Exploring the maturation of medical educators and their beliefs about teaching and learning: the value of a personal educational mission

Ottenhoff-de Jonge, M.W.

‘A small body of determined spirits fired by an unquenchable faith in their mission can alter the course of history’

- Mahatma Gandhi -

Chapter 7

Summary
Nederlandse samenvatting
Dankwoord
Acknowledgements
List of publications
About the author
Over de auteur

SUMMARY

This research explores the beliefs medical educators hold on the *process of teaching and learning* as well as on *being a teacher*, within the context of learning-centred education. Gaining a deeper understanding of these beliefs is important to support the development of medical educators, and thus promote the quality of student learning.

In the general introduction (**Chapter 1**), we explain the concept of learning-centred education, more often referred to as student-centred education, which is the teaching approach adopted by most medical schools around the world. Characteristic of learning-centred education is the focus on the student and their learning, with the educator acting as a facilitator of the student's learning processes, rather than merely as a transmitter of factual knowledge. To properly fulfil this role, educators' perspectives or beliefs need to be taken into account, as beliefs are important drivers of behaviour. In the introductory chapter we provide an overview of current insights into beliefs about teaching and learning, explain why learning-centred beliefs are preferred in contemporary education, and why we need to develop a classification of medical educators' beliefs about teaching, learning, and knowledge in medical education context (research line 1). Previous studies have demonstrated that in medical schools with learning-centred curricula, a substantial number of medical educators still hold teaching-centred beliefs. This is problematic because it hinders the effective implementation of learning-centred education. Therefore, we need to better understand which factors influence educators' beliefs about teaching and learning. Since beliefs about teaching and learning have been associated with beliefs about being a teacher in non-medical educational contexts, this research subsequently focuses on medical educators' perspectives on being a teacher (research line 2). In order to properly distinguish these two lines of research, we refer to 'perspectives' instead of beliefs in the line of research which focuses on being a teacher. We introduce the Korthagen model, a theoretical holistic model developed in the field of teacher education, which we used to explore educators' perspectives on being a teacher. The model distinguishes and relates various perspectives on being a teacher, presented as concentric levels, namely, from periphery to core: the environment, behaviours, competencies, beliefs, identity, and mission. Mission refers to that which inspires and drives educators. Finally, we discuss the need to increase our understanding of how medical educators develop in their perspectives on being a teacher, to help promote the maturation of educators towards a more explicit focus on the student and their learning.

The overarching aim of this dissertation is thus to deepen our understanding of how medical educators mature over time, and how this maturation relates to their beliefs about teaching and learning.

To achieve this aim, we performed qualitative studies, using an exploratory approach. We interviewed medical educators, all of whom were deeply involved in teaching, from two medical schools from two different continents, and which therefore differed in educational and national culture and organisation. Leiden University Medical Centre, the Netherlands, and Stanford University School of Medicine, CA, USA, are comparable in their emphasis on scientific education and had implemented reforms towards learning-centred education in the decade prior to the initial interviews. To gain insight into educators' maturation, we performed follow-up interviews a decade after the initial ones with the same participants who were still available.

Chapter 2 presents a study on medical educators' beliefs about the process of teaching and learning. It proposes a framework specifically adapted to the context of medical education that describes the content and structure of beliefs about teaching, learning, and knowledge.

The framework consists of a matrix and describes beliefs in terms of belief orientations (indicated in the columns in the matrix) and belief dimensions (indicated in the rows in the matrix). The belief orientations, which represent a global, composite set of beliefs about teaching, learning, and knowledge, range from teaching-centred to learning-centred. The belief orientations are defined by the dimensions which each represent a different aspect of the belief orientations regarding teaching, learning, and knowledge. Within each dimension three or four beliefs can be distinguished, ordered on a continuum from teaching-centred to learning-centred.

To adapt the framework, we conducted the initial semi-structured interviews with 26 medical educators in the period of 2008-2010. We used a framework, developed in higher-education non-medical contexts, as a starting point for context-specific adaptation. The qualitative analysis consisted of relating relevant interview fragments to this framework, while remaining open to potentially new beliefs identified during the interviews.

The most important adaptation from the original framework is the addition of a new belief dimension, which we labelled: 'Creation of a conducive learning environment.' The belief orientations that have counterparts in the original

framework are described more precisely in the new framework, adding to its descriptive power. The new framework sharpens the boundary between teaching-centred and learning-centred belief orientations. This is significant because it makes clear that the transition from a teaching-centred to a learning-centred belief orientation involves a profound shift in which eight out of the nine beliefs would be required to change (see Chapter 2, Table 2.1).

We additionally comment on the surprising finding that a substantial number of the educators displayed a teaching-centred belief orientation. This confirms that in medical schools with a learning-centred curriculum, even educators who are deeply involved in teaching do not automatically adopt learning-centred beliefs. This finding supports the importance of targeted faculty development interventions to help educators make this transition. The new framework can be used as an instrument for reflection and discussion, with the newly uncovered extensions in the framework being particularly relevant to the context of learning-centred medical education. Based on our findings, we recommend helping educators reflect on which knowledge is relevant to be acquired, and on the importance of creating a positive learning environment, supporting students' professional development, and fostering students' intrinsic motivation.

In addition to practical applications, the new framework can be used in medical education research as an instrument for determining beliefs about teaching and learning.

During the initial interviews, we also explored medical educators' perspectives on being a teacher; the outcome of this study is described in **Chapter 3**. We developed a model of educator 'phenotypes' by identifying and characterising profiles of educators with similar perspectives on being a teacher.

The six levels of the Korthagen model, which can be viewed as themes, were used to analyse and categorise the data deductively. Subsequently, subthemes were developed inductively. To gain insight into the variety of perspectives we then qualitatively clustered the participants into educator phenotypes, according to the themes. The theme that each participant emphasised as most relevant was leading for the clustering. To better understand each of the phenotypes we carried out a quantitative study of the differences between educator phenotypes regarding subthemes, contextual and personal factors, and analysed statistical significance using Fisher's exact- and Student's t-tests for categorical and continuous data, respectively.

The analysis resulted in four educator phenotypes: the Critic, Practitioner, Role model, and Inspirer. These are hierarchically ordered by inclusiveness, which means that phenotype B includes the themes of phenotype A; phenotype C includes the themes of B; phenotype D includes the themes of phenotype C, but not vice versa. The 'Critic' phenotype (phenotype A) represents the educators who focus on the environment, in particular on adverse environmental circumstances. The 'Practitioner' phenotype (phenotype B) represents the educators who are aware of the environment and focus on their educational behaviours and competencies. The 'Role model' phenotype (phenotype C) represents the educators who extend their awareness to include their educational identity. In the 'Inspirer' phenotype (phenotype D) the educators are aware of the themes of the other phenotypes and focus on their educational mission (see Chapter 6, Figure 6.2). We found that affective aspects, for example the drive to improve one's teaching, prevailed in the perspectives of the Role model and Inspirer phenotypes. Educational institute was the only significant factor related to the phenotypes: the Inspire phenotype consisted exclusively of educators from Stanford University School of Medicine.

The proposed educator phenotype model provides insight into the variety of medical educators' perspectives on being a teacher. The most inclusive, Inspirer phenotype highlights the importance of developing a clear personal mission as a teacher, centred around student learning and professional development. The educators within this phenotype significantly more often reflect on personal characteristics such as being receptive to feedback. They apparently are aware that the best instrument they have to achieve their mission is their own personality. In our view, by inspiring their students, they continue to be inspired themselves. Our findings suggest that faculty development interventions should pay explicit attention to affective aspects, and in particular support educators to become aware of their educational mission.

To increase our understanding of why educators hold certain beliefs, we aimed to uncover factors that might influence educators' beliefs about teaching and learning. Since the results presented in Chapter 3 suggest that beliefs are particularly influenced by identity and mission, in **Chapter 4** we present a study into the relationship between educators' beliefs about teaching and learning and their awareness of their educational identity and mission. We used the interviews conducted for the follow-up study presented in Chapter 5 (see below) with the 21 educators who were still available from those who had participated in the initial study. A deductive thematic analysis was performed, employing the two models which resulted from the studies described in Chapters 2 and 3. To examine

educators' beliefs about teaching, learning, and knowledge, we used the new beliefs framework; and to examine their awareness of their educational identity and mission, we used the educator phenotype model. The Critic and Practitioner phenotypes represent educators who are unaware of their educational identity and mission, the Role model phenotype those who are aware of their identity but not their mission, and the Inspirer phenotype those who are aware of both identity and mission.

Our results show that educators demonstrated both teaching-centred and learning-centred beliefs, which aligned with an awareness of their educational identity and mission. Educators who were unaware of both their identity and mission displayed teaching-centred beliefs, which confirms the importance of awareness of an educational identity and mission for learning-centred education. Educators with learning-centred beliefs all showed an awareness of their educational identity. These educators may be more motivated to reflect on whether their teaching role aligns with their beliefs and with the learning-centred educational context, than educators for whom their educational identity is less evident. Educators who were aware of their identity but not their mission (Role model phenotype) displayed either teaching-centred or learning-centred beliefs. The finding that some educators showed teaching-centred beliefs may be explained by the influence of the organisation's implicit educational culture that may still favour teaching-centred beliefs, even though the formal educational context embraces learning-centred education. Educators aware of their identity and mission (Inspirer phenotype) displayed exclusively learning-centred beliefs. This underlines the relevance of educators' personal educational mission awareness in learning-centred education. Awareness of an educational mission is apparently an effective 'antidote' which may help strengthen and maintain learning-centred beliefs even when the educational culture does not support learning-centred beliefs and behaviours. The study presented in this chapter sheds light on the importance of educational identity and mission awareness for educators working in learning-centred curricula. This implies that faculty development should not only pay attention to the *what* and *how* of teaching, but also to *who* one wishes to be as educator, to promote identity awareness as a teacher. Moreover, our findings highlight the importance of reflecting on *why* one teaches, to foster awareness of one's personal mission as a teacher. To develop this awareness we recommend reflection on the 'self' as well as on the teaching and learning process. Since affective aspects predominate in the articulation of an educational identity and mission, one way to encourage this reflection is through meaningful relationships with others. Examples of these are

personal contacts with students and with peers and mentors with an articulated awareness of their educational identity and mission. In addition, it is important to consider the educators' workplace context, which can be both supportive and challenging, and to pay attention to the informal teaching culture. A supportive leadership at all levels of the organisation, rewarding teaching across career paths, fostering teacher networks and communities, and minimising conflicts arising from competing tasks are examples of how the workplace context can be beneficial to the development of an educator's identity and mission.

To increase our understanding of whether and how medical educators develop their perspectives on being a teacher we performed the study presented in **Chapter 5**. We use the term 'maturation' to emphasise that development of faculty is a holistic and ongoing process that takes place in the everyday work setting. For this qualitative ten-year follow-up study, as mentioned above, we re-interviewed 21 educators from the initial study. We used the same interview protocol as during the initial interviews. The dataset collected in 2008-2010 formed the baseline study. We deductively analysed both datasets, using the educator phenotype model as described in Chapter 3. For each participant we explored whether they had matured towards a more inclusive educator phenotype. The educators who showed maturation were interviewed again to explore factors they perceived to have guided their maturation. Our findings showed that a minority of the medical educators matured over the 10-year study period. Maturation followed the order of the phenotype categorisation from less to more inclusive. Regression towards a less inclusive phenotype did not take place. Factors considered influential for maturation varied for each phenotype and could be divided into *intrapersonal aspects* and *meaningful experiences*. Intrapersonal aspects refer to factors that are experienced as part of the 'inner self,' such as personal values, characteristics, or competencies. The relevance of the meaningful experiences was not so much the experience itself, but rather the attributed meaning to the experience.

The three educators who were initially categorised in the Critic phenotype, all showed maturation. They indicated that it had been important to learn to come to terms with adverse circumstances such as lack of rewards for teaching tasks. In addition, they acknowledged that positive changes in their professional and private circumstances had been influential. The educator who matured towards the Practitioner phenotype credited the development of his competencies predominantly to meaningful experiences, such as taking on new teaching responsibilities. The educators who matured towards the Role model

phenotype attributed the development of their educational identity primarily to intrapersonal aspects: a willingness to evolve, being reflective, and developing relevant character traits. The educators who matured towards the Inspirer phenotype attributed the development of their educational mission to both intrapersonal aspects and meaningful experiences. Consistent with the core characteristic of a mission, which is that it is focused on others, these educators reported having become more aware of the importance of giving the patient or student a voice. On a larger scale, they had become more aware of adverse developments in the medical profession and society, and aimed to contribute to solving these in their role as teachers. All educators who showed maturation indicated that this development was motivated by their task, identity, and mission as a physician, and attributed it to engaging in primarily informal learning opportunities.

We conclude that maturation of medical educators can occur, but is not guaranteed. Our findings suggest that the Critic phenotype may not be a permanent phenotype, nor a 'starter' phenotype, but that dissatisfaction with adverse professional or private circumstances may temporarily distort these educators' perspectives on being a teacher. Maturation is thus influenced by the context, and appears to progress *via* developmental stages, with increasing awareness of successively educational competencies, identity, and mission. Thus, to promote the maturation of educators, medical educators should be supported in their teaching tasks by their departments and institutions. In addition, faculty development initiatives need to be varied and differentiated, preferably extending over a long period of time and embedded in the everyday work setting. Finally, an important recommendation of this study is to include educators' patient-care roles in faculty development initiatives and involve practising physicians as faculty developers.

In the general discussion (**Chapter 6**) we discuss the main findings of the research, conjoin them and relate them to current literature. Exploration of educators' maturation led to the two main lines of our research: the beliefs of medical educators about the process of teaching and learning, and their perspectives on being a teacher. After discussing these two lines of research, we elaborate on two themes that emerged from our research findings as particularly relevant: the role of the environment, and the role of mission. This culminates in a discussion on the maturation of educators. Finally, we conclude this chapter by describing the strengths and limitations of our research project, suggestions for future research, and specific recommendations for practice.

In conclusion, maturation of medical educators' perspectives on being a teacher can take place but is not self-evident. Maturation can be influenced and seems to proceed through developmental stages. Perspectives on being a teacher are related to beliefs about teaching and learning. Awareness of a personal educational mission can reinforce and nurture an educator's identity. Moreover, it gives meaning to an educator's professional life and can fuel motivation for further development and life-long learning. This is an important explanation as to why educators who are aware of their educational mission have the most elaborate, learning-centred, beliefs about teaching and learning. Thus, supporting educators in becoming aware of and developing their educational mission may not only help them to make choices independently of what the environment expects, but is also essential to foster learning-centred beliefs. This dissertation offers a deeper understanding of medical educators' maturation, the factors influencing maturation, and its relationship with beliefs about teaching and learning, thereby contributing to the quality of learning of the next generation healthcare professionals.