying methodological assumptions. For the sake of coherence and to facilitate the discussion of the findings, data from the fourth study will be reanalysed in this thesis using a phenomenographic approach.

The focus in phenomenography is to describe the qualitative variation in which a phenomenon is experienced or understood (Marton and Booth, 1998), i.e. to find out about the different ways in which people experience, interpret, understand, apprehend, perceive or conceptualise various aspects of reality. What is studied is peoples' experiences of the phenomenon rather than the phenomenon in itself. This is referred to as a second order perspective and means that phenomenography tries to characterise how things appear to people (Marton, 1988). The differences in how humans experience the world can be described, communicated and understood by others and the outcome of a phenomenographic study is therefore a number of different categories of description and their structural relationships (Sjöström and Dahlgren, 2002). The descriptions are relational, experiential, content-oriented and qualitative (Marton, 1988). These categories of description represent the outcome space and the assumption of their structural relationships is one of the epistemological assumptions underlying phenomenography (Marton and Booth, 1998).

In phenomenography, learning is described as a change in the internal relationship between the person and the world (Marton and Booth, 1998). This means that it concerns our experiences or the way in which something is perceived (Marton, 1981, Marton and Booth, 1998). Furthermore, learning cannot exist without an object and cannot be dealt with in general, only through specific content and contexts (Marton and Booth, 1998). Phenomenography is based on a non-dualistic ontology. This means that the world is accessed through our experience of it. The description of the world, the describer and that which is described cannot be separated (Marton and Booth, 1998).

> *There is not a real world 'out there' and a subjective world 'in here'. The world is not constructed by the learner, nor is it imposed upon her; it is constituted as an internal relation between them. There is only one world, but it is a world that we experience, a world in which we live, a world that is ours. (Marton and Booth, 1998) p. 13*

In other words, the world cannot be described independently of our descriptions or of us as describers (Marton and Booth, 1998). The categories of description which is the result of a phenomenographic study can, for example, be applied to make statements about historical facts such as a certain conception being exhibited during a certain circumstance, or as an abstract instrument to apply to a concrete case (Marton, 1981). Having access to different ways of experiencing a phenomenon is an asset when trying to understand the nature of individual conceptions (Marton, 1988). The categories of description can be considered almost a frozen form of thought. Marton (1981) describes the relationship between conceptions as an act of conceiving and conception as a category of description by comparing it with the relationship between Lewis Caroll's smiling Cheshire cat in Alice in Wonderland and the smile that is left when the cat is separated from the smiling. In many cases, the relationship between the different conceptions can be described in terms of conceptual expansion where the lower ones in the hierarchy are not wrong, but less complex or incomplete by missing some of the aspects of the phenomenon as perceived by others (Åkerlind, 2008). The hierarchy can also be described as integrating and holistic (Entwistle and Marton, 1984). The outcome space is not finite, which means that new ways of understanding a phenomenon may be developed over time or found by adding more respondents to the study (Marton and Booth, 1998). Furthermore, our descriptions are always driven by our aims (Marton and Booth, 1998).

Phenomenography has previously been accused of assuming that conceptions are independent of context (Säljö, 1996). However, in more recent phenomenographic studies, conceptions of teaching are generally seen as a relational response to context and situation (Entwistle et al., 2000). The ontological assumptions of phenomenography indicate that an individual's experiences are context sensitive and may therefore change with time and situation (Åkerlind, 2005). The context in phenomenography is defined by what the participants take the situation to be and situation and phenomena are inextricably intertwined.

CONTEXT OF STUDIES AND RESPONDENTS

Three groups of respondents were used for this thesis and the data are combined in various ways in the four studies, as described below. The sampling was purposive, meaning that all respondents had experiences of the phenomena under study. This means that all the respondents were teachers (at Karolinska Institutet) but in different fields and their teaching roles varied from being mainly clinical supervisors to lecturers. A majority of respondents were medical doctors or dentists.

Karolinska Institutet offers over 20 undergraduate medical and health care programmes, several master programmes as well as an extensive doctoral education. Teaching takes place on campus or at one of the six associated teaching hospitals. Different undergraduate programmes and professional fields have been added to

Karolinska Institutet over the years after initially having trained medical doctors only. The Department of Dental Medicine was, for example, merged with Karolinska Institutet in 1964. Karolinska Institutet is considered a research intense university and research is highly prioritised.

The study programme in medicine at Karolinska Institutet is five and a half years in length and matriculates approximately 150 students twice a year. Responsibility for educating the students is shared by many different departments and the associated teaching hospitals. Therefore, the number of teachers involved in the programme is very large (over 2,000) and students seldom meet the teachers from one course in another course. During the last three years of the programme, the students spend most of their time at the teaching hospitals. After graduation, graduates have an internship period of 18-21 months before receiving their medical license.

The study programme in dentistry at Karolinska Institutet is five years in length and matriculates approximately 80 students each year. The programme has an in-house dentistry clinic meaning that a large part of the students' theoretical and clinical training takes place in the same building. Approximately 60 people work with teaching at the department. The students meet the same teachers throughout their training to a larger extent than what the medical students do. The students can apply for their license as dentists at graduation.

Groups of respondents

Group one: Medical Doctors at Södersjukhuset (a Karolinska Institutet teaching hospital) who have volunteered as mentors for undergraduate medical students. A quota sample of ten mentors (out of a total of 83 mentors) was interviewed. The respondents were selected using a lottery procedure, and the sample was deliberately mixed regarding the age and sex of the respondents. All the respondents were also involved in undergraduate teaching to some extent. Some of the respondents had participated in teacher training, mentor training and other faculty development activities and some had not. Fourteen mentors could not be reached via telephone or email or declined to be interviewed due to other work commitments or leave of absence. This means that in all, 24 mentors were approached for the ten interviews.

Group two: Dentists at the department of Dental Medicine at Karolinska Institutet who had volunteered as mentors for undergraduate dental students. A quota sample of ten mentors (of a total of 66 mentors) was interviewed. The respondents were selected using a lottery procedure, but the sample was deliberately mixed regarding the age and sex of the respondents. All the respondents were also involved in undergraduate teaching to some extent. Some of the respondents had participated in teacher training, mentor training and other faculty development activities and some had not. Two mentors declined to be interviewed due to other work commitments. This means that in all, 12 mentors were approached for the ten interviews.

Group three: Medical teachers at Karolinska Institutet who had participated in a staff development course. All course participants (n= 130) were approached one year

after the course and 19 volunteered to be interviewed. This group represented a wide range of professions and teaching experience and the respondents also varied in age, sex and educational background. The impact of the course has previously been described elsewhere (Weurlander and Stenfors-Hayes, 2008).

	Group 1: Medical doctors	Group 2: Dentists	Group 3: Mixed medical teachers
Study I	*	*	*
Study II	*	*	
Study III	*	*	
Study IV			*

Table 2. Groups of respondents in the four studies

For study I, a wide range of teachers was sought to achieve variation. The third group was selected for the study as the topic in focus was relevant to them after the course and they were likely to have reflected on these issues. The respondents in group one and two were originally contacted due to their role as mentors and therefore they could be considered a convenience sample for study one. However, due to their varying background, they fit the descriptions of the sample needed and therefore they were deemed suitable to be included in study one as well. The selection of mentors and mentor programmes for study II was based on the availability of mentor programmes with similar aims. In study III, the aim was to explore understandings of development as a teacher and a wide range of teachers was sought. For study IV, the third group of respondents was used as these teachers were likely to have reflected on these issues and tried to develop their teaching or as teachers recently.

DATA COLLECTION

The emphasis on qualitative methods in this thesis reflects the aim, which is to clarify how medical teachers understand being lecturers, clinical supervisors and mentors and also how they understand teaching and development as a teacher.

Teachers' understanding of a phenomenon such as development of teaching is not always 'readily available' in an explicit form. Many different methods have therefore been used to try and gather this type of data such as concept maps, interviews, metaphors, autobiographies and life stories (Kane et al., 2002). Interviews are, however, by far the most common method for studying beliefs and conceptions today and have been the primary method for phenomenographic data collection (Marton, 1988).

All respondents had recent experience of the teaching roles discussed in the interview. As part of the interviews, examples from their own experiences were given and used to make the interview more 'authentic'. The use of semi-structured interviews makes it possible for the interviewer to ask follow-up questions for further clarification. The interview guides consisted of a relatively small number of questions followed by different kinds of probing. The questions in a phenomenographic interview are open-ended to let the respondent choose which dimensions or aspects of the phenomenon

actualised by the questions they wish to focus and elaborate on (Marton, 1988). It also creates space for more unexpected answers and thus helps the researcher to understand and grasp the context better. Not until the respondent answers the question is it possible for the interviewer to understand how the question was perceived, and based on this, follow-up questions or reformulated questions can be asked (Larsson, 1986). The follow-up questions may be as important as the pre-determined ones for finding the underlying meanings. Lines of discussion are followed until respondent and researcher have reached a state of mutual understanding and the discussion is exhausted (Booth, 1997).

When using qualitative methods, the aim is to get as rich descriptions as possible rather than statistically representative ones. In this thesis, semi-structured interviews were used in all four studies. Even if the focus in these studies is on the teacher's own experiences, the context plays a central role in these experiences; furthermore, the role of the interviewer and his/her relationship with the respondents will also affect their answers. In this thesis, the interview is seen as a reflective and dialogic event and the interview may also be an occasion where understandings are advanced. The experiences and understandings are jointly constituted by interviewer and interviewee (Marton, 1994).

All interviews were recorded and transcribed. Ethical approval was sought for all studies but neither granted nor rejected since the board decided that no ethical approval was needed. However, they saw no reason why the studies could not be performed. Participation in interviews was voluntary and the respondents were informed that they could choose to withdraw at any time. They were also informed about the aim of the study and that the ambition was to publish the results in peer reviewed journals. This information was given in phone calls and emails before the interview and also at the beginning of each interview. Permission to tape record all interviews was granted by the respondents and all transcripts were made anonymous during transcription.

METHODS OF ANALYSIS

The analyses made in the four studies were largely inductive as meaning was derived from the data and the analysis according to an interpretive tradition. A credible analysis is created through precise, exhaustive and consistent descriptions (Côté and Turgeon, 2005). For this thesis, two approaches to analysis were used, namely thematic analysis and a phenomenographic approach. The methods of analysis are similar as are the type of data and interview questions used. There is, however, a difference in what is sought after in the two approaches. In the thematic analysis, themes are focused on whilst when using a phenomenographic approach, the aim is to establish an outcome space. The outcome of a phenomenographic study is categories that describe differences in how the research object can be understood. The different ways of understanding are logically related and often, but not always, represent different breadths of awareness and are thereby often hierarchically inclusive in their relationship. For the purpose of alignment and to be able to discuss findings from the different studies in a more comparable manner, study IV, which was originally analysed thematically, was reanalysed using a phenomenographic approach. This made it possible to include the data from study IV in the respondent-based analysis, which is performed in this thesis.

Phenomenographic analysis

Phenomenography is a qualitative and empirical research approach designed to answer certain questions about how people make sense of their experiences and the world around them. In studies I, II and III, the analyses were performed within a phenomenographic research perspective. After the publication of study IV, this study has also been reanalysed using a phenomenographic approach. This means that the aim of these analyses was to explore variations in ways of experiencing a phenomenon. In this case, the phenomena of being a teacher, supervisor and mentor and how development as a teacher and teaching can be understood. These phenomena are described and analysed with regard to qualities of their content (Marton, 1981, Marton and Booth, 1998). When performing a phenomenographic analysis, all the data are viewed as one set rather than considering each respondent separately. The descriptions are therefore related to the group or the 'pool of meanings' rather than the individual respondents (Marton and Booth, 1998).

The analysis followed the procedure proposed by Dahlgren and Fallsberg (1991), which comprises seven steps as described below. In reality, however, there is a constant interplay between the steps.

1) Familiarisation	Reading all transcripts
2) Condensation	Identifying meaning units for the purpose of further scrutiny
3) Comparison	Comparing units with regard to similarities and differences
4) Grouping	Allocating answers expressing similar ways of understanding the phenomenon in question to the same group
5) Articulating	Capturing the essential meaning of each category
6) Labelling	Expressing the core meaning of the category Steps 3-6 are repeated in an iterative procedure to make sure that the similarities within and differences between categories are discerned and formulated in a distinct way
7) Contrasting	Comparison of categories with regard to similarities and differences

Table 3. Seven steps of analysis (Dahlgren and Fallsberg, 1991)

The first step, familiarisation means that the researcher reads through the interview transcripts to get a fresh impression of how the interview proceeded. In this initial phase, the entire pool of data is given equal consideration. The second step, condensation, comprises identifying meaning units in the dialogue and marking or saving these for the purpose of further scrutiny. The third step, comparison, involves comparing these units with regard to similarities and differences. In the fourth step, a preliminary attempt at grouping is made, i.e. answers expressing similar ways of understanding the phenomenon in question are allocated to the same group. By articulating, the researcher tries to capture the essential meaning of a certain category. By labelling these articulated meanings, the researcher makes a first attempt at expressing the core meaning of the category. These last three steps have to be repeated in an iterative procedure so as to make sure that the similarities within and differences

between categories are discerned and formulated in a distinct way. Finally, the categories thus discerned are compared through a contrastive procedure, i.e. categories in the outcome space (the sum of categories), are described as to their meaning also in terms of what they do *not* comprise. The outcome of a phenomenographic study is categories that describe differences in how a phenomenon is understood. This awareness is context-sensitive rather than a stable construct. An internal logical relationship usually exists between the categories at this stage.

In this thesis, attempts are also made to match respondents with a certain outcome space. This was done in study I, and is also done for the other three studies, as presented in the findings section of this thesis. To do this, all transcripts were coded according to the different way of understanding they best represented. A certain individual's way of understanding a phenomenon is more difficult to grasp than ways of understanding on a collective level. However, this second analysis helps identify relationships between how different phenomena (such as being a teacher, a supervisor and/or a mentor) are understood.

Thematic analysis

In study IV, a thematic analysis was performed. This is a method for identifying, analysing and reporting themes or patterns within data (Braun and Clarke, 2006). Thematic analysis is essentially independent of epistemology and theory and can be applied across a range of approaches (Braun and Clarke, 2006); therefore this analytical method can be combined with the methodological assumptions as described with regard to phenomenography.

In the study, the first two themes of barriers and opportunities were established before the analysis commenced. However, a more inductive thematic approach was used to analyse these further. Firstly, all transcripts were read; secondly, meaningful units in the transcribed interviews were identified and labelled. Through an iterative process focusing on similarities and differences, the units were then categorised into groups, as patterns were identified. These were subsequently organised into main themes and sub themes. Similar to a phenomenographic analysis, themes are searched for across the whole data set rather than within an individual transcript. The analysis focused primarily on an interpretative level and an attempt was made to theorise the findings in relation to previous literature (Braun and Clarke, 2006). The interview transcripts were regularly revisited to make sure that all relevant excerpts for each theme were collated. To facilitate the analytic process, criteria for internal homogeneity and external heterogeneity were used (Braun and Clarke, 2006). As themes were established, the interview transcripts were revisited and read once more.

TRUSTWORTHINESS

Trustworthiness in a qualitative study can be established through credibility, transferability and dependability (Koch, 1994).

Credibility

Credibility or internal validity is used to describe the extent to which the findings of a qualitative study are believable to others. Credibility is achieved through the data sources, data collection method and process of analysis addressing the intended focus and all conclusions being grounded in the data (Graneheim and Lundman, 2004). Credibility also refers to how well categories and themes cover data, which can be shown with quotations or by agreement between, for example, co-researchers (Graneheim and Lundman, 2004). In the studies included in this thesis, quotations are frequently used and agreement between co-researchers was achieved through negotiated consensus (Wahlström et al., 1997). Participants' recognition can also be an aspect of credibility as confirmability (Graneheim and Lundman, 2004). In study II and III, a member of one of the faculty groups in focus who was not a respondent, read through the analysis and discussed it with me. Peer debriefing provides the researchers with opportunities to test their growing insights and deal with questions that may arise (Guba, 1981). This was done through regular presentations at PhD seminars. The prevalence of research presentations to peers and at conferences also provides a source for the credibility of the findings (Åkerlind, 2005). The findings in study IV were presented and discussed with a group of educational developers at a national gathering and findings from study I were presented at an international conference in medical education.

Investigator triangulation requires more than one investigator to collect and analyse the data (Giacomini and Cook, 2000b). In study IV, this was achieved both in the data collection and analysis; in study I-III this was achieved in the analytical phase. For study I, ten interviews were analysed by two of the authors (TS-H and LOD) independently and the findings discussed before the remaining data were analysed by me. For study II, ten of the interviews were analysed by two of the authors independently (TS-H and LOD) and findings compared and discussed before the remaining ten interviews were analysed by me. For study III, the analysis performed by me was reviewed by both co-authors who had read all interview transcripts and discussed until consensus was reached. In study IV, the first version of the thematic analysis was conducted by two of the authors (TS-H and MW) independently, the same co-author (MW) reviewed my further developments of the analysis. The phenomenographic analysis was performed by me and reviewed by another co-author (HH). The parallel analysis of data made it possible to explore differences and similarities between the respondents' statements (Kvale, 1996). Credibility is also enhanced by the researchers' self-awareness regarding their role as researchers (Koch, 1994) as is further discussed on the following page.

Generalisability

Generalisability or transferability or external validity concerns the potential use of research (Larsson, 2009). The findings of a qualitative study are not intended to be generalisable in the same way as in a quantitative study. Nevertheless, they may well be transferable to other settings and be used to illuminate or modify theories. By trying to cover more of the variation in different views or perceptions, generalisability can be enhanced (Larsson, 2009). This can be achieved by broad variation in the sample. In studies II and III, respondents were selected from two different contexts and in studies I

and IV, the context and professional backgrounds of the respondents reflected a wide variety of medical teachers, including clinicians, pre clinical teachers and different professions. It is, however, not easy to predict the real differences based on the basis of surface impressions or formal characteristics. Furthermore, other factors may determine the phenomenon rather than just the context (Larsson, 2009). Generalisability can also be achieved through pattern recognition by the reader even if the interpreted context is different. Another way of increasing transferability is to discuss how the results advance theoretical understanding that are relevant to other situations (Kuper et al., 2008).

Dependability

Dependability has to do with stability or the degree to which data change over time and changes in decisions made by the researcher during the process of analysis (Guba, 1981, Guba and Lincoln, 1982). There is a risk of inconsistency in the data collection when, for example, different researchers are involved or when the collection extends over time. However, interviewing is an evolving process and new insights will have an effect on the data collection, for example, by affecting follow-up questions or narrowing the focus (Graneheim and Lundman, 2004). Dependability is strengthened by the transparency of the analysis and whether another researcher can follow the decision trail and arrive at comparable conclusions (Koch, 1994). To achieve this, enough detail needs to be given regarding the analytical process and a clear correspondence between empirical data and findings needs to be traceable. In this thesis project, all revisions of interview guides and findings in the analysis have been recorded, together with notes from meetings, reflective notes and analytical memos.

In a qualitative study it is also important that the relationships between identified categories are clearly described and make sense and that the categories are adequately illustrated (Giacomini and Cook, 2000a). In this thesis, quotations from respondents are used to illustrate findings and to describe the relationships between categories. The studies in this thesis are related to existing theory and beliefs in the field (Giacomini and Cook, 2000a), through the introductions and discussion sections of this thesis. The categories identified in a phenomenographic study are a form of discovery, and another researcher studying the same phenomena may not necessarily find the same categories. However, the identified categories should be recognisable by others once identified (Marton, 1988).

REFLEXIVITY

The relationship between the researcher and the respondent and their previous knowledge about each other, etc. will affect their dialogue. Furthermore, the researchers' previous experiences and knowledge will influence the analysis. Therefore, openness regarding these issues is deemed important in qualitative studies.

I was working as a fulltime teacher of undergraduate students before I joined Karolinska Institutet. However, my own experience of teaching undergraduate students at the medical university where this study took place is very limited. Most respondents teach in medicine or dentistry and I have no teaching experience from either of those

programmes. This helped me keep an open mind and take in what the respondents said, rather than being affected by my own teaching experiences in that particular field or with the same students.

The relationship between the researcher/s gathering the data and the respondents vary for the different studies: In studies I and IV, the respondents (group three) were former course participants at staff development courses run by the centre (CME) where the researchers were all employed at the time. Two of the authors conducted the interviews. The researchers did not interview participants from courses where they personally had been functioning as the main teacher or examiner. It is nevertheless possible that the respondents' knowledge of the researchers' general involvement in the courses may have affected their responses somewhat. However, the main focus of the findings presented in this study does not concern the courses; instead, it concerns general issues regarding development and change. For studies II and III (and also some of the respondents in study I), I had no previous relationship to the respondents (group one and two), but my name and face may have been familiar to some through my work as an educational developer. Six of the respondents I had met three years previously when providing one day of mentor training, but none of the respondents were at the time of the interview involved in any training that I led or had expressed a wish to do so in the future. This means that the risk of the respondents adjusting their answers due to our relationship is small. The epistemological and ontological assumptions this research is based on are further described in the methodology section.

I see the analysis of the data as a process as somewhat affected by my own conceptions and previous knowledge in the field. There is always a degree of interpretation when working with the interview material. I have, however, reflected on my own understanding, discussed with peers and used measures such as investigator triangulation and member checking to achieve credible results.

5 FINDINGS

The main findings from the four studies are presented in this chapter. A new analysis of study IV, using a phenomenographic approach is also performed and the new findings are described. Furthermore, at the end of this chapter, a new analysis looking at the outcome spaces from all four studies on an individual level is presented. This analysis is conducted to create a way to discuss the relationships between the understandings presented in the studies.

STUDY I

In the first study, 39 teachers were interviewed about their ways of understanding what it means to be a good lecturer and 15 of them were also interviewed about what it means to be a good clinical supervisor. In the original study, 'lecturer' was referred to as 'teacher', but to avoid confusing this teaching role with other aspects of being a teacher, it is referred to as 'lecturer' throughout this thesis. The identified categories are shown below:

A good lecturer:
- Conveys knowledge
- Responds to students' content requests
- Focuses on students' learning

A good clinical supervisor:
- Shows how things are done
- Shares what it is like to be a doctor/dentist
- Stimulates students' growth

The identified categories in this study are hierarchical. This means that the understanding of being a good lecturer in the most inclusive category ('*focuses on students' learning'*), includes awareness of many aspects concerning the students as well as the lecturers, whilst in the least inclusive category ('*conveys knowledge'*) the focus is solely on the lecturer's perspective. This means that in the latter category, being a lecturer is understood as being someone who provides students with information, an expert they can ask questions and who shows students what they think they need to know.

The understanding of what it means to be a good clinical supervisor similarly increases the respondents' commitment to students from only providing them with information and answering their questions to facilitating their learning and development into 'good people' as well as 'good professionals'. Another example is the respondents' perceived aim of supervision, which ranges from providing information and clinical knowledge to supporting students' personal and professional development. The most advanced understanding of being a clinical supervisor that was identified focused on stimulating students' growth, both personally and professionally. The middle category of clinical supervision focuses more on creating a good relationship with the students than the least inclusive category.

A comparison of the most and least inclusive categories of being a good lecturer and of being a good clinical supervisor shows that they are almost identical in terms of their

focus on either the student or the lecturer. Similarities between the two middle categories also exist, such as the focus on trying to help the students understand by providing support in their knowledge construction, even though the process is clearly guided by the teacher rather than by the student. In the middle categories, however, there is a difference in that clinical supervisors identify themselves as role models as well. As the categories are hierarchical, this difference between being a lecturer and a supervisor remains in the most inclusive category where clinical supervisors continue to emphasise students' personal and professional development whilst the corresponding lecturer role is limited to supporting student learning. Even if they both focus on the students, the role as a lecturer is different from the role as a doctor/dentist and only involves demonstrating a limited number of aspects of the professional role. This difference suggests that the two least inclusive understandings of being a lecturer and a clinical supervisor can also be described as the two most similar in that they both focus on the teacher/supervisor as the expert who demonstrates and tells the students what they think they need to know and be able to do.

STUDY II

In the second study, 20 teachers were interviewed about their new and additional mentor role. Three ways of understanding the mentor role were identified in the context of two different mentor programmes for undergraduate medical and dental students. These three ways of understanding also affected what the mentors did, their relationship with their mentees and the effects that their mentor role had on themselves. In the three categories, a mentor was described as someone who:

- can answer questions and give advice
- shares what it means to be a doctor/dentist
- listens and stimulates reflection

Depending on how the mentor role was understood, the mentors act differently: in the first category ('*can answer question and give advice*'), the mentors tell the mentees things they think they should know and give more advice (which is not necessarily based on the mentees' requests). In the last category ('*listens and stimulates reflection'*), they function as sounding boards and reflective partners who might encourage independent decision-making and thinking.

The relationship between mentor and mentee also varies. In the first category, the mentor controls the meetings and their content. In the middle category ('*shares what it means to be a doctor/dentist'*) the mentor-mentee relationship is described as more reciprocal than the teacher-student relationship and one of the respondents jokingly wondered who in their relationship was the mentor and who was the mentee. In the last category, the relationship can be described as mentee-focused, since the mentees' questions and reflections are focused on. One mentor described their role as someone the mentee can use professionally in whatever way they want. The dentist mentors were all given instructions before they became mentors regarding themes of each meeting and discussion questions, nevertheless this range of understanding of what it means to be a mentor in the mentor-mentee relationship was seen.

The perceived effects of being a mentor were linked to how the mentors understand their role. The effects identified in the last category included an increased understanding of the students' situation and improved relationships with students. One mentor also mentioned how they themselves developed by being confronted with their mentees' ideas and expectations even if development may take some time and the effects, such as increased self-insight, are not immediate. In the middle category, mentoring was described as rewarding as the mentors could follow the mentees' professional development and had an opportunity to share their tacit and non-medical experiences of being a doctor or a dentist. Being a mentor also made mentors reflect on their own roles as teachers and doctors/dentists and their identity in their professional role might have been strengthened. One respondent also stated that it affected their teaching by making them realise that 'they are not only students, but actual human beings'. Mentors who conceived of their role as being similar to the first category also saw benefits, but to a lesser extent and mainly related to learning about the curriculum rather than the students themselves.

STUDY III

The third study is based on interviews with 20 teachers regarding their understanding of development as a teacher. In the study, three ways of understanding development as a teacher in dentistry and medicine were identified:

- Through development as a dental or medical clinician/expert as the teacher role is seen as a tacit part of the role of the clinician.
- Through experience and professional and personal maturation, related to personal and professional development and confidence in one's clinical professional role.
- Through knowledge in education and systematic teacher training as teaching is seen as a profession or as a separate role.

The differences in these three ways of understanding development as a teacher are shown in their different aims for development, what kind of knowledge that may be used and what methods, especially in how students, peers, feedback and reflection are interpreted in terms of tools for this. A description of how the responses in these five aspects differed between the three categories can be found in Table 4. All five aspects are inclusively hierarchical as is illustrated by the inclusion of the definitions of the aspects from the first category in the description of the aspects in the middle category and the most inclusive category.

	Aim of development	Source of knowledge	Methods of development	The use of feedback and reflection	Role of students and colleagues
Through development as a dental or medical clinician /expert	Job satisfaction	The field in which you are teaching	Working as a researcher/ clinician and reading up on your field	Reflection regarding the role of the clinician	Students' questions help you develop as a clinician by making you learn new facts
As above and through: **Greater experience and personal and professional development**	As above and through: Keeping oneself and students happy by means of activation and variation in the teaching technique and content	As above and through: Colleagues and oneself	As above and through: Role models such as good presenters	As above and through: Being based on own ideas and 'common sense'	As above and through: Providing feedback on whether they like the teaching or not
As above and through: **Knowledge in education and systematic training**	As above and through: Students learning	As above and through: The field of teaching and learning	As above and through: Structured feedback and teacher training	As above and: According to known or structured models. May be provided by educational developers	As above and through: Partners in developing the teaching sessions

Table 4. Five aspects of understanding development as a teacher

STUDY IV

In the fourth study, 19 teachers who had previously participated in a teacher-training course were interviewed regarding their perceived barriers and opportunities for development as teachers and their teaching. The thematic analysis showed that barriers and opportunities for teachers' professional development were identified on three different levels: individual, group or departmental and institutional. The barriers included lack of incentives, lack of priority for teaching, lack of formal responsibility or structure for teaching, lack of influence over teaching or too much *ad hoc* teaching with patients present. Traditions, informal decision routes and hierarchies were other perceived barriers. At an individual level, lack of knowledge in the field of teaching and learning was perceived as a barrier. Opportunities and motivation for development were often related to the freedom of work many academics experience and the high degree of autonomy in teaching. Many respondents were also driven by a vision of constant improvement, not necessarily for the sake of improved student learning but also for their own sake, to make teaching more fun. However closer relationships with

students and the opportunity to follow their development were also described as motivating. Committed colleagues were seen as a source of stimulating discussions.

The empirical data also showed that different respondents sometimes perceived the same factor as either a barrier or an opportunity. One example of this was the perception that no one cares about what you do as a teacher, which was both interpreted as inspiring freedom and autonomy or as a reflection of the low importance and low status of teaching. Another example was the division of work between clinical work, research and teaching, which is generally considered problematic in terms of priorities. This was turned into something positive by one respondent who appreciated the link between them and how they may be beneficial to each other.

A phenomenographic reanalysis of the findings

The reanalysis of the data, which was performed after study IV was published, focused on how teaching was understood, from the perspective of perceived barriers and opportunities for development as teachers and of teaching. The analysis resulted in three qualitatively different ways of understanding teaching.

Internal locus: This understanding shows that if teaching is understood as a private activity, the same applies to the barriers and opportunities. A barrier on this individual level may be lack of knowledge about how to develop as a teacher. The opportunities to develop ones own teaching or as a teacher are seen as plentiful.

> *There are excellent opportunities if you use them, there are no limits at all, the only limit is time. Nothing else. Let's say that I say that or I want this or I want to do that; you will get it! This is the way I see it. I haven't experienced any such limitations.*

Collaborative locus: Another way of understanding the phenomena is on a group level, which can be described as within a Teaching and Learning Regime or a community. The group is seen as the main resource and through discussions, feedback, shared seminars etc., the teaching provided by the individuals in the group, and the teachers themselves may develop. Similarly, if the group is 'held back' by, for example, a few senior persons or a conception of teaching that no longer functions, this may be perceived as a barrier. Role models and especially committed teachers are seen as helpful.

> *There are great opportunities […] It may, for example, be a younger group which collaborates and restructures a whole programme. For example, cutting down on lectures and adding more group discussions. The problem is the older teachers on board. But there is definitely a younger group there that wants to do these things, so there are opportunities.*

External locus: The third way of understanding teaching was as something external and not something the individual teacher may affect. Barriers may relate to lack of a formal teacher role or lack of managerial support for participating in teacher training. Role models and individual efforts are deemed to be pointless if not explicitly supported by management.

I want more credit for being committed to teaching from a career perspective […] it doesn't mean anything today. If you do too much you are a loser, you lose ground in your research.

The three categories do not appear to be hierarchical, but indicate a difference in locus of control. When looking at the findings on an individual level, the categories do not appear to be mutually exclusive either; instead, one of the three ways of understanding can be said to be dominant for each respondent.

RELATIONSHIPS BETWEEN BEING A GOOD LECTURER, SUPERVISOR AND MENTOR

As some of the respondents were the same in studies I and II (as described in Table 2), this makes it possible to explore whether any patterns can be seen on the individual level regarding the three outcome spaces of being a good lecturer, clinical supervisor and mentor, respectively. This was done by coding all manuscripts according to the different way of understanding they best represented. The individual transcripts probably represent either more or fewer aspects of the phenomenon than one category, therefore this type of matching is difficult (Åkerlind, 2005). The same procedure was also applied to the findings in studies III and IV. The results represent the range of combinations, not the frequency, as the aim is to explore which combinations exist rather than which are the most common.

Understanding being a lecturer and a clinical supervisor

As presented in study I, all the transcripts of the 15 respondents who had both the role of clinical supervisor and lecturer were mapped to the most representative category of being a lecturer versus being a supervisor.

	Shows how things are done	Shares what it is like to be a doctor/dentist	Stimulates students' growth
Conveys knowledge	*	*	
Responds to students' content requests	*	*	*
Focuses on students' learning		*	*

Table 5. Relationships between ways of understanding being a good lecturer and a good clinical supervisor

The patterns of combinations of ways of understanding being a good lecturer and a good clinical supervisor that were identified showed that ways of understanding lecturing and clinical supervision held by individual respondents varied. For example, a respondent matching the most inclusive understanding of being a lecturer (*'focuses on the students' learning'*) may not match the corresponding understanding of being a clinical supervisor (*´stimulates students' growth'*), but instead match the middle category *('shares what it is like to be a doctor/dentist'*) of ways of understanding

clinical supervision. However, the ways of understanding were only expanded with a maximum of one step of the hierarchy, meaning that no respondent ranged from the least inclusive understanding on clinical supervision to the most inclusive understanding of being a good lecturer, or vice versa.

Understanding being a lecturer and a mentor

Based on the 20 respondents in study II, the same analytical procedure was carried out to map the previous data of the most representative category of being a lecturer with understandings of being a mentor. The result of this is shown in Table 6 and the pattern appears to be identical to the one shown in Table 5.

	Answer questions and give advice	Shares what it means to be a doctor/dentist	Listens and stimulates reflection
Conveys knowledge	*	*	
Responds to students' content requests	*	*	*
Focuses on students' learning		*	*

Table 6. Relationships of ways of understanding being a good lecturer and a mentor

Understanding being a lecturer and development as a teacher

The data regarding being a good lecturer were also compared to an analysis of understandings of development for all 20 respondents in study III.

	By development as a clinician /expert	By experience and personal and professional maturation	By knowledge in education and systematic teacher training
Conveys knowledge	*		*
Responds to students' content requests		*	*
Focuses on students' learning		*	*

Table 7. Relationships of ways of understanding being a good lecturer and ways of understanding development as a teacher

This shows that understandings of development are not related to understanding what it means to be a good lecturer according to the same patterns as the understandings of the three teaching roles. The understanding of what it means to develop as a teacher was generally more inclusive than the understanding of what it means to be a good lecturer.

Understanding being a lecturer and teaching

Finally, the new phenomenographic analysis of the data regarding barriers and opportunities for development in study IV was compared with the same 19 respondents' understanding of what it means to be a good lecturer.

	Internal	Collaborative	External
Conveys knowledge		*	*
Responds to students' content requests		*	*
Focuses on students' learning	*	*	

Table 8. Relationships of ways of understanding being a good lecturer and ways of understanding teaching

Table 8 shows that there appears to be a pattern between how being a good lecturer is understood and how teaching in terms of locus of control is understood. The pattern is similar to the previous ones in that combinations of certain understandings are missing. In this case, no respondent with an understanding of teaching as internal understands being a good lecturer as someone who conveys knowledge or responds to students' content requests. Similarly, no teacher who understands being a good lecturer as someone who focuses on students' learning was found who also had a dominantly external perspective on teaching and barriers and opportunities for development.

As shown in tables 5 to 8, patterns have been identified on an individual level regarding the outcome spaces of how the three teaching roles, development and teaching were understood. These findings represent the range of combinations identified. These patterns provide a possibility to explore relationships between ways of understanding different phenomena on an individual level.

6 DISCUSSION

The aim of this thesis was to clarify how medical teachers understand being lecturers, clinical supervisors and mentors and also how they understand teaching and development as a teacher. Studies I and II explored three teaching roles whilst studies III and IV explored how teachers understood teaching and development as teachers.

A comparison of how teachers understand the roles of being a good lecturer, a clinical supervisor and/or a mentor has not been made before and phenomenographic studies of mentoring and clinical supervision are rare. This means that the findings in terms of how these roles are understood and the relationship between them provide a new contribution to the research field. Previous studies regarding ways of understanding being a lecturer exist, but the findings of study I indicate a way of understanding this role which has not previously been identified in the literature. Study III and IV provide contributions to research related to being a medical teacher which can provide important input in the context of, for example, staff development or organisational development. Previous studies tend to examine single and specific teaching situations whilst this thesis contributes to several parts of the jigsaw of what it means to be a teacher in medical education.

This thesis also explores the links on an individual level between ways of understanding the three teaching roles, understanding development as a teacher and ways of understanding teaching, particularly in relation to how opportunities and barriers for development are perceived (5-8). The findings of this part of the thesis show patterns in how ways of understanding form internal relationships where it is possible for teachers to have a more inclusive understanding of one role than of another. This kind of comparison of phenomenographic findings is unusual but opens possibilities for interesting future studies.

In this final discussion chapter, some methodological reflections are presented. This will provide a background for the discussion of the findings related to the model of learning and teaching (Ross and Stenfors-Hayes, 2008) and previous research in the field. The reason for linking the findings to this model is to try to further illustrate, explore and discuss differences and similarities between the various ways of understanding that have been presented. This thesis is written in the context of medical education, hence, most references are taken from this field of research. Most respondents were doctors or dentists, and therefore, previous studies within these two professions were prioritised. However, far more research is available regarding medical teaching than in teaching in dentistry. To avoid ‘isolationist’ tendencies where references only are made to studies in the same field (Roxå et al., 2010), general higher education studies have also been included.

METHODOLOGICAL REFLECTIONS

The findings of this thesis include a number of qualitatively different understandings. An individual’s experience of a phenomenon is context sensitive, which means that it may change with time and situation (Marton and Booth, 1998). The respondents in this

thesis are all from the same university or associated teaching hospitals and most of them were doctors or dentists. Teachers from all the undergraduate programmes at the university were not represented. Furthermore, only three facets of being a teacher are explored in this thesis and more teaching roles could have been included. Including respondents from another university or faculty or a wider group of respondents would have affected the outcomes, as would a different timing or context of the interviews. These aspects could all be considered in a future follow-up study. The findings are furthermore influenced by the interviewer and the researcher/s conducting the analysis. It cannot be taken for granted that the respondents act according to the way their understanding is described. If the aim of this thesis had included approaches to teaching and development rather than just the respondents' understanding of these phenomena, observations might have been a suitable complementary method. Other qualitative methods may also have been worthwhile to identify different ways of understanding. A phenomenographic study results in an outcome space comprising a number of qualitatively different understandings of a phenomenon. The identified categories are to be seen as heuristic devices that can help advance our understanding of a phenomenon (Cousin, 2009). Traditions and cultures within different research groups influence how these categories are described and how many categories are identified. With fewer categories, important nuances may be lost; however, fewer categories may make the findings more accessible to an audience not accustomed to qualitative research as the differences between them are clearer.

To further explore the findings, the data from all four studies were used in a new analysis on an individual level where different ways of understanding what it means to be a good lecturer were mapped to individual respondents' way of understanding being a clinical supervisor or mentor, development as a teacher and finally teaching. This new analysis was presented as findings of this thesis. Most research to date regarding teaching focuses on one specific teaching context. This means that teachers' perception of teaching on a more general level may be lost (Lea and Callaghan, 2008). This is one reason for combining the findings of the studies in this thesis. It is important to remember that research using a phenomenographic approach primarily captures differences and similarities between understandings in all the data as one unit, i.e. the collective view rather than the specific complexity of individual responses. However, analyses on an individual level have also previously been used in phenomenographic studies, for example, by Åkerlind (2003).

FINDINGS IN RELATION TO A MODEL OF LEARNING AND TEACHING

Tables 5 and 6 showed that teachers in medical education appear to compartmentalise being lecturers, clinical supervisors and mentors. These findings support the notion that ways of understanding a phenomenon are affected by the context (Samuelovicz and Bain, 2001, Lindblom-Ylänne et al., 2006, Pratt, 1992, Trowler and Cooper, 2002). Nevertheless, the respondents' ways of understanding what it means to be a good lecturer, a good clinical supervisor and a mentor only varied to a certain extent, or by a maximum of one step in the categories. Possible reasons for the compartmentalisation are illustrated and discussed using the model of learning and teaching presented in Figure 1 (p. 3) to structure the discussion.

The **Content** in the learning and teaching situations in which lecturers, supervisors and mentors act includes theoretical knowledge, clinical skills and personal development. Understandings of what it means to be a good lecturer and clinical supervisor in study I, shows that the least inclusive understandings focus mainly on content. As a mentees (study II), students have a greater influence on the content of the discussion than they usually do in a more traditional teaching situation.

Differences can also be seen in the **Learning and Teaching Situations**. Teaching usually involves bigger groups of students whereas supervision and mentoring are very often a one-to-one relationship. Lecturing takes place in classroom, which may be something of a more conventional arena for both student and teacher even if the positions in the room usually emphasise their different roles. The classroom is often designed for teaching. Clinical supervision may take place in a ward the supervisor visits everyday whilst the student has never been there before and it is usually not designed with teaching in mind. The presence of a patient also influences the way the supervisor (and students) experience the situation. Finally, the mentor meetings often take place in the mentor's office although study II showed that some mentors made efforts to choose more neutral ground such as a cafeteria, which most people probably consider a place for personal meetings rather than being related in any way to teaching.

By using the framework of learning and teaching as described on page 7 (Ross and Stenfors-Hayes, 2008) for mapping **Teaching Activities** to the three roles (study I-II) of being a lecturer, supervisor and mentor, differences and similarities between the roles can be highlighted as follows:

- The lecture role is understood as including: facilitating content learning (1a), assessment (1e) and managing activities (section 2)
- The clinical supervisor role is understood as including 1a
- The mentor role is understood as including neither 1a, 1e or managing activities (section 2)

The fact that no clinical supervisors mentioned managing activities, is similar to Irby's (1986) earlier findings regarding the lack of visibility of the clinical teacher's role as an instructional leader.

The hierarchical nature of the categories (study I-II) can also be exemplified in the model by looking at the activities focused on being a lecturer, clinical supervisor and mentor:

- The least inclusive understanding: focus on providing information and presenting (1d)
- The middle understanding: (1d) and relating to learners and providing perspectives (1c)
- The most inclusive understanding: (1d, 1c) and facilitating personal and professional development (1b)

Study I-II further show that being a lecturer can be understood as being just a provider of information, with the **Learner** as a recipient and little consideration paid to other aspects of either **Teachers** or learners as persons. A clinical supervisor may include all aspects of being a doctor or dentist in their role, but he/she seldom expands it to include as many personal aspects as a mentor or a mentee may do. The two latter ways of

understanding the mentor role (‘*shares what it means to be a doctor/dentist*’ and ‘*listens and stimulates reflection*’) focus on the teacher on a more personal level of being not only a doctor or dentist, but also a parent, a man/woman, etc.

The findings in study I-II also show that the roles of clinical supervisor and mentor focus on the respondents themselves, as a role model, a clinician, a parent etc. whilst the lecturer role is to a larger extent perceived as something you do in terms of teaching activities. A plausible explanation of this is the difference in control and responsibility between the roles, where teachers often have to assess the students as well, and follow a certain curriculum. For many clinical supervisors, this is only a small part of their role and for mentors this is not part of their role at all. The most inclusive understandings of being a good lecturer, a clinical supervisor or a mentor also emphasise the learner and their **Learning Activities**.

Understanding teaching and development as a teacher

The findings in studies III and IV can also be viewed from the perspective of the learning and teaching model and the framework of teaching activities (Table 1 p. 7).

The teaching activities in the learning and community building section of the framework clearly relate to understandings of what it means to develop as a teacher (study III). However, not all learning and community-building activities in the framework were mentioned by the respondents.

- The first understanding of development as a teacher (‘*development as a clinician/expert’*) did not include any of the learning and community-building activities in the framework from an educational perspective, only pure content aspects.
- The middle understanding of development (‘*experience and professional and personal maturation’*) included development through informal reflection and feedback from students and peers (3a).
- The last understanding of development (‘*knowledge in education and systematic teacher training*’) included structured training and feedback (3b). This understanding of development also included collaborative approaches such as mentoring, critical friends, etc.

No respondent suggested (educational) research (3e) or local, national or international community building (3c, 3d) as a way to develop as a teacher. Expected findings related to these activities would have been participating in local educational congress, national or international conference in medical education or publishing in medical education journals or, for example, researching new teaching methods.

The findings regarding teaching (study IV) can also be mapped to the framework (Table 1 p.7):

- For teachers with an individual understanding of teaching (‘*internal locus’*), the opportunities available related to facilitating teaching activities (section 1) were viewed as plentiful, whilst community building (section 2) was of less interest.
- The second understanding of teaching (‘*collaborative locus’*), however, focuses heavily on the community-building section and, for example, reflection with peers (3a), feedback from students (3a) and local community building (3c).

- The third understanding (‘*organisational locus*’) relates more clearly to management of teaching, but also to supported facilitating activities and centrally arranged teacher training courses (3b).

The way the respondents understood their teaching roles, development and teaching as described in study I-IV is related not only to the explicit contextual differences as described with the model of learning and teaching above, but also to their own interpretations of it. This is explicitly seen in study IV where the same circumstances were perceived as either an opportunity or a barrier.

PERCEIVED DIFFERENCES BETWEEN THE THREE TEACHING ROLES

In the interviews, the respondents were asked to elaborate on the differences between the three teaching roles. One respondent, with an understanding corresponding to the least inclusive understanding of both being a good lecturer and a good clinical supervisor, focused solely on the difference in the learning and teaching situation, claiming that being a clinical supervisor was easier since there are so many things going on around you in the clinic. Another respondent described the two roles quite differently by saying that clinical supervision is about facilitating development and growth whilst the starting point for being a good lecturer is to be interesting to listen to. Some respondents described the difference between the two roles in terms of the supervisor also being a role model, other respondents emphasised that in both roles you need to have both the theoretical background and the clinical experience.

When asked about the differences between the roles of being a mentor and a lecturer, the respondents described them in different ways depending on their understanding of the roles. One respondent with an understanding of being a mentor similar to the last category (‘*listens and stimulates reflection*’) found the two roles to be very similar and claimed that a good mentor is in fact the perfect lecturer. Another respondent described the mentor role as being ‘more inclusive’ or bigger than the lecturer role. Others with an understanding of the mentor role similar to the first category (‘*can answer questions and give advice’*) found the two roles to be incomparable as the mentor role included less pressure in terms of assessment or the students’ achievement. Both roles were described as being focused on transmitting knowledge.

These findings thus support the previously discussed finding that an individual’s understandings of the three roles are somewhat aligned on the scale from provider of information to a focus on the students’ development, learning and growth. Indications are also found that a more inclusive understanding of the three roles can be linked to an understanding of the roles as being quite similar, whilst with a less inclusive understanding of the roles they are perceived as three distinctly different roles. Understanding the roles as quite similar can be linked to a pedagogy focusing on students as persons, not only as knowers. The pedagogical frames in such an approach are open and students get to know each other and to some extent the teacher as persons (Barnett, 2004). Hence, the teaching roles included in being a teacher are not as distinct.

BEING A TEACHER: LINKS TO PREVIOUS RESEARCH

Two of the three categories, which were identified regarding being a good lecturer in study I, are similar to the teacher vs. student-centred dichotomy often found in the literature (Kember, 1997, Samuelovicz and Bain, 2001, Trigwell and Prosser, 1996, Åkerlind, 2004, Kember and Kwan, 2000, Åkerlind, 2003). The most inclusive understanding of being a good lecturer included reference to Pratt's (1992). developmental conception and the nurturing conception. The least inclusive understanding can be linked to Pratt's transmission conception. The middle category (*'a good teacher responds to students' content requests'),* however, has no direct counterpart in previous research. This way of conceiving of good teaching is a partially student-centred perspective on teaching among teachers who do not fully adopt this perspective on teaching. At first glance, sections of the transcripts representing this category may seem student-centred. It is only by looking closer that the subtle difference is noticed in the strict limitations of student-activity. The middle category identified by Kember (1997) ('*student-teacher interaction*') allows for more student influence in terms of learning processes whilst the middle category, as identified in this current study (*'a good teacher responds to students' content requests'),* only allows for student influence regarding what content is included. In comparison to Pratt's transmission conception, the middle category in study I allows for more student influence on the content. A teaching session in this category bears similarities with the type of lecture that is sometimes used in problem-based learning (an in-depth lecture) where the content of the lecture is based on students' written questions, but the process is controlled by the teacher (Fyrenius et al., 2005).

The least inclusive understanding of what it means to be a clinical supervisor ('*shows how things are done'*) is very similar to the least inclusive understanding of being a good lecturer ('*conveys knowledge*') since they are both teacher-centred and focus on the teacher/supervisor as the expert who demonstrates and tells the students what they think they need to know and be able to do. This understanding would be inadequate for an excellent supervisor based on Irby's (1993) previous findings, as although knowledge of medicine is important, knowledge from the other domains is also necessary to, for example, facilitate learning and improve teaching. In the middle categories, a difference was identified between lecturers and supervisors in the sense that clinical supervisors identified themselves as role models as well. This role has also been previously remarked upon (Irby, 1978, Mann et al., 2001, Harden and Crosby, 2000, Parsell and Bligh, 2001, Prideaux et al., 2000). The middle category of being a clinical supervisor ('*shares what it is like to be a doctor/dentist'*) reflects the apprenticeship perspective identified by Pratt (1992). One response could also be matched to Pratt's social reform perspective by saying that the aim of supervision is to help people in healthcare create better working conditions and "feel better," thus improving patient care. Similarities between this perspective and the underlying humanitarianism as identified by Stone et al. (2002) also exist. As the categories are hierarchical, the difference between ways of understanding being a lecturer and a supervisor remains in the most inclusive category where clinical supervisors continue to emphasise students' personal and professional development whilst the corresponding lecture role is limited to supporting student learning.

Role modelling was also frequently referred to regarding what it means to be a mentor in study II, especially in the middle category (‘*a mentor is someone who shares what it means to be a doctor/dentist’*). The range of understandings of teaching from student-centred to teacher-centred can also be seen in the identified understandings of being a mentor. However, Pratt’s (1992) transmission conception is not as clear in the mentoring role where the conceptions of a mentor were more similar to the apprenticeship conception by referring to content and teacher as inseparable. Some similarities can also be seen between the last category (‘*listens and stimulates reflection’*) and Pratt’s nurturing and developmental perspective. The benefits linked to mentoring are in line with previous studies in that it is perceived as something that leads to improved teaching and student learning (Atkins and Williams, 1995, Lo and Brown, 2000, Löfmark et al., 2009, Sword et al., 2002, van Eps et al., 2006, Stenfors-Hayes et al., 2010a, Stenfors-Hayes et al., 2011). However, study II shows that the perceived effects of being a mentor are linked to how the mentors understand their role. The effects identified in the last category (‘*listens and stimulates reflection’*) include an increased understanding of the students’ situation and improved relationships with students. This has previously been shown to improve the quality of teaching, student learning and undergraduate education (Vaughn and Baker, 2004).

Two previous studies showed that the mentor-mentee meetings may include all facilitating activities in the framework of teaching activities (p.7). Most frequently mentioned were facilitating personal and professional development (1b) and relating to learners and providing perspectives (1c) (Stenfors-Hayes et al., 2010a, Stenfors-Hayes et al., 2011). These previous studies were based on fixed response questions where the mentors could mark as many activities as they wanted. In the interviews, however, the facilitation of content learning (1a) was not mentioned by any respondent. The findings in study II clarified that which of the activities that mentors included in their role depended on their understanding of their role. The reason for why the first understanding of being a mentor (*’Answer questions and give advice’*) was perceived as less rewarding may be that in such a mentor/mentee relationship, the student takes on a more passive role as a listener and spectator. Hence, the mentor does not get an active partner with whom he/she can reflect on his/her own experiences as is the case in the situations created by a mentor who acts according to an understanding of the mentor being someone who listens and stimulates reflection.

BECOMING A TEACHER: LINKS TO PREVIOUS RESEARCH

Study III found that development as a teacher could be understood in three qualitatively different ways. However, some of the respondents claimed that they did not feel as if they had developed at all since they started teaching as they found it hard to prioritise this. This is in line with previous research in that teaching is often described as a marginalised task due to competing priorities (Taylor et al., 2007, Stark, 2003, MacDougall and Drummond, 2005). Teachers’ approaches to development and its priority is influenced by pedagogical and institutional practices and Teaching and Learning Regimes (Trowler and Cooper, 2002). Teaching may, for example, be seen as the teachers’ ‘private business’ (Handal, 1999, Rotem and Bandaranayake, 1981, Young, 2006, Ferguson, 1996). This perception of teaching unfortunately limits the possibilities to learn from peers and develop through collaborative practice (Rotem and

Bandaranayake, 1981). Medical teachers have multiple roles as clinicians and researchers besides being teachers. Their skills in those areas are developed in an interplay between theoretical studies and professional experience and decisions made on research evidence (Gibbs et al., 2011). However, when it comes to development as a teacher, theoretical studies, such as a teacher trainer course, were only suggested by a few respondents. Teachers often rely on intuition and traditions rather than explicit theory-driven activities (Gibbs et al., 2011). The implied differences in the respondents' understanding of development as a teacher indicate a difference in their approach and attitude towards the different professional roles.

When the data regarding understandings of development were compared to an analysis of being a good lecturer (Table 7) the understanding of what it means to develop as a teacher was generally more inclusive than the understanding of what it means to be a good lecturer. This means that development may be understood in a rather inclusive way also by respondents who have not perhaps reflected much on what it means to be a good lecturer. Respondents with a teacher-centred understanding of being a good lecturer may come across as having a more inclusive understanding of development by referring to teacher training as a way to develop. However, these respondents may see teacher training as a tool to develop their presentation technique and hence still imply a teacher-centeredness. This means that although development as a teacher is aimed for, it will be in accordance with the skill progression dimension rather than development of understanding (Dall'Alba, 2004). The findings from study III are somewhat unclear regarding which perspective of development the respondents have. A reanalysis of the data, taking Dall'Alba's separate ways of development into consideration, may shed some light on this and be a way to further explore the findings. It may also be the case that respondents are aware of current trends and efforts made to support teachers in their development and therefore they may have responded accordingly, although they may not have reflected much on their own development or teaching.

Study IV showed that different respondents understood teaching (particularly in relation to how opportunities and barriers for development are perceived), as related to themselves in different ways. Some perceived teaching as a personal matter, other saw it as a shared matter for the group they belonged to, and some saw very little linkage between their own role and how barriers can be overcome and opportunities in teaching grasped. Contextual aspects that some teachers considered to be barriers were considered by others to be an opportunity, and some teachers were more decisive than others regarding developing their teaching and kept challenging themselves. These different ways of understanding as reflected by the respondents are influenced by the teachers' discipline, their Teaching and Learning Regime and their communities of practice (Johnston, 1996, Lindblom-Ylänne et al., 2006, Neumann, 2001, Steinert et al., 2010, Trowler, 2009, Becher, 1994, Trowler and Cooper, 2002). Teacher's personal agency moderate the effect of the surrounding Teaching and Learning Regimes and community in the way teachers understand teaching (Fanghanel, 2007). Theories of personal agency and self-efficacy may also help clarify the findings in study III as people with high self-efficacy beliefs more often take on challenging tasks and focus on solutions more often than others (Bandura, 1982, Luszcynska and Gutiérrez-Dona, 2005, Bandura, 1977, Berry and West, 1993, Bandura and Wood, 1989).

The findings regarding individual respondents' understanding of teaching, as illustrated in Table 8, and based on the reanalysis of study IV, show a pattern between how teaching in terms of locus of control is understood and how being a good lecturer is understood. This pattern could be explained by the hierarchy of inclusiveness among the categories of being a good lecturer: teachers who see teaching and, in this case, barriers and opportunities for development on a personal or collaborative level are used to taking their own initiatives regarding their teaching. Therefore, they would perhaps reflect more and thus represent the most inclusive understanding of what it means to be a good lecturer. When teaching is viewed as a personal activity, motivation for development often stems from the teachers themselves. In this case, the teacher's lack of knowledge regarding educational development could be a barrier. Teachers who would rather wait for instructions or support from management or institutional priorities seem to have a less inclusive understanding of what it means to be a good lecturer. When these teachers do not perceive that they get the support that they need, they may do very little regarding development of teaching and hence their understanding of what it means to be a good lecturer may not increase. Perceiving teaching issues as external can be linked to Steinert et al's (2009) findings regarding lack of participation in staff development where they found that teachers may also feel 'disconnected' and disappointed with higher education as a whole. This may explain why respondents with this understanding can be linked to a less inclusive understanding of what it means to be a lecturer.

FINAL REFLECTIONS AND SUMMARY OF FINDINGS

The way being and becoming a teacher is understood is dynamic and changes over time. The experience of being a teacher is affected by who the teacher is, their context and discipline. The way teachers understand their role constitutes a fundamental dimension of their development as teachers and central influence on their teaching. This thesis contributes to the existing research in the field of understanding teaching by exploring how being a good lecturer, a clinical supervisor and a mentor is understood in the context of a medical university.

Previous studies exploring teachers' understanding of what it means to be a teacher in higher education exist. The analysis of the findings as related to previous studies in the field, however, shows that the middle understanding of being a good lecturer in study I ('*a good teacher responds to students' content requests*') lacks a direct counterpart in previous studies. Due to the shortage of previous phenomenographic studies in mentoring and clinical supervision, a similar comparison with previous findings in these fields cannot be made. Instead, results from studies of teaching were used to analyse all findings in study I and II. This showed that by including the perspectives of being a mentor and a clinical supervisor, all five conceptions of teaching, as found by Pratt (1992) in his classical study, were identified, where previous studies, looking only at teaching, have failed to do so.

Many similarities were found between understandings of being a mentor and aspects of being a teacher despite mentoring not being a teaching role (according to the definitions used in the mentor programmes referred to in this thesis). Some respondents referred to the mentor as the perfect teacher, even though their guidelines as mentors that they

received during their mentor training stated that the roles are separate. This makes the mentor role an interesting borderline case of teaching roles. The mentors were teachers in the sense that they aimed to support student learning and development, but they did not assess the students or provide feedback on their work. The way in which the mentor role was understood influenced the perceived effects of being a mentor.

Similarities between ways of understanding being a mentor and a clinical supervisor were also found as they share an understanding of being a role model and supporting personal and professional development. The role model and professional development facet of clinical supervision was found to be one of the differences between ways of understanding being a good lecturer and a good clinical supervisor as well.

Indications were found in this thesis that a more inclusive understanding of being a lecturer, mentor and clinical supervisor can be linked to an understanding of the roles as being quite similar, whilst with a less inclusive understanding of the roles they are also perceived as three distinctly different roles. The more inclusive understanding focuses more on the learners whilst the less inclusive understanding focuses more on content, teaching activities and the teacher. Another difference may be that teachers with the less inclusive understandings focus on introducing the student to content, whilst others also introduce them to communities, both by means of actual physical introductions and by sharing their thoughts and reflections on what it means to be a clinician. By mapping the three roles to the learning and teaching framework, differences between the roles and ways of understanding them were illustrated. The most inclusive understandings of all three roles emphasised the learner and their learning activities, which supports the inclusion of these roles as three facets of being a teacher in this study.

This thesis also explored the links on an individual level between ways of understanding the three teaching roles, understanding of development as a teacher and ways of understanding teaching, particularly in relation to how opportunities and barriers for development are perceived (Table 5-8). The findings of this part of the study showed patterns in how ways of understanding formed internal relationships where it was possible for teachers to have a more inclusive understanding of one role than of another. This means that a broader understanding of one phenomenon may precede a broader understanding of another. A possible explanation of this, as discussed in this thesis, is the compartmentalisation of roles, which was illustrated using a model of learning and teaching. The findings regarding relationships between ways of understanding development and ways of understanding being a lecturer indicates an area for further research as the findings were unclear. Individual respondents' understanding of being a lecturer and of teaching showed a pattern where an internal locus could be linked to a more inclusive understanding of being a lecturer whilst an external locus was linked to a less inclusive understanding. These findings could be further explored from an organisational perspective in a future study.

The usefulness and meaningfulness of research outcomes in a qualitative study is part of the validity of the study and the findings can be judged on their value for facilitating insights into (in this case) being and becoming a teacher. As well as being a contribution to the expanding field of research in medical education, I also see this thesis as a tool to support teachers in their development and thereby support student

learning. My research so far has been clearly teacher focused, but the aim is nevertheless to improve student learning. My hope is that this thesis will help teachers to reflect on being a teacher and their teaching. I would also like to advocate reflection regarding underlying assumptions, intended outcomes, personal values and how these are linked to context as well as activities and approaches. Insight into the complexity of being a teacher and the potential variation in how different aspects of the role are perceived may facilitate an awareness of how others understand learning and teaching. To try to understand conceptions of learning and teaching and the disciplinary and social context of both peers and students is a central and necessary step as we develop our own understandings.

Some of the questions arising from this thesis for further exploration are how the findings can be used more explicitly to support improved learning and teaching and how ways of understanding relate to ways of approaching teaching situations and student learning. This thesis looks at being a teacher from a few different standpoints such as what teachers do, and how teaching, development as a teacher, and some facets of being a teacher can be understood. I hope that more research will follow which further explores what it means to be(come) a teacher.

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