

Finding the merit of mentoring

Citation for published version (APA):

Loosveld, L. M. (2023). Finding the merit of mentoring: Mentors' personal knowledge and beliefs about mentoring in health professions education. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20231207II>

Document status and date:

Published: 01/01/2023

DOI:

[10.26481/dis.20231207II](https://doi.org/10.26481/dis.20231207II)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

FINDING THE MERIT OF

MENTORING

MENTORS' PERSONAL KNOWLEDGE
AND BELIEFS ABOUT MENTORING
IN HEALTH PROFESSIONS EDUCATION

LIANNE LOOSVELD

The research reported here was carried out at Maastricht University | Maastricht UMC+



Maastricht University



Maastricht UMC+

in the School of Health Professions Education



SHE School of
Health Professions
Education

Finding the merit of mentoring

Mentors' personal knowledge and beliefs about mentoring in health professions education

ISBN

978-94-6469-594-6

Cover, design/lay-out and print

Promotie In Zicht | www.promotie-inzicht.nl

© Lianne Loosveld, 2023, Maastricht, the Netherlands

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, by photocopying, recording, or otherwise, without the prior written permission of the author.

Finding the merit of mentoring

Mentors' personal knowledge and beliefs about
mentoring in health professions education

DISSERTATION

to obtain the degree of Doctor at Maastricht University,
on the authority of the Rector Magnificus,
Prof.dr. Pamela Habibović
in accordance with the decision of the Board of Deans,
to be defended in public
on Thursday 7 December 2023, at 13:00 hours

by

Lianne Margaretha Loosveld

Supervisors

Prof.dr. Erik W. Driessen
Dr. Pascal W.M. van Gerven
Prof.dr. Eline Vanassche

KU Leuven Kulak

**Assessment
committee**

Prof.dr. Diana H.J.M. Dolmans (chair)
Prof.dr. Sylvia Heeneman
Dr. Annemarie Spruijt
Prof.dr. Karen M. Stegers - Jager

Utrecht University
Radboud UMC

TABLE OF CONTENTS

Chapter 1	Introduction and Outline of This Thesis	7
Chapter 2	Mentors' Beliefs About Their Roles in Health Care Education: a Qualitative Study of Mentors' Personal Interpretative Framework	21
Chapter 3	MERIT: A Mentor Reflection Instrument for Identifying the Personal Interpretative Framework	41
Chapter 4	Mentoring is in the 'I' of the Beholder: Supporting Mentors in Reflecting on Their Actual and Preferred Way of Mentoring	63
Chapter 5	Combining Support and Assessment in Health Professions Education: Mentors' and Mentees' Experiences in a Programmatic Assessment Context	83
Chapter 6	General Discussion	107
Addendum	Impact Paragraph	127
	English Summary	135
	Nederlandse Samenvatting Summary In Dutch	137
	Acknowledgements	141
	About the Author	147
	SHE Dissertation Series	149



INTRODUCTION AND OUTLINE OF THIS THESIS

INTRODUCTION AND OUTLINE OF THIS THESIS

Scientific articles and Wikipedia lemmas about mentoring often start with Greek mythology, where mentoring is told to have its origin. After that, typically the etymology of the word is outlined, and a parallel is drawn with its current use in a variety of contexts. In the past decades, a breadth of empirical articles, literature reviews, and position papers have been written on the many ways in which mentoring has been defined in an educational context and what these definitions imply for mentors and mentees. Throughout my own PhD research trajectory, I soon realised that I cannot provide the one answer to the question of what mentoring is, simply because there is not one single answer to that question. I was, however, able to identify how various mentors experience their own mentoring, resulting from the interaction between their personal knowledge and beliefs and the context they mentor in.

This thesis seams together the results of four separate research articles. Each article tells a part of the story of how mentoring takes shape, and how mentors look at their own mentoring. Together, they provide an answer to a larger, overarching question: How do mentors experience the what, why, and how of their mentoring? This introductory chapter starts with an overview of the concepts and theoretical frameworks used throughout this thesis. I then present the research aims and thesis outline, and close with a self-reflection as researcher and the methodological decisions I made.

MENTORING AS AN IDIOSYNCRATIC AND DYNAMIC TEACHING ROLE

In the last two decades, many health professions education (HPE) programmes included a mentoring component into their curriculum to support their students' development (Driessen & Overeem, 2013; Driessen et al., 2011; Johnson, 2007; Kashiwagi et al., 2013; Sambunjak, Straus, & Marusic, 2010; Sambunjak et al., 2006; Straus et al., 2009).

In this thesis, mentoring is operationalised as a form of longitudinal support, facilitating mentees' personal and professional development (adapted from Nicholls (2006). When the mentoring of students is embedded in the curriculum as a formal requirement, it can be implemented as a teaching role. This formalisation of mentoring usually involves specific criteria and expectations coming with that role (Ehrich et al., 2004). While formalisation can bring clarity to both mentors and mentees, it also increases the risk of making mentoring relationships contrived.

Mentors' professional teaching behaviour is inherently idiosyncratic, which could make it difficult and even counterproductive to prescribe exactly how this role should be understood and enacted. Following Kelchtermans (1993) line of thinking, from a constructivist standpoint one could say that mentors actively shape their practice based on the interaction between their personal knowledge and beliefs, and the

context they mentor in. This determines what the goals and purposes of mentoring are to them, and their strategies and methods deemed desirable and effective to meet those goals.

MENTORING IN CONTEXT

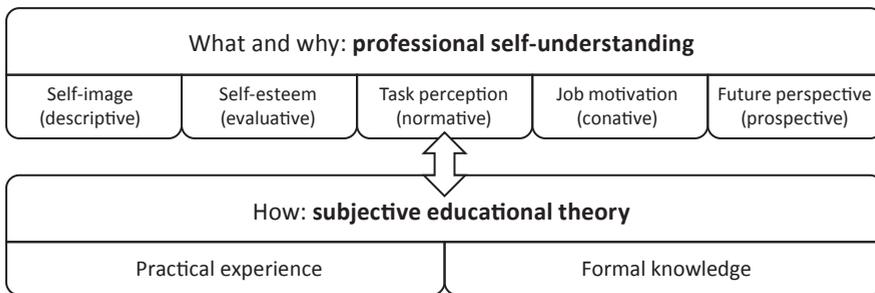
Mentoring, thus, never takes place in a vacuum. The context mentors work in strongly influences the relationship with their mentees (Kelchtermans, 1993). Context can entail many things, for example, the physical environment where mentor-mentee meetings take place (in a quiet private office versus in the busy corridor in between two patient consultations), the personal characteristics of mentees (a very talkative mentee or one who is reluctant to share personal experiences), or program specific requirements mentors may need to adhere to (do meetings need to have a predefined structure or agenda, do mentors need to meet mentees a specific number of times, do they need to assess them, is documentation in a portfolio required, etc.). Mentors interact with the working conditions in their professional context, actively making sense of them and interpreting what they mean. Therefore, mentoring knowledge and beliefs are not stable but dynamic, varying over time and across settings (Kelchtermans, 1993).

An example of a context mentors can nowadays find themselves in is that of programmatic assessment, where low-stakes assessments are aggregated to serve as input for decision making at a higher stakes level, such as receiving credits or a go/no-go decision for progression to clinical rotations (Schuwirth & Van der Vleuten, 2011; van der Vleuten & Schuwirth, 2005). Mentors who are engaged in both the support and the assessment of their mentees will most likely need to adapt their mentoring to specific organisational requirements. These requirements could be hard to reconcile or even be incompatible with mentors' personal system of knowledge and beliefs, potentially causing tension for both mentors and their mentees. Mentoring in such a context could, thus, lead to a different representation of what meaningful mentoring entails, also creating a potential mismatch between mentors' preferred approach to mentoring and how they are currently actually mentoring (Loosveld et al., 2022; Meeuwissen et al., 2019; Schut et al., 2020; Schuwirth & Van der Vleuten, 2011; van der Vleuten et al., 2012).

PERSONAL INTERPRETATIVE FRAMEWORK

In order to acknowledge and further operationalise the interaction between mentors' personal knowledge and beliefs and their working context, this thesis draws on Kelchtermans' concept of the **personal interpretative framework (PIF)** (Kelchtermans, 1993, 2009; Vanassche & Kelchtermans, 2016). The PIF can be seen as a lens through which mentors make sense of their world. It is not a static or stable one-way rendering of reality, but a dynamic representation instead, resulting from meaningful interactions between individual mentors and their professional working context. The two main dimensions of the PIF are professional self-understanding and subjective educational theory (see Figure 1).

Figure 1 The Personal Interpretative Framework (PIF), Composed of Dimensions and Components.



Professional self-understanding (PSU) refers to teachers' beliefs about themselves as teachers (or mentors' beliefs about themselves as mentors), consisting of five components: self-image, self-esteem, task perception, job motivation, and future perspective. Self-image is a descriptive component, denoting how teachers characterise themselves in their teaching. It is primarily based on self-perception, but also includes references and feedback from others. The second component, self-esteem, is more evaluative in nature and mirrors how teachers gauge their own performance as teachers. It is often compared to the performance of others. Task perception represents what teachers feel they should or should not do in their teaching role. It is a normative, personal set of rules for what teaching entails, forming a personal program on which teachers can base their actions. The fourth component, job motivation, articulates the reasons teachers decide to take up, continue, or leave their teaching role. Finally, future perspective describes teachers' job expectations and how they feel about that: for example the desire to hold onto the current status quo, or problems they expect in the future.

The second dimension of the PIF, **subjective educational theory (SET)** covers individual knowledge and beliefs about teaching; informing teachers' course of action in particular situations. SET often consists of a combination of personal experiences, hearsay, best practices, faculty development, and research that teachers reflect on and integrate in their teaching. Both SET and PSU thus are inherently idiosyncratic, as what works and why something works for one mentor in one context, might not work for someone else.

The personal interpretative framework originated from the field of primary education in the early 1990s, but it has also been applied and extended in research on other educational professionals (including school leaders or teacher educators). Its application in the context of HPE and the development of mentors in HPE is new.

SUPPORTING THE PROFESSIONAL DEVELOPMENT OF MENTORS

Being and becoming a mentor requires specific knowledge and skills: teaching experience attained in a clinical, lecturing or classroom-based teaching context does not automatically transfer to the one-to-one setting of a mentoring relationship. Consequently, learning how to be a mentor requires professional development aimed at that specific role (Aspfors & Fransson, 2015; Athanases et al., 2008; Gandhi & Johnson, 2016; Michael, 2008; Pfund et al., 2006; Ramani et al., 2006; Sood et al., 2016; Tan et al., 2018). Fostering the professional development of mentors often includes supporting them in exploring the scope of their role. How to be a mentor often is assumed to be self-explanatory, but mentors frequently wonder what to do as mentor, how to do it and how do they know they are doing it "right"? Literature reviews underscore the importance of mentoring and the influence it has on mentees, see for example (Sambunjak, Straus, & Marusic, 2010; Sambunjak et al., 2006), but they do not always provide answers to the burning questions mentors might have.

RESEARCH AIMS AND THESIS OUTLINE

With the research presented here, I hope to shed light on the question: **How do mentors experience the what, why, and how of their mentoring?** When taking professional self-understanding and subjective educational theory as indicative of mentors' professional development (Kelchtermans, 1993), reconstructing their personal interpretative framework can provide an understanding of their practice and how they experience the world around them. The gathered insights can add to the ongoing theory building on how to support the professional development of mentors in HPE. In **Chapter 2** of this thesis, I report on an interview study that reconstructed

mentors' knowledge and beliefs through the personal interpretative framework, resulting in the identification of four mentoring positions. Based on these results and further literature study, I developed and collected initial validity evidence for a self-report survey instrument that mentors can use to make their personal interpretative framework explicit. I describe the development and first administration of this MEntor Reflection Instrument (MERIT) in **Chapters 3 and 4**. Mentors filled out the MERIT survey twice: once regarding their *actual* mentoring approach and once regarding their *preferred* way of mentoring. In doing so, I could evaluate whether they experienced a potential discrepancy between their actual and preferred approach to mentoring. I also explored whether any existing discrepancies between actual and preferred mentoring were associated with mentors' experience in years, their main appointment within their organisation (e.g., educationalist, researcher, or physician), or the requirement to assess the performance of their mentees (e.g., mentees' portfolio or workplace performance). In **Chapter 5**, I continue on the topic of assessment within the mentoring role, but broaden the perspective by including mentees as well. I interviewed both mentors and mentees to answer the question: How do mentors and mentees experience the combination of supporting development and assessment within a context of programmatic assessment? These studies are described in this thesis according to the order in Table 1.

REFLEXIVITY AND METHODOLOGICAL CHOICES

Being a mentor and a faculty developer gives me a lens through which to view my work. This could be interpreted as bias, but if we view a lens as helpful, it can actually bring clarity to conduct informed research into what both theory and practice need. By embarking on my PhD-journey part-time, and being engaged in mentoring, student teaching, and faculty development for the other part of my work, I was able to combine both perspectives. I could make use of my own practice as a research context and feed the results of my research back into my daily faculty development practice.

The inherent risk of being a researcher with a practical lens is that it can tempt you to introduce various practical obstacles into your research path, for example, when making methodological decisions. I remember thinking "Well, it would indeed be valuable to observe a mentor-mentee conversation instead of doing interviews, but, thinking about my own mentees and the conversations I have with them, we would never be able to have a genuine conversation with an observer present." This could make you think in terms of limitations rather than solutions, making it tempting to engage in very instrumental research, trying to improve or change practice without a deeper understanding of the underlying structures. On the other hand, the 'danger' of working in practice with a researcher lens is that you want to capture everything

Table 1 Overview of Studies in This Thesis.

Chapter	Research aim	Methodology and design	Participants and context
2	To reconstruct mentors' mentoring beliefs through the personal interpretative framework (PIF)	Qualitative multiple-case interview study. Face-to-face interviews with a semi-structured interview guide. Two-step analysis: within-case to understand uniqueness of data, and cross-case analysis to build a general pattern of explanation with differences and communalities across cases	Single-institution sample of 18 mentors in undergraduate programs of medicine, health sciences, and biomedical sciences at Maastricht University
3	To develop and collect initial validity evidence for a self-report survey instrument (MERIT) that mentors can use to make their personal interpretative framework explicit	Development and initial validation of a 20-item survey. Testing of psychometric properties: (1) exploration of the internal factor structure of scores: exploratory factor analysis (EFA) with principal axis factoring (PAF) and (2) calculation of internal consistency reliability of subscale scores with Cronbach's alpha	Multiple-institution sample of mentors in undergraduate health professions education, invited through professional networks. For this study, mentors were defined as faculty members who have a formal mentoring relationship with one or multiple (under) graduate students.
4	To evaluate the degree to which mentors experience a discrepancy between their actual and preferred approach to mentoring. To explore whether these discrepancies are associated with mentors' experience in years, their profession, or requirement to assess the performance of their mentees.	One-way analyses of covariance (ANCOVA), Response Mode (levels: actual, preferred) as within-groups independent variable. Dependent variables: average score entire MERIT survey, average scores for four subscales, based on MERIT factors. Three covariates: (1) experience, (2) main profession, and (3) assessment	Mentors working in postgraduate education, or outside the realm of health professions education were excluded.

Table 1 Continued.

Chapter	Research aim	Methodology and design	Participants and context
5	To explore how mentors and mentees experience the combination of developmental support and assessment in a programmatic assessment context?	Pragmatic qualitative interview approach. Online interviews with a semi-structured interview guide and case vignettes. Thematic analysis was used to identify, analyse, and make meaning of patterns in the data	Twenty-four mentors and 11 mentees in undergraduate programs of medicine, international medicine and biomedical sciences at Maastricht University

around you, and constantly want to explain to your colleagues what the theoretical foundation is behind the things we do. Therefore, it was good that there was a fine team thinking along with me from different – but always related – perspectives, constructively criticising my thinking, bringing in alternatives and helping me keep a broad perspective when making decisions.

Working with the personal interpretative framework automatically means that there is not one single truth to uncover and as a researcher you certainly should not have the illusion that you are going to be able to tell one single story that fits everyone. It did mean that I was able to explicitly make room for different voices to tell their stories, and I was happy to do so within the confines of what was possible when conducting medical education research during a global pandemic.

Working in HPE, but having a bachelor's degree in cognitive psychology at the Faculty of Psychology and Neuroscience – and later a master's degree in management of learning at the School of Business and Economics –, I find it interesting to see that there are big differences between the different fields of research in terms of research focus, preferred research methods, and small yet important details such as word limits for publishing an article. As a student, my idea of doing research at the time consisted mainly of conducting questionnaires, or, in the case of my first research experience: computer tasks where participants had to push red start/stop buttons to measure their reaction time. Consequently, back then I erroneously convinced myself that doing research was about uncovering hard truths, or finding out what did or did not work. I recall saying that, apparently, research was not for me, and that I wanted to have nothing more to do with it after my graduation. It took me a while, however, to realise that learning more about what people think about something, why that is so, whether that is always the case, and then being able to enrich my own teaching practice with that knowledge was also doing research.

During my PhD trajectory I developed a survey and had two opportunities to interview mentors, the second time including the valuable addition of obtaining insights from mentees as well. I was pleasantly surprised by the fact that some of those I spoke to at the beginning of my research trajectory returned in a later study. I distinctly remember one of the participants saying “But of course that makes sense, because I myself learn a lot from these reflections too”. And I think that is exactly how it should be! I am glad that mentors themselves are also keen to continue working on their professional development. Therefore, I felt it was important that all the data and tools I have been able to develop thanks to the mentors and mentees are freely available. I made a very conscious decision to publish all articles gold Open Access, and added all instruments developed during the research process. This way, not only other researchers, but hopefully also other mentors can benefit from all the input their colleagues have already provided. The research brought together in this thesis is about mentors, for mentors, and everybody else interested in mentoring, and I hope it leaves you reflecting on your own role as mentor in any capacity.

REFERENCES

- Aspfors, J., & Fransson, G. (2015). Research on mentor education for mentors of newly qualified teachers: A qualitative meta-synthesis. *Teaching and teacher education, 48*, 75-86.
- Athanasos, S. Z., Abrams, J., Jack, G., Johnson, V., Kwock, S., McCurdy, J., . . . Totaro, S. (2008). Curriculum for mentor development: problems and promise in the work of new teacher induction leaders. *Journal of Curriculum Studies, 40*(6), 743-770.
- Driessen, E. W., & Overeem, K. (2013). Mentoring. In K. Walsh (Ed.), *Oxford Textbook of Medical Education* (pp. 265-284). Oxford University Press.
- Driessen, E. W., Overeem, K., & van der Vleuten, C. P. M. (2011). Get yourself a mentor. *Medical education, 45*(5), 438-439. <https://doi.org/doi:10.1111/j.1365-2923.2011.03948.x>
- Ehrich, L. C., Hansford, B., & Tennent, L. (2004). Formal Mentoring Programs in Education and Other Professions: A Review of the Literature. *Educational Administration Quarterly, 40*(4), 518-540. <https://doi.org/10.1177/0013161x04267118>
- Gandhi, M., & Johnson, M. (2016). Creating More Effective Mentors: Mentoring the Mentor. *AIDS and behavior, 20*(2 SUPP/2), 294-303.
- Johnson, W. B. (2007). *On Being a Mentor: A Guide for Higher Education Faculty*. Lawrence Erlbaum Associates. <https://books.google.nl/books?id=kHhd7Vjtn6sC>
- Kashiwagi, D. T., Varkey, P., & Cook, D. A. (2013). Mentoring Programs for Physicians in Academic Medicine: A Systematic Review. *Academic Medicine, 88*(7), 1029-1037. <https://doi.org/10.1097/ACM.0b013e318294f368>
- Kelchtermans, G. (1993). Getting the Story, Understanding the Lives: From Career Stories to Teachers' Professional Development. *Teaching and teacher education, 9*(5-6), 443-456.
- Kelchtermans, G. (2009). Who I am in how I teach is the message: self-understanding, vulnerability and reflection. *Teachers and Teaching, 15*(2), 257-272. <https://doi.org/10.1080/13540600902875332>
- Loosveld, L. M., Driessen, E. W., Vanassche, E., Artino, A. R., & Van Gerven, P. W. M. (2022). Mentoring is in the 'I' of the beholder: supporting mentors in reflecting on their actual and preferred way of mentoring. *Bmc Medical Education, 22*(1), 638. <https://doi.org/10.1186/s12909-022-03690-3>
- Meeuwissen, S. N. E., Stalmeijer, R. E., & Govaerts, M. (2019). Multiple-role mentoring: mentors' conceptualisations, enactments and role conflicts. *Medical education, 0*(0), 605-6015. <https://doi.org/10.1111/medu.13811>
- Michael, O. (2008). Mentoring mentors as a tool for personal and professional empowerment in teacher education. *International Journal of Evidence Based Coaching & Mentoring, 6*(1).
- Nicholls, G. (2006). Mentoring: the art of teaching and learning. In P. Jarvis (Ed.), *The Theory & Practice of teaching* (pp. 157-168). Routledge.
- Pfund, C., Maidl Pribbenow, C., Branchaw, J., Miller Lauffer, S., & Handelsman, J. (2006). Professional skills. The merits of training mentors. *Science (New York, N.Y.), 311*(5760), 473-474.
- Ramani, S., Gruppen, L., & Kachur, E. K. (2006). Twelve tips for developing effective mentors. *Medical teacher, 28*(5), 404-408. <https://doi.org/10.1080/01421590600825326>
- Sambunjak, D., Straus, S. E., & Marusic, A. (2010). A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *J Gen Intern Med, 25*(1), 72-78. <https://doi.org/10.1007/s11606-009-1165-8>
- Sambunjak, D., Straus, S. E., & Marusić, A. (2006). Mentoring in academic medicine: a systematic review. *JAMA, 296*(9), 1103-1115.
- Schut, S., Heeneman, S., Bierer, B., Driessen, E., van Tartwijk, J., & van der Vleuten, C. (2020). Between trust and control: Teachers' assessment conceptualisations within programmatic assessment. *Medical education, 54*(6), 528-537. <https://doi.org/https://doi.org/10.1111/medu.14075>
- Schuwirth, L. W. T., & Van der Vleuten, C. P. M. (2011). Programmatic assessment: From assessment of learning to assessment for learning. *Medical teacher, 33*(6), 478-485. <https://doi.org/10.3109/0142159X.2011.565828>
- Sood, A., Tigges, B., & Helitzer, D. (2016). Mentoring Early-Career Faculty Researchers Is Important—But First “Train the Trainer”. *Academic Medicine, 91*(12), 1598-1600. <https://doi.org/10.1097/acm.0000000000001264>
- Straus, S. E., Chatur, F., & Taylor, M. (2009). Issues in the Mentor–Mentee Relationship in Academic Medicine: A Qualitative Study. *Academic Medicine, 84*(1), 135-139. <https://doi.org/10.1097/ACM.0b013e31819301ab>

- Tan, Y. S., Teo, S. W. A., Pei, Y., Sng, J. H., Yap, H. W., Toh, Y. P., & Krishna, L. K. R. (2018). A framework for mentoring of medical students: thematic analysis of mentoring programmes between 2000 and 2015 [journal article]. *Advances in Health Sciences Education, 23*(4), 671-697. <https://doi.org/10.1007/s10459-018-9821-6>
- van der Vleuten, C. P., & Schuwirth, L. W. (2005). Assessing professional competence: from methods to programmes. *Med Educ, 39*(3), 309-317. <https://doi.org/10.1111/j.1365-2929.2005.02094.x>
- van der Vleuten, C. P., Schuwirth, L. W., Driessen, E. W., Dijkstra, J., Tigelaar, D., Baartman, L. K., & van Tartwijk, J. (2012). A model for programmatic assessment fit for purpose. *Med Teach, 34*(3), 205-214. <https://doi.org/10.3109/0142159x.2012.652239>
- Vanassche, E., & Kelchtermans, G. (2016). A narrative analysis of a teacher educator's professional learning journey. *European Journal of Teacher Education, 39*(3), 355-367. <https://doi.org/10.1080/02619768.2016.1187127>



MENTORS' BELIEFS ABOUT THEIR ROLES IN HEALTH CARE EDUCATION: A QUALITATIVE STUDY OF MENTORS' PERSONAL INTERPRETATIVE FRAMEWORK

Published as:

Loosveld, L. M., Van Gerven, P. W. M., Vanassche, E., & Driessen, E. W. (2020). Mentors' beliefs about their roles in health care education: A qualitative study of mentors' personal interpretative framework. *Academic Medicine*, 95, 1600-1606. <https://doi.org/10.1097/acm.0000000000003159>

ABSTRACT

Purpose

How mentors shape their mentoring is strongly influenced by their personal beliefs about the goals and purpose of mentoring, the possible activities associated with it, who decides on the focus of the mentoring relationship, and the strategies mentors choose to enact these beliefs in practice. In accordance with the personal interpretative framework, the authors operationalized mentors' beliefs as professional self-understanding (the what) and subjective educational theory (the how) of teaching and sought to identify different mentoring positions.

Method

Using a qualitative approach, the authors conducted semi-structured interviews between December 2017 and January 2018 with 18 undergraduate mentors from Maastricht University in Maastricht, the Netherlands. The aim of the interviews was to reconstruct their personal interpretative framework. Before building a general pattern of explanation in a cross-case analysis, the authors performed a within-case analysis of the data, analyzing individual mentors.

Results

This approach resulted in the identification and description of 4 mentoring positions: the (1) facilitator (service-providing and responsive), (2) coach (development-supporting and responsive), (3) monitor (signaling and collaborative), and (4) exemplar (service-providing or development-supporting and directive). Each position represents a coherent pattern of normative beliefs about oneself as a mentor (professional self-understanding) and how to enact these beliefs in practice (subjective educational theory).

Conclusions

Awareness of their mentoring position can help mentors understand why they act the way they do in certain situations and how this behavior affects their mentees' learning and development. It can also help mentors identify personal learning needs and, consequently, provide opportunities for faculty development.

INTRODUCTION

Having a committed mentor is valuable to students in health professions education. Not only can mentors promote mentees' academic development, performance, satisfaction, and success, but they also can help them cope with the conflicting demands of career development and private life.¹⁻⁶ How mentors shape their practice is influenced by their personal beliefs about the goals and purposes of mentoring, what valuable mentoring activities to engage in, who should decide on the focus of the mentoring relationship (mentor or mentee), and which strategies and methods should be used to enact these beliefs. Given the idiosyncratic and contextualized nature of these beliefs,⁶ mentors have their own unique ways to interpret and enact their mentoring.^{2,7-9} Stimulating mentors to make explicit their beliefs and critically examine them can raise awareness of why mentors act as they do in particular situations and, if necessary, allow them to regulate these beliefs as to engage in more suitable mentoring. Because there is a paucity of studies of the personal beliefs of mentors in health professions education,⁶ we know little about the content of these beliefs and how they bear on the way mentors develop and enact their approaches to mentoring. Inspired by Kelchtermans' "Who I am in how I teach is the message,"¹⁰ we set out to identify how mentors' "self"¹¹ shows in their mentoring. More specifically, this research aims to contribute to the development of theory on mentoring and mentoring beliefs,⁶ thereby taking into account the complexity of the work as well as its idiosyncratic and contextualized nature.

Becoming a mentor is not just a natural extension of being an experienced teacher. It requires specific knowledge and skills.¹² Consequently, expertise acquired in lecturing or clinical teaching, for instance, does not automatically transfer to one's work as a mentor. Learning how to be a mentor therefore requires faculty development initiatives that specifically target the mentoring role. This approach resonates with the growing research base underscoring the need for faculty development initiatives aimed at acquiring, maintaining, and improving mentoring skills.^{1,3,5,12-20}

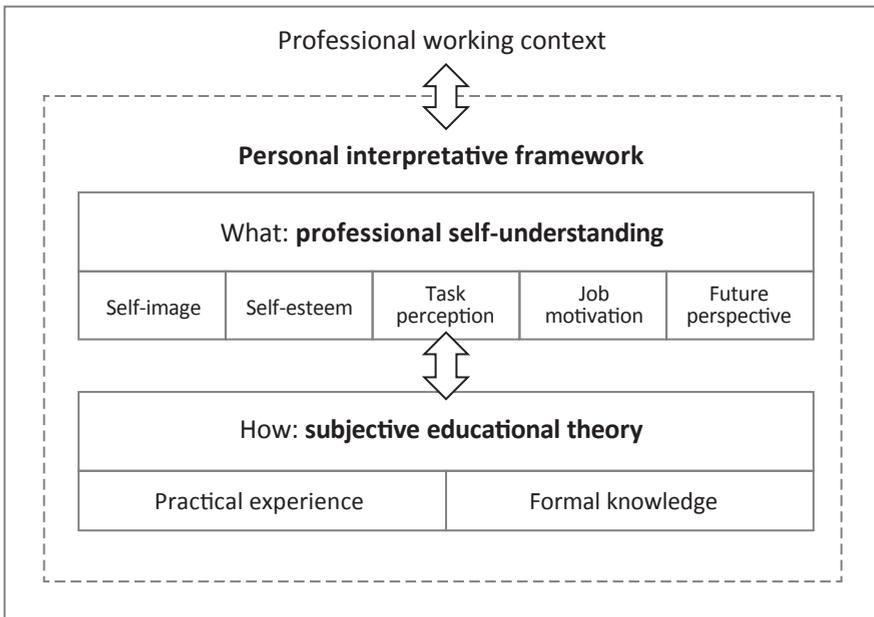
This need for faculty development initiatives, combined with the notion that how mentors mentor is based on individual beliefs, strongly suggests that training mentors cannot go without identifying and tapping into those beliefs.¹⁰ Indeed, researchers have argued that "professional development should not only concern instrumental knowledge, but also involve one's normative assumptions . . . as these are enacted in practice."²¹ Hence, we should ask mentors to reflect on their personal mentoring practice because doing so will serve a dual purpose. First, it will make mentors aware of their beliefs and allows for adjustment if needed. The mere act of thinking about what they do, how they do this, and why they do it this way may itself foster development.^{11,14,15} Second, it may allow training to be personalized because beliefs can be incorporated in mentor training programs, for example through role-plays, individualized coaching, or by using cases from the mentors' workplace.²¹

This study is specifically concerned with identifying mentors' beliefs. To operationalize mentors' beliefs, we used Kelchtermans' concept of the personal interpretative framework.¹⁰ Initially, based in grounded theory²², this conceptual framework was developed as a set of sensitizing concepts that could be used to reconstruct and analyze the professional development of teachers through their biographical career stories. The initial framework was developed based on an exploration of the literature.²³ Although originally constructed from research on the professional development of experienced primary teachers in the early 1990s, Kelchtermans' notion has recently been taken up successfully in research on the identities and practices of other educational groups, including beginning teachers, teacher educators, and educational leaders.^{23,24} The personal interpretative framework acts as a lens through which teachers make sense of and act in the professional situations in which they find themselves.^{10,24} Rather than being static, the content of the personal interpretative framework is dynamic and results from the meaningful interactions between the individual teacher and his or her professional working context (including the curriculum, collegial environment, student population, available resources, and faculty development initiatives).

Figure 1 illustrates the personal interpretative framework in context. Its two main dimensions are professional self-understanding (PSU) and subjective educational theory (SET).²³ The first dimension, PSU, refers to how teachers conceive of themselves in their role and comprises five components: self-image, self-esteem, task perception, job motivation, and future perspective. The first component, self-image, is descriptive; it denotes how teachers typify themselves in their teaching role. Although largely based on self-perception, it also reflects and incorporates feedback from others (including teachers' students and colleagues). The second component, self-esteem, is evaluative, revealing how teachers evaluate their practice by answering questions such as, how well do I do? The third component, task perception, mirrors what teachers feel they should or should not do as teachers. Fourth, job motivation is a conative element, which articulates the reasons teachers choose to enter, continue, or leave their profession. Future perspective, finally, refers to teachers' future expectations of their job.

The second dimension of the framework, SET, encompasses teachers' individual system of knowledge and beliefs about teaching that informs their decisions on how to act in particular situations. Just like PSU, SET is intrinsically personal as teachers ponder, what works best in this particular situation? and why would this work?; Teachers derive their SET from a combination of personal experiences, hearsay, and best practices learned from colleagues, as well as from more formal sources such as research or professional development support.¹⁰

Figure 1 The Personal Interpretative Framework



For professional development of mentors, it is important that mentors reflect on their beliefs about mentoring. Professional development by mentors cannot solely be aimed at changing knowledge and skills²⁵; without tapping into mentors' individual beliefs, the process would not yield durable professional development. Hence, to improve mentoring we must not only teach mentors how to mentor, but also help them to gain insight into their individual mentoring beliefs, so that they can adopt desirable mentoring characteristics^{2,5,6,26} in the mentor-mentee relationship. To enable them to gain this insight, in this study we reconstructed mentors' mentoring beliefs through the personal interpretative framework.

METHOD

Design

Using a multiple-case study approach,²⁷ we conducted semi-structured interviews with mentors to explore the content of their personal interpretative framework. A "case" refers to a single mentor in interaction with his or her professional working context (see Table 1). Professional working context could, for example, be interactions with colleagues, conversations with mentees, faculty development initiatives, or self-

directed initiatives to learn more about mentoring. We chose to define our cases as an interaction of mentor and professional working context because it aligns with our theoretical frameworks' notion of the personal interpretative framework being in constant interaction with the current professional working context.

Table 1 Mentoring Characteristics of 3 Educational Programs at the Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, the Netherlands^a

Program	Mentoring as integral part of curriculum	Duration of mentoring program, years	Mentees per mentor per academic year, no.	Use of development portfolio	Assessment by mentor	Mentors in sample, no.
Medicine	Yes	3	5	Yes	Longitudinal competency assessment via portfolio	4
Biomedical Sciences	Yes	3	9–16	Yes	Longitudinal competency assessment via portfolio	12
Health Sciences	No	1	9–13	No	Assessment of academic writing	2

^a Eighteen faculty who mentor undergraduate students in medicine, biomedical sciences, and health sciences were interviewed between December 2017 and January 2018 in a study to explore mentors' personal interpretative framework.

Setting

Given the exploratory nature of this study, we sought to maximize relevant heterogeneity in participants' career trajectories and professional working contexts. We purposefully selected^{28,29} 18 mentors from Maastricht University in Maastricht, the Netherlands. The mentors were selected from 3 undergraduate programs, specifically Medicine, Biomedical Sciences, and Health Sciences, that clearly differ in the extent to which mentoring forms an integral part of the curriculum, the duration of the mentoring program, the number of mentees assigned to each mentor, the use of portfolios to support mentoring, and the type of assessment by the mentor (see Table 1). Mentors were faculty at Maastricht University providing mentorship to undergraduate students. Mentors engage in preparatory mentor skills training and attend hands-on information sessions throughout the year. They are expected to meet with their

mentees 3 to 5 times per year, on both an individual basis and during group sessions. The individual meetings between mentors and mentees are usually centred around personal and professional development goals of the mentees. In both Medicine and Biomedical Sciences, mentoring is a longitudinal part of the study program, integrated in programmatic assessment and supported by e-portfolios.^{30,31} At the time of the interviews, all participants had completed at least 1 academic year of mentoring. Consequently, they had all completed preparatory mentor training and had gone through at least 1 complete cycle of mentoring, so they had experiences and examples to reflect on during the interviews.

Participants

We recruited participants via email, which led to a sample consisting of 4 mentors from the program in Medicine, 12 from the program in Biomedical Sciences, and 2 from the program in Health Sciences. Twelve of our mentors were female, 5 were male, and 1 did not wish to reveal gender and age. The mean age of the mentors we interviewed was 48.9 years ($SD = 7.6$).

Data collection

The interview guide (Appendix 1) was based on earlier research³² on the personal interpretative framework and built on the framework in that it covered all its components with a particular focus on mentoring. Open-ended questions were included to encourage deep reflection and storytelling. Before we conducted the interviews with the selected mentors, we tested the guide.^{23,32,33} L.M.L. interviewed the participants and, in consultation with the team, iteratively adapted the interview probes during the interview period. The face-to-face interviews were conducted in December 2017 and January 2018 and lasted approximately 1 hour. All interviews were audio-recorded, transcribed verbatim, and anonymized before further analysis.

Data analysis

Data were analyzed in a 2-step procedure. First, we did a within-case analysis³⁴ to understand the uniqueness of each case. Second, we completed a cross-case analysis to build a general pattern of explanation and identify differences and commonalities across cases, that is, patterns in mentors' understandings of their role as a mentor and approaches to the practice of mentoring.^{35,36}

We started the within-case analysis by coding the transcripts. An initial coding scheme³⁷ based on the theoretical framework was complemented with descriptive codes summarizing the content of specific fragments of data. To make sure the meaning of codes was clear and unambiguous, P.W.M.V.G. double-coded 2 of the interview transcripts that were coded by L.M.L. Overlap and differences in the interpretation of codes were discussed between L.M.L. and P.W.M.V.G. until a

satisfactory level of understanding of, and distinction between, codes was reached. Based on the coded transcripts that ensued, we were able to compile a synthesis text, (i.e., a biographical case report) that shared a common structure reflecting the theoretical framework. (For the case report template, see Appendix 2). The case reports contained extensive quotes from the interviews (thick descriptions³⁸), thus preserving the richness of the data while at the same time making the large amount of data more manageable for the cross-case analysis.

We started the cross-case analysis^{34,39} by comparing the biographical case reports. Reports were compared on their summaries, characteristic statements, and illustrative quotes and keywords. Based on the PSU and SET content of these phrases, we grouped reports in different ways until distinctive and meaningful clusters of PSU and SET types could be distinguished. We searched our data for as many different types as possible, but only if they meaningfully differed from each other. In addition, we ensured that we clustered in such a way that the PSU and SET of each mentor fit within 1 of the clustered types. Several rounds of close reading and clustering the biographical profiles resulted in the identification and description of 3 types of PSU and 3 types of SET, which combined into 4 distinct mentoring positions. The 4 positions were subsequently described in detail and extensively discussed in the research team. After completing this process, we read all the interviews once more and checked them for full consistency with the positions identified. To confirm that we interpreted the mentors' beliefs correctly, we invited all participating mentors to join a session in which L.M.L. explained the full study, described the results, and discussed the meaning of the results with the participants. We used ATLAS.ti Version 8.2 (Scientific Software Development GmbH, Berlin, Germany) and Microsoft Excel 2016 (Microsoft Corporation, Redmond, Washington) to manage data throughout the analysis.

Researcher reflexivity

Two members of the research team (P.W.M.V.G. and L.M.L.) are mentors in 1 of the undergraduate programs, and L.M.L. is a mentor trainer as well. This affiliation may have influenced the researcher-participant relationship, as well as the data collection and analysis. In recognition of L.M.L.'s and P.W.M.V.G.'s relationship to the research, the researched, and the research setting, every step in the process, as well as intermediate findings, were thoroughly discussed with the other team members, who had a more distant relationship with participants and did not hold mentor roles in the targeted study programs. Yet as researchers who are knowledgeable in the field, they may have been better able to ask relevant questions and to follow up during the interviews and encourage mentors to name specific examples to illustrate their answers. The academic background of the research team members was diverse, albeit complementary: educational sciences (L.M.L. and E.W.D.), cognitive psychology (P.W.M.V.G.), and pedagogical sciences (E.V.). This diversity contributed to a rich,

diligent, and multiperspective interpretation of data but also safeguarded against blind spots.

Ethical approval

Ethical approval was granted by the Ethical Review Board of the Netherlands Association for Medical Education (NVMO-ERB reference number 944).

RESULTS

From our within-case and cross-case analyses we distilled 3 types of PSU and 3 types of SET, which, when combined, constituted the following 4 mentoring positions, which are summarized in Table 2: (1) facilitator, a service-providing, responsive mentor; (2) coach, a development-supporting, responsive mentor; (3) monitor, a signaling, collaborative mentor; and (4) exemplar, a service-providing or development-supporting, directive mentor.

Table 2 Mentoring Positions and Mentors Holding These Positions, From a Study to Explore Mentors' Personal Interpretative Framework, Maastricht University, Maastricht, the Netherlands, December 2017–January 2018

Mentoring position	Dimensions of personal interpretive framework		Mentors in sample, no.
	Professional self-understanding	Subjective educational theory	
Facilitator	Service providing	Responsive	5
Coach	Development supporting	Responsive	3
Monitor	Signaling	Collaborative	6
Exemplar	Service providing, development supporting, or both	Directive	4

^a Eighteen faculty who mentor undergraduate students in medicine, biomedical sciences, and health sciences participated in semi-structured interviews between December 2017 and January 2018.

These positions should not be regarded as fixed and stable innate traits but rather as reflecting the different conceptualizations and combinations of mentors' PSU and SET, as well as different conceptualizations of mentors' working relationships with mentees, which may dynamically vary across contexts and over time. Therefore, mentors will probably not only display PSU and SET types from their own position but also make use of the other positions, depending on the context. In the next paragraphs, we will describe each position in terms of the two dimensions of the professional interpretative framework, illustrated with quotes from the mentors who participated in the study (M).

Position 1: The facilitator

A facilitating mentor is an approachable first point of entry, a familiar face, whose PSU is centred around providing the mentee a certain level of "service." This service includes, for example, explaining to the mentee how the academic world works and how to self-direct one's study, or putting the mentee in touch with others, such as study counsellors, the board of examiners, or psychologists. Facilitating mentors see themselves as sources of information, being a stable, ever-present factor during their mentee's study career:

I always interpreted mentoring as a point of contact students have, something very close. When they enter, everything is new, there are many students, [I can be] the one person they regularly see throughout the year, whom they can always ask questions. Even simple questions, or questions they don't know whom to ask, they can ask me. (M11)

Although facilitating mentors acknowledge the benefit of using a portfolio for documentation purposes, they tend not to use it to guide their interactions with mentees. Therefore, they will work with the portfolio insofar as it is required by the study program, but will not use it as a yardstick for determining the mentee's study progress. The SET of facilitating mentors is responsive, meaning that they do not proactively intervene in their mentees' development but leave it to mentees' initiative when it comes to getting in touch, asking questions, or making requests. Mentors with a responsive SET can be seen as "available on call" when mentees need them: "I think I'm accessible, but I also think I'm not a difficult mentor, one who asks difficult questions. I much prefer being there for my student at the moment they need me" (M12). A mentor with a responsive SET is there for the mentee when needed, stays on top of things, and keeps track of the mentee's academic progress.

Position 2: The coach

The primary aim of the coaching mentor is to nurture a development-supporting PSU, looking at mentees as unique individuals, and not simply as students or future

professionals: "...students should be who they are and accept who they are" (M04). More specifically, this type of mentor encourages mentees to think about their development in the broadest sense, not only in terms of academic achievements but also with respect to meeting the challenges and demands of one's personal and future professional life, thereby supporting the development and well-being of their mentees. Because their PSU is development-oriented, coaching mentors rely more on the information in the mentee portfolios than facilitating mentors do; portfolios allow them to see their mentees' learning goals and reflections, see their assessment scores and feedback, and check whether they need additional support. As with the facilitating mentor, the coaching mentor allows the mentee to actively steer and deploy the mentoring relationship toward growth and development, resulting in a responsive SET, where the mentee is in the lead: "I keep pushing, but I don't pull... I cannot drag my student into something and hope they follow along" (M04).

Position 3: The monitor

A monitoring mentor holds a signaling PSU, which means that the monitor can provide suggestions or advice and may deploy his or her own network to the benefit of mentees' development. Given this signaling goal, a monitoring mentor uses the mentee's portfolio as an instrument to follow up on how the mentee is doing and to signal potential downward or upward trends in his or her development. Monitoring mentors can then point this out to their mentees:

I feel it's my role to tell students, "This is not a clever thing to do, you need to make choices here." But it is not my task to tell students which choice to make... I can point students to issues they create and ask, "Why do you think so? What is more important to you? You are the one making the decisions here." (M23)

A monitoring mentor aims to assist the mentee in becoming a reflective learner and to support self-understanding by mirroring the mentee's behavior and supporting structured, deep reflection.⁴⁰ According to their own description, a monitor is a critical friend who is in a mutually respectful relationship with the mentee, in which the mentee is often regarded as an equal partner rather than a junior or novice. The collaborative SET of a monitor entails that, depending on mentees' needs in the varying stages of their study trajectory, the mentor flexibly adapts the level of support and involvement, which translates into a collaborative relationship with mentees:

Some sort of "let them swim and we'll stand there holding a lifebuoy." I think that is better than... just standing there, holding a rescue hook all the time, saying "come over here"... In the end, students need to do it. If they want to make use of [mentoring], OK. If not, that's OK too. (M20)

Position 4: The exemplar

An exemplar usually does not have a clear preference for either a service-providing or a development-supporting PSU but can engage in both. This mentor may normatively use personal experiences when advising a mentee and may have an initiating role in discussing concerns about the mentee's functioning. Consequently, the exemplar is more directive in his SET compared with the responsive mentors (facilitator and coach) and collaborative mentor (monitor). Rather than "solving" an issue for the mentee, the exemplar encourages the mentees to try to solve issues themselves or refers them to dedicated professionals. He or she does follow up on such referrals but keeps a professional distance. A mentor who acts like an exemplar can be stern toward a mentee who does not meet expectations and can decide to take action on that as well:

Well, I sent one of them off to the student counselor; he was asleep during our meetings. And why? Going out 'til 5 o'clock on Saturday, on Sunday. You don't do that in my group, buddy. So I told him, "I think you're overestimating yourself." So I called the student counselor and managed to get him there. (M05)

Conversely, when mentees do their best or show interest in the professional field of their mentors, they can learn a lot from the personal expertise of these mentors who position themselves as exemplars. They then, for example, take the time to show mentees what they do as academics: "Some [students] are already performing quite well, right? Five minutes in a conversation I thought, 'Well that's that, nothing to add anymore, everything is going quite fine.' And then I took him to see our research facilities" (M10).

DISCUSSION

This study aimed to reconstruct mentors' personal interpretative framework²³ on the basis of in-depth interviews with 18 mentors from 3 undergraduate programs. We distilled four mentoring positions from our analysis: the facilitator, the coach, the monitor, and the exemplar. Each of these dynamic positions represent a coherent set of normative beliefs about what are meaningful mentoring activities to engage in, who should decide on the focus of the mentoring activity (mentor or mentee), and which strategies and methods should be used to enact these beliefs. Both the facilitator and the coach adopt a responsive approach (SET) to mentoring but differ in terms of the activities they engage in with their mentees. While facilitators aim for a service-providing PSU, coaches tend to focus on development support. Monitors, however, interact with their students on a more collaborative level and help them to recognize and track their progress. Exemplars, finally, have no clear preference for either service provision or development support, and nurture a more directive mentoring SET.

The results of our analysis can be used to support professional development of mentors. Mentors can be asked to analyze and reflect on their mentoring and the context in which it takes place. This analysis and reflection makes them more aware of the beliefs that are the foundation of their mentoring, which can contribute to more durable changes in the professional development of mentors.

It is important to note that the 4 mentoring positions are not intended to be a prescription for what mentoring practice should ideally look like, since mentoring inherently is contextualized and dynamic.^{6,41,42} Rather, the goal of this research was to provide an interpretative description of the diverse ways in which mentors think about their goals and practices. Implicit in the notion of the personal interpretative framework is the idiosyncratic, yet deeply contextualized and dynamic sense of self mentors bring with them to particular situations. The position mentors prefer, embodying their set of cognitions, guides the way they interpret a particular situation or context and how they act accordingly. At the same time, however, these positions are modified by their interaction with that context, for example, by the type of mentee, formal or informal mentoring, and the requirement to assess students or not. Consequently, positions should not be seen as stable, innate traits, but differing over time and between contexts. When mentors become aware of their current position, they can reflect on it and decide whether this position is still appropriate^{2,5,6,26} for interacting with their mentee. Mentors can make use of multiple positions instead of rigidly holding on to a certain role. Accordingly, mentors could decide to strengthen their position, which could be supported by, for example, individual coaching or tailored faculty development.

Given the contextualized and dynamic qualities of these positions,^{6,10,24,41,42} we welcome future research that extends this study to include mentors working in vastly different mentoring programs and settings (e.g., programs with a strong portfolio-based assessment, informal mentoring, or programs without preparatory mentor skills training) or mentors at different stages in their mentoring career. In an informal mentoring setting where mentees independently initiate mentoring and only contact their mentor when they feel they need to, for instance, we might expect mentors to adopt a signaling-responsive mentoring position.

In this study, the personal interpretative framework¹⁰ offered us a refined analytical tool to reconstruct and visualize the complex reality of mentoring beliefs. The theoretical framework was initially developed for research in primary education, but it has been applied to other fields as well.^{23,24} We used interviews for reconstructing mentors' personal interpretative framework. Interviews are time-intensive. Therefore, future research could explore more time-efficient methods, for example, surveys, which can be used to reconstruct mentors' personal interpretative framework.

A limitation to the present study in general is the composition of the sample. For practical reasons, that is, limited availability of mentors in the three programs, we

interviewed mentors who were relatively new to mentoring (< 1.5 years of experience). Because PSU and SET are always in development, mentors' personal interpretative framework is bound to change over time. For that reason, it would be interesting to explore whether mentors with more prolonged mentoring experience hold positions that are distinct from their less seasoned counterparts.

CONCLUSIONS

Although mentors' positions are inherently dynamic and context-specific, being aware of their position can help mentors to understand why they act the way they do in certain situations and how their behavior affects their mentee's development. It can also help mentors to identify personal learning needs and, consequently, provide opportunities for faculty development. The present research adds to the theoretical knowledge about mentoring in health professions education and can give rise to future innovations in faculty development targeting mentors.^{3,43} Mentors who acquire and practice their mentoring skills through training and are reflectively aware of how and why they mentor can be highly valuable facilitators, coaches, monitors, or exemplars to their students.

REFERENCES

1. Driessen EW, Overeem K, van der Vleuten CPM. Get yourself a mentor. *Medical Education*. 2011;45(5):438-439.
2. Sambunjak D, Straus SE, Marusic A. Mentoring in academic medicine: A systematic review. *JAMA*. 2006;296(9):1103-1115.
3. Kashiwagi DT, Varkey P, Cook DA. Mentoring programs for physicians in academic medicine: A systematic review. *Academic Medicine*. 2013;88(7):1029-1037.
4. Atreya AR, Stefan M, Friderici JL, Kleppel R, Fitzgerald J, Rothberg MB. Characteristics of successful internal medicine resident research projects: Predictors of journal publication versus abstract presentation. *Academic Medicine*. 2018;93(8):1182-1188.
5. Straus SE, Chatur F, Taylor M. Issues in the mentor–mentee relationship in academic medicine: A qualitative study. *Academic Medicine*. 2009;84(1):135-139.
6. Sambunjak D, Straus SE, Marusic A. A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *J Gen Intern Med*. 2010;25(1):72-78.
7. Driessen EW, Overeem K. Mentoring. In: Walsh K, ed. *Oxford Textbook of Medical Education*. Oxford, UK: Oxford University Press; 2013.
8. Heeneman S, de Grave W. Development and initial validation of a dual-purpose questionnaire capturing mentors' and mentees' perceptions and expectations of the mentoring process. *BMC Med. Educ*. 2019; 19(1):133.
9. Sng JH, Pei Y, Toh YP, Peh TY, Neo SH, Krishna LKR. Mentoring relationships between senior physicians and junior doctors and/or medical students: A thematic review. *Medical Teacher*. 2017;39(8):866-875.
10. Kelchtermans G. Who I am in how I teach is the message: Self-understanding, vulnerability and reflection. *Teachers and Teaching*. 2009;15(2):257-272.
11. Balmer DF, Darden A, Chandran L, D'Alessandro D, Gusic ME. How mentor identity evolves: Findings from a 10-year follow-up study of a national professional development program. *Academic Medicine*. 2018;93(7):1085-1090.
12. Ramani S, Gruppen L, Kachur EK. Twelve tips for developing effective mentors. *Medical Teacher*. 2006; 28(5):404-408.
13. Pfund C, Maidl Pribbenow C, Branchaw J, Miller Lauffer S, Handelsman J. Professional skills. The merits of training mentors. *Science*. 2006;311(5760):473-474.
14. Aspfors J, Fransson G. Research on mentor education for mentors of newly qualified teachers: A qualitative meta-synthesis. *Teaching and Teacher Education*. 2015;48:75-86.
15. Michael O. Mentoring mentors as a tool for personal and professional empowerment in teacher education. *International Journal of Evidence Based Coaching & Mentoring*. 2008;6(1):1-18.
16. Gandhi M, Johnson M. Creating more effective mentors: Mentoring the mentor. *AIDS and behavior*. 2016;20(suppl 2):294-303.
17. Sood A, Tigges B, Helitzer D. Mentoring early-career faculty researchers is important—But first “train the trainer.” *Academic Medicine*. 2016;91(12):1598-1600.
18. Tan YS, Teo SWA, Pei Y, et al. A framework for mentoring of medical students: thematic analysis of mentoring programmes between 2000 and 2015. *Advances in Health Sciences Education*. 2018;23(4):671-697.
19. Athanases SZ, Abrams J, Jack G, et al. Curriculum for mentor development: Problems and promise in the work of new teacher induction leaders. *Journal of Curriculum Studies*. 2008;40(6):743-770.
20. Johnson MO, Subak LL, Brown JS, Lee KA, Feldman MD. An innovative program to train health sciences researchers to be effective clinical and translational-research mentors. *Academic Medicine*. 2010;85(3):484-489.
21. Vanassche E, Kelchtermans G. Facilitating self-study of teacher education practices: Toward a pedagogy of teacher educator professional development. *Professional Development in Education*. 2016;42(1):100-122.
22. Glaser A, Strauss AL. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New Brunswick, NJ: AldineTransaction; 1967.
23. Kelchtermans G. Getting the story, understanding the lives: From career stories to teachers' professional development. *Teaching and Teacher Education*. 1993;9(5-6):443-456.

24. Vanassche E, Kelchtermans G. A narrative analysis of a teacher educator's professional learning journey. *European Journal of Teacher Education*. 2016;39(3):355-367.
25. Steinert Y, O'Sullivan PS, Irby DM. Strengthening teachers' professional identities through faculty development. *Academic Medicine*. 2019;94(7):963-968.
26. Johnson WB. *On Being a Mentor: A Guide for Higher Education Faculty*. Mahwah, NJ: Lawrence Erlbaum Associates; 2007.
27. Yin RK. *Case Study Research and Applications: Design and Methods*. Thousand Oaks, CA: SAGE Publications, Inc.; 2018.
28. Coyne IT. Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries? *Journal of Advanced Nursing*. 1997;26(3):623-630.
29. Patton MQ. *Qualitative Research and Evaluation Methods*. 4th ed. Thousand Oaks, CA: SAGE Publications, Inc.; 2015.
30. van der Vleuten CPM, Dannefer EF. Towards a systems approach to assessment. *Medical Teacher*. 2012;34(3):185-186.
31. van der Vleuten CPM, Schuwirth LWT, Driessen EW, Govaerts MJB, Heeneman S. Twelve tips for programmatic assessment. *Medical Teacher*. 2015;37(7):641-646.
32. Vanassche E, Kelchtermans G. Teacher educators' professionalism in practice: Positioning theory and personal interpretative framework. *Teaching and Teacher Education*. 2014;44:117-127.
33. Campbell A, McNamara O, Gilroy P. *Practitioner Research and Professional Development in Education*. London, UK: SAGE Publications Ltd; 2004.
34. Paterson BL. Within-Case Analysis. In: Mills A, Durepos G, Wiebe E. *Encyclopedia of Case Study Research*. Thousand Oaks, CA: SAGE Publications, Inc.; 2012:971-972.
35. Miles MB, Huberman M. *Qualitative Data Analysis: An Expanded Sourcebook*. 2nd ed. Thousand Oaks, CA: SAGE Publications, Inc.; 1994.
36. Ayres L, Kavanaugh K, Knaff KA. Within-case and across-case approaches to qualitative data analysis. *Qualitative Health Research*. 2003;13(6):871-883.
37. Saldaña J. *The Coding Manual for Qualitative Researchers*. London, UK: SAGE Publications Ltd.; 2009.
38. Geertz C. Thick description: Toward an interpretive theory of culture. In: Geertz C. *The Interpretation of Cultures: Selected Essays*. New York, NY: Basic Books; 1973.
39. Perri 6, Bellamy C. Types of research design. In: Perri 6, Bellamy C. *Principles of Methodology: Research Design in Social Science*. London, UK: SAGE Publications Ltd; 2012.
40. Korthagen F, Vasalos A. Levels in reflection: Core reflection as a means to enhance professional growth. *Teachers and Teaching*. 2005;11(1):47-71.
41. van der Vleuten CPM. When I say . . . context specificity. *Medical Education*. 2014;48(3):234-235.
42. Mishler EG. Meaning in context: Is there any other kind? *Harvard Educational Review*. 1979;49(1):1-19.
43. Pfund C, House SC, Asquith P, et al. Training mentors of clinical and translational research scholars: A randomized controlled trial. *Academic Medicine*. 2014;89(5):774-782.

APPENDIX 1: INTERVIEW QUESTIONS

Question	Alternative question	Follow-up question
Tell me a bit about your practice as mentor...?		
Can you typify your mentoring (style) with some adjectives [note these down on paper]?	How would your students describe you?	Why did you choose [adjective] Could you give an example of why [adjective] typifies you?
Do you have dos and don'ts for your mentoring practice?	Is there a set of 'rules of thumb' that you use in your practice as mentor?	
Could you describe to me a particular case (situation) that went very well or very bad? You don't have to mention students/settings by name.		
Why did you decide to become a mentor?		
Is the way you think about mentoring now different from the way you used to think about mentoring? If so [follow-up questions]		What changed?
		What led up to this change?
		What exactly happened?
What goals do you as mentor aim to realize with your students?		Do you have the feelings you reach these goals?
		Why (not)?
Does your other work have an influence on being a mentor?	Does being a doctor/ teacher/ researcher make you a different mentor?	If so, what kind of influence? Please give examples.
According to you, what are the most important mentoring tasks?	Which tasks should mentors do make them 'good mentors'?	Which competency/(ies) do you need to accomplish this task?
How well do you think you perform these tasks?		[per task]
How did you learn how to do these tasks?		
Do you work together with colleagues when it comes to mentoring?		On what? - For example, to develop certain mentoring skills? - or to consult on how you are doing as mentor - second opinion (?) about one of your students
		Do you go to any colleague, or do you look for a particular 'model', or 'expert', for example with a 'difficult student' or..?

Question	Alternative question	Follow-up question
What more would you like to learn about mentoring?		Why do you feel the need to learn more about this?
		How would you like to know more about this?
Would you like to be mentor again next year?		Why (not)?
If you were to be mentor again next year, what would you do differently?	With the experience you have now, do you have any tips for new mentors?	
Did you, apart from the three faculty development training sessions offered by the faculty development task group, do anything else to develop your mentoring skills?		What exactly did you do? (training, lecture, book, video, practice, talking to colleagues, etc.)
		Why did you decide to do this?
		What did you learn from it?
		Could you have learned this in another way?
Imagine that you could develop a trajectory for beginning mentors at FHML, what would you include in your offer?		Why this 'x'?
		How would you operationalize this?
		Describe your ideal educator (trainer)
Is there anything you would like to add at this point or that I have forgotten (questions that you had expected but that I didn't ask)?		

APPENDIX 2: CASE REPORT TEMPLATE

Mentor pseudonym: [...]		Professional self-understanding and subjective educational theory
Professional self-understanding	Image, self-perception, and feedback from others	
	Self-esteem, evaluation of personal performance	
	Task perception: what should I do and what not?	
	The motivation to enter, continue, or leave the profession	
	How mentors see themselves in the future	
Subjective educational theory	Formal: What faculty development activities do mentors participate in and can they successfully apply the things they learned in their daily practice (i.e., mentoring relationship)?	
	And	
	Beliefs: Heuristics mentors learn from certain colleagues or other examples	

Summary of [mentor pseudonym]	
- Keyword 1	- Single statement with characteristic features
- Keyword 2	- Summary of text in matrix above
- Etc.	- Illustrative quotes



MERIT: A MENTOR REFLECTION INSTRUMENT FOR IDENTIFYING THE PERSONAL INTERPRETATIVE FRAMEWORK

Published as:

Loosveld, L. M., Van Gerven, P. W. M., Driessen, E. W., Vanassche, E., & Artino, A. R. (2021). MERIT: a mentor reflection instrument for identifying the personal interpretative framework. *BMC Medical Education*, 21, 144. <https://doi.org/10.1186/s12909-021-02579-x>

ABSTRACT

Background

Essential to the professional development of mentors is making explicit and critically challenging the knowledge and beliefs underpinning their mentoring practice. This paper reports on the development of a survey instrument called MERIT, MEntor Reflection Instrument, which was designed to support mentors' systematic reflection on the how, what and why of their practice.

Methods

In 2019, a twenty-item survey instrument was developed and piloted. Initial validation data ($N = 228$) were collected by distributing the survey through the authors' network. An exploratory factor analysis (EFA) was conducted and internal consistency reliability coefficients were calculated.

Results

The Principal Axis EFA with Direct Oblimin rotation ($\Delta = 0$) resulted in four factors: (1) supporting personal development, (2) modelling professional development, (3) fostering autonomy, and (4) monitoring performance. The four factors explained 43% of the total variance of item scores. The Cronbach's alphas for the subscale scores were between .42 and .75.

Conclusions

The MERIT delivers a tool for faculty developers who want to support mentors in faculty development programs. In particular, the instrument can help mentors reflect on their beliefs and professional knowhow, which may ultimately improve their knowledge and skills as a mentor.

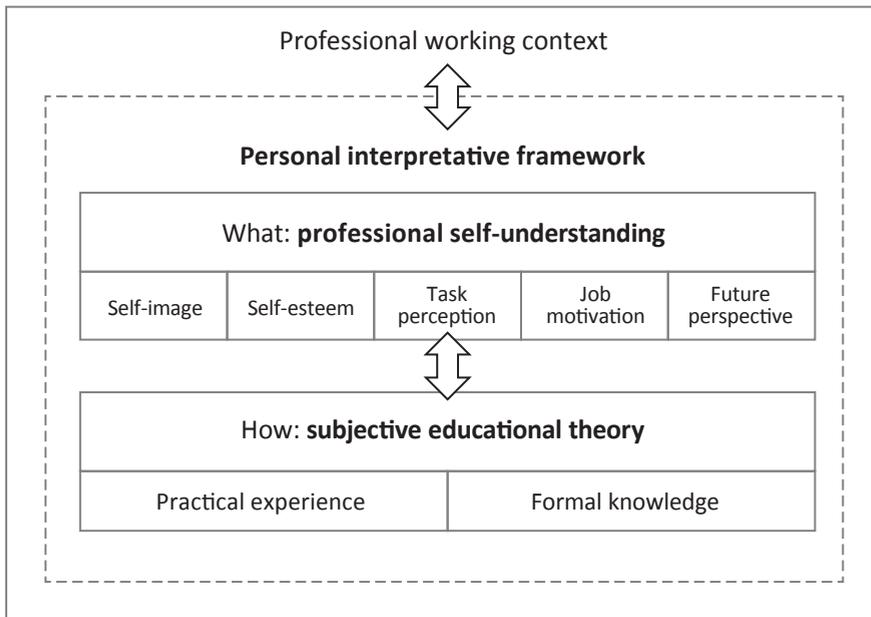
BACKGROUND

Initiatives aimed at supporting the professionalization of mentors in higher education are growing [1-3]. This increased support of mentors' development is encouraging as mentors have a key role in the learning and development of young health professionals, and therefore make valuable contributions to health professions education [4-8]. Building on the long tradition of research on the professional development of teachers (see, e.g., Kelchtermans [9], Vanassche and Kelchtermans [10]) we argue that initiatives designed to support mentors' professional development should not only encourage changes in mentors' practice, but also challenge them to interrogate their own thinking about the *how* and *why* of their practice. Without such deep reflection, and associated shifts in thinking, professional development risks becoming a simple "tips and tricks" exercise and lacks sustained impact on mentors' practice [11]. This paper adds to this challenge by reporting on the development and initial validation of the 'MENTOR Reflection Instrument' (MERIT), a survey instrument designed to make implicit knowledge and beliefs about mentoring explicit, and encourage systematic reflection on the *how* and *why* of one's practice.

For the development of the MERIT, we used the *personal interpretative framework* by Kelchtermans [12] to operationalize mentors' knowledge and beliefs. The personal interpretative framework results from the meaningful interactions between individual mentors and their professional working context. It incorporates two dimensions: *professional self-understanding* and *subjective educational theory* (Figure 1). These dimensions serve as a lens through which mentors make sense of, and respond to, their practice and experiences. Professional self-understanding refers to how mentors see themselves in their profession. It entails their self-image, self-esteem, task perception, job motivation, and future job perspective, and it can be seen as the mentor's personal goals and norms (i.e. the '*what* I do and *why* I mentor'). Subjective educational theory involves the personal knowledge and beliefs mentors use to decide how to act in specific situations, encompassing the '*how to*' of mentoring. It is based on personal experience, but also, among other things, knowledge from formal training initiatives and observation of other mentors on the job.

As a result, the subjective educational theory is an idiosyncratic construct, representing 'what works' for specific individuals. This means that one mentor's framework is not necessarily the indisputable truth for others. Deciding on the most adequate approach in a given situation is based on mentor's subjective educational theory, drawing on previous experiences: 'What did I do in similar situations in the past, and how did that work out?' and on elements of a mentor's professional self-understanding: 'What do I need to do in order to be a good mentor?' It is, in other words, the *operationalization* of the mentor's professional self-understanding and subjective educational theory [12].

Figure 1 The Personal Interpretative Framework (Kelchtermans 2009) Develops From the Continuous Interaction Between Mentors and Their Professional Working Context. It Consists of Two Dimensions: Professional Self-Understanding and Subjective Educational Theory, Which Consistently Interact, as Indicated by the Double-Headed Arrows. Both Dimensions Consist of Multiple Components, Respectively Describing the What, Why, and How of Mentoring.



The personal interpretative framework has been studied in a number of occupational groups, that is, beginning and experienced teachers, school leaders, teacher educators [9, 10], and, more recently, also mentors within health professions education [13]. When faculty development programs intend to support mentors in making their personal interpretative framework explicit, it is key to assist them in making the framework explicit through critical reflection [14]. Critical reflection can lead to a significant learning experience because it moves beyond reflection on action [15] in the direction of thinking about what underlies mentors' practice and critically evaluating the what, how and why of this practice [12, 16, 17].

Previous research suggests that teachers are able to use a survey instrument to explore their teaching conceptions [18, 19]. Although the development of instruments for evaluating professional identity formation [20] or evaluating the development of mentoring processes [3] has been encouraged in the literature, currently no survey instrument is available that supports mentors in making their mentoring knowledge and beliefs explicit [8, 21, 22]. Therefore, the purpose of the current study was to

develop and collect initial validity evidence for a self-report survey instrument that mentors can use to make their personal interpretative framework explicit.

METHODS

We developed a survey instrument, pre-tested an initial set of items through cognitive interviews, collected pilot data, and assessed internal structure and reliability of the final survey based on responses from an international sample of mentors.

Development of the Survey

The first version of the survey consisted of 33 agree-disagree items about personal self-understanding (four subscales) and subjective educational theory (five subscales). These subscales were based on previous work with mentors in health professions education [13]. All items were extensively discussed in two rounds by the research team, which consisted of three educational experts (LML: cognitive and educational psychology, EV: educational sciences, EWD: educational sciences and medical education), one cognitive psychologist (PWMVG), and one educational psychologist and medical education researcher specialized in construction and use of surveys (ARA). Discussions on the development of the survey centered on item quality, uniqueness or redundancy, phrasing, and omission of items.

In the second version of the survey, items were formulated in such a way that they aimed at mentors' and mentees' goals (seeing the mentee either as future health professional or developing individual), and on whether the mentor-mentee relationship is predominantly mentor or mentee directed. This version contained 24 items using a five-point response scale: not at all true of me, slightly true of me, somewhat true of me, mostly true of me, completely true of me [23]. The revised version was subjected to two rounds of cognitive interviews [24]. During the cognitive interviews, four respondents (a mix of men and women, both junior and more senior mentors working in medicine, education, medical education, and psychology) completed the survey in the presence of LML and then completed a think-aloud protocol interleaved with probe questions, such as: "Can you describe [term] in your own words?" and "Why were you doubting your initial answer?" After the first round of four interviews, six questions were removed because they were unclear, six questions were rewritten because they were deemed ambiguous, and two questions about reasons to mentor were added, resulting in a total of 20 questions. Furthermore, questions were re-ordered, clustered more thematically, and preceded by probes like "As a mentor, my goal is to: ..." Also, the overall instruction to "think about how you *actually* mentor, instead of how you think you *should* mentor" was included in the survey information, to make sure that mentors drew from their theories-in-use instead of from their

espoused theories [25]. Following these changes, two additional cognitive interviews with respondents from the first round (a clinician and an educationalist) were conducted. At this stage, only minor textual changes to the survey were made. The final online survey was formatted and ultimately administered in Qualtrics (Provo, Utah).

A pilot study with 20 respondents (mentors in health professions education at Maastricht University) was conducted with the 20-item survey. This pilot did not result in further changes to the survey items. Therefore, responses from the pilot were included in the sample. The final survey (see Appendix 1) also included an eight-item demographic section.

Survey Distribution; Sample and Data Collection

For this study, mentors in health professions education were defined as faculty members who had a formal mentoring relationship with one or multiple (under)graduate students. The focus of this relationship was on supporting personal or professional learning and development of the student through supporting competency development and reflection (after Nicholls [11]). We excluded mentors who worked with postgraduate learners, or mentors outside the realm of health professions education.

We distributed the survey through our professional contacts with 137 personal e-mails, three e-mail lists, three Twitter accounts (around 4,000 cumulative followers) and LinkedIn. Contact persons were approached with a standardized e-mail, asking them whether they were willing to distribute the survey invitation to mentors in their network. Contact persons who agreed, received a template e-mail that they could forward to their colleagues. The templates contained a link and QR code referring to the online survey. Twitter distribution was done with tweets on the personal accounts of ARA, EWD, and LML. All responses to the survey were collected anonymously. Individual mentors who wished to receive their personal and aggregated sample answers to the survey could provide their e-mail addresses at the end of the survey. Answers were then provided to them based on the connection between their mail address and a randomly generated personal identifier. For each completed survey, €1 was donated to Doctors Without Borders (<https://www.doctorswithoutborders.org>).

Testing Psychometric Properties of the Survey: Data Analysis

To assess the internal structure of the survey scores, we conducted an exploratory factor analysis (EFA) using Principal Axis Factoring (PAF). Once factors were identified, we calculated the internal consistency reliability of the subscale scores (Cronbach's alpha) and then created unweighted mean scores for the items that comprised each of the factors. We also calculated descriptive statistics for the total sample. All calculations were done using IBM SPSS statistical software, version 25 (IBM Corporation, New York) and Microsoft Excel 2016 (Microsoft Corporation, Redmond, Washington).

Ethical Approval

This research was approved by the Maastricht University Ethics Review Committee (UM-REC), file number: FHML-REC/2019/033, October 1, 2019.

RESULTS

Survey Distribution

The 137 e-mails sent to contact persons yielded 50 positive responses (37%), 15 (11%) declines, and 72 (52%) non-responders or undeliverable e-mails. Because the survey was distributed via contact persons and social media, it was not possible to know the overall denominator and, thus, we could not calculate an overall response rate for the survey. However, because this initial study was intended to explore the internal structure of the survey, as opposed to characterize a population, the lack of a response rate is less problematic [26].

To achieve a stable factor structure, we aimed to obtain at least ten responses per survey item as recommended by Pett, Lackey [27] and Stevens [28]. This number was reached in February 2020, after which we kept the survey open until April 1, 2020, resulting in 32 additional responses. After removing four responses from mentors outside health professions education, 228 completed surveys remained and were analyzed.

Respondent Demographics

Seventy-seven (34%) of our mentors identified as men, 148 (65%) as women, one respondent indicated 'other' and two respondents (1%) did not identify their gender. The average age of 225 respondents was 46 years (range = 26-72 years) (see Appendix 2, Table 1). Three mentors did not reveal their age. Most mentors (137, 60%) indicated that they mentored individuals in medicine, and that they had an average of nine years (range = 0-57 years) of mentoring experience (see Appendix 2, Table 2).

Testing Psychometric Properties of the Survey

Principal Axis Factoring

To extract factors from our dataset, we conducted Principal Axis Factoring with direct oblique (Oblimin) rotation ($\Delta = 0$). To be retained in the final solution, factor loadings for individual items had to be greater than 0.3. For the purpose of this analysis, the number of factors to be retained was determined based on several criteria [29], including parallel analysis, examination of the resulting scree plot, and eigenvalues greater than 1.0 (i.e., the K1 criterion). The parallel analysis, which compares mean eigenvalues from randomly generated data to the actual eigenvalues from the mentoring items, suggested four factors to be retained. This four-factor result,

however, was neither supported by the K1 criterion, which suggested six initial factors, nor was it supported by an inspection of the scree plot, which also suggested six factors. Based on the results of the parallel analysis, the scree plot and the K1 criterion, it was decided to retain four factors, accounting for 43% of the variance of all items. The four-factor solution was preferred, considering the risk of specifying too many factors, which can lead to many uninformative factors [27].

The four factors are presented in Table 1. Three items had factor loadings less than 0.3: “I can help my mentees to solve problems”, “My relationship with my mentees is based on an equal power balance” and “The amount of support I provide depends on the needs of each of my mentees”. These three items were therefore dropped from further analysis.

The items which clustered in factor one all centered on the personal development of the mentee, hence the factor was named *supporting professional development*. Factor two was indicated as *modelling professional development* and comprised of items that relate to the topic of helping mentees socialize into the academic world and supporting them in picking up scientific norms and values. Factor three, called *fostering autonomy*, primarily represented items about advice-seeking behavior and problem solving. Factor four, *monitoring performance*, addressed understanding and accessing mentees’ performance results and meeting performance standards.

Reliability Analysis

Cronbach’s alpha of the first factor (modelling professional development) was $\alpha = .75$. The Cronbach’s alpha for the other three factors varied between .42 and .56 (see Table 1) [30]. Deleting items from the factors did not increase their reliability.

Item Frequencies

On the item level, the average answers ranged from 3.2 to 4.5 on the five-point response scale, with an overall mean of 3.97 ($SD = 0.89$). Thus, on average, mentors indicated that items were at least mostly true or completely true of them (see Appendix 2, Table 3).

Table 1 Factor Scores and Cronbach's Alphas (α) of MERIT Survey Items.

Factor Name	Survey Item	Percentage explained variance	α	Factor scores	Mean score and standard deviation (SD) per factor
Supporting personal development		19.4%	.75		$M = 4.3$ ($SD = .55$)
	Helping my mentees develop into their own individual person is my reason to mentor.			.810	
	Helping my mentees optimize their wellbeing is my reason to mentor.			.552	
	Helping my mentees become better learners is my reason to mentor.			.306	
	Helping my mentees envision what kind of professional they want to be in the future is my reason to mentor.			.590	
	The personal development of my mentee is extremely important for me as mentor.			.658	
Modelling professional development		9.3%	.56		$M = 3.7$ ($SD = .58$)
	I provide my mentees with insights into how the academic world works.			.384	
	I advise my mentees what they should do based on my own experiences			.578	
	If my mentees want feedback on how they are doing, they should ask me for it.			.496	
	I want my mentees to adhere to my professional norms.			.335	
	I am a sort of "help desk" for my students, providing them with information or referring them to resources.			.423	
Fostering autonomy		6.6%	.54		$M = 3.7$ ($SD = .71$)
	It is my mentees' own responsibility to ask me for advice if they have any questions			.496	
	I cannot solve problems for my mentees, they have to do that themselves.			.490	
	There is a limit to the amount of support I am prepared to give to my mentees.			.321	

Table 1 Continued.

Factor Name	Survey Item	Percentage explained variance	α	Factor scores	Mean score and standard deviation (SD) per factor
Monitoring performance		8.0%	.42		$M = 3.8$ ($SD = .74$)
	I help my mentees gain better understanding of the results of their actions.			.307	
	I am my mentees' trusted person within the university.			.431	
	Having access to progress indicators of my mentee is critical for me as mentor.			.395	
	If my mentees fail to meet expected performance standards, I will let them know.			.604	

DISCUSSION

The aim of this study was to develop and collect initial validity evidence for the MERIT, a reflection instrument aimed at making explicit mentors' personal interpretative framework based on four factors: (1) supporting personal development, (2) modelling professional development, (3) fostering autonomy, and (4) monitoring performance. The scores on the MERIT items were high overall, but varied sufficiently, which demonstrates the value of the instrument for gaining insight in, and supporting mentors' development.

The way the survey items clustered into factors suggests that there is no clear division between professional self-understanding and subjective educational theory. This aligns with the starting premise of the personal interpretative framework: the framework consists of two subdomains which can be analytically distinguished from one another, but are intertwined in practice [12]. This also has practical implications for faculty development. Reflection on the personal interpretative framework of mentors should take a combined approach: mentors should not only think about what they did and what the subsequent result was, but also consider which beliefs underpin their practice. Combining reflection on action [15] with reflection on knowledge and beliefs of mentoring can lead to a deeper understanding of why and how they mentor.

The combination of professional self-understanding and subjective educational theory into one instrument makes the MERIT survey a potentially useful instrument for faculty development. Filling out the MERIT may stimulate thinking about the mentoring role: what is included in mentors' tasks, what is not, why is this the case, and how do mentors enact their mentoring? Reading the items can also raise awareness about other ways of mentoring because items show that it is possible to mentor in different ways.

The MERIT may not only be used individually, but also collaboratively. Making the personal interpretative framework explicit and discussing it with peers can allow others to react on these reflections, question, confirm, or contradict them, and thereby foster the understanding of a mentors' personal interpretative framework. Discussing the framework with peers serves as an additional stimulus for deep reflection: it invites mentors to think about, and explain why they enact their role in a certain way and it can help them consider alternative approaches to mentoring [12]. The outcomes of these self-reflections can be used in discussions on which approach to mentoring fits best in which situation [31], but also in other faculty development formats [32, 33]. Examples of this type of initiatives are peer supervision, coaching [34, 35], case-based simulations or role-playing critical incidents [3, 36]. These could prove to be far more valuable than discussing instrumental knowledge or trying to convince mentors of a particular approach for mentoring based on theory (e.g., "the literature has shown that x or y is more effective") [37]. These context-based, reflective sessions can give beginning mentors the safety net that they often seek: There is not one correct way of mentoring, but a wide range of approaches that work in various situations [4, 13].

Our study has a number of important limitations. First, due to the way we distributed the survey, we were unable to calculate a response rate and to check whether respondents were representative for mentors in the field of health professions education. Second, despite our efforts to distribute the survey globally, the vast majority of the respondents fulfilled mentoring roles in Europe (73.3%) and North America (18.9%). Given both the goal of our study and the context specificity of our theoretical framework, we must interpret our survey results as a way to explore the internal structure of this newly designed survey. Third, the survey in its current shape showed a substantial variation in reliability (Cronbach's alpha) across the four factors. Further development of the survey, with regard to both content and internal structure, is therefore warranted. In particular, the development of additional items to the subscales with low reliability may be warranted. Because respondents scored high on most items, questions could be added that require mentors to take a clear position regarding different aspects of the mentoring role (e.g., forced-choice questions), which could lead to a better differentiation of their beliefs.

CONCLUSION

Administering the MERIT survey in the current international sample of mentors has revealed four factors regarding mentors' personal interpretative framework: supporting personal development, modelling professional development, fostering autonomy, and monitoring performance. These factors represent dimensions of the personal interpretative framework that mentors can explore during faculty development initiatives, which can be the basis for their further professional development. Finally, the MERIT can provide researchers and faculty developers with insights into the ways mentors in various professional contexts perceive their role.

REFERENCES

1. Skjevik EP, Boudreau JD, Ringberg U, Schei E, Stenfors T, Kvernenes M, et al. Group mentorship for undergraduate medical students—a systematic review. *Perspectives on Medical Education*. 2020; 9(5):272-80.
2. Ramani S, Gruppen L, Kachur EK. Twelve tips for developing effective mentors. *Medical Teacher*. 2006; 28(5):404-8.
3. Heeneman S, de Grave W. Development and initial validation of a dual-purpose questionnaire capturing mentors' and mentees' perceptions and expectations of the mentoring process. *BMC Med Educ*. 2019;19(1):133.
4. Sambunjak D, Straus SE, Marusić A. A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *J Gen Intern Med*. 2010;25(1):72-8.
5. Sambunjak D, Straus SE, Marusić A. Mentoring in academic medicine: a systematic review. *JAMA*. 2006;296(9):1103-15.
6. Driessen EW, Overeem K. Mentoring. In: Walsh K, editor. *Oxford Textbook of Medical Education*: Oxford University Press; 2013. p. 265-84.
7. Driessen EW, Overeem K, van der Vleuten CPM. Get yourself a mentor. *Medical Education*. 2011;45(5):438-9.
8. Sng JH, Pei Y, Toh YP, Peh TY, Neo SH, Krishna LKR. Mentoring relationships between senior physicians and junior doctors and/or medical students: A thematic review. *Medical Teacher*. 2017;39(8):866-75.
9. Kelchtermans G. Getting the Story, Understanding the Lives: From Career Stories to Teachers' Professional Development. *Teaching and Teacher Education*. 1993;9(5-6):443-56.
10. Vanassche E, Kelchtermans G. A narrative analysis of a teacher educator's professional learning journey. *European Journal of Teacher Education*. 2016;39(3):355-67.
11. Nicholls G. Mentoring: the art of teaching and learning. In: Jarvis P, editor. *The Theory & Practice of teaching*. Abingdon: Routledge; 2006. p. 157-68.
12. Kelchtermans G. Who I am in how I teach is the message: self-understanding, vulnerability and reflection. *Teachers and Teaching*. 2009;15(2):257-72.
13. Loosveld LM, Van Gerven PWM, Vanassche E, Driessen EW. Mentors' Beliefs About Their Roles in Health Care Education: A Qualitative Study of Mentors' Personal Interpretative Framework. *Academic Medicine*. 2020;95(10):1600-6.
14. Dugdill L, Coffey M, Coufopoulos A, Byrne K, Porcellato L. Developing new community health roles: can reflective learning drive professional practice? *Reflective Practice*. 2009;10(1):121-30.
15. Schön DA. *The reflective practitioner : how professionals think in action*. New York: Basic Books; 1983.
16. Aspöfors J, Fransson G. Research on mentor education for mentors of newly qualified teachers: A qualitative meta-synthesis. *Teaching and Teacher Education*. 2015;48:75-86.
17. Pratt DD, Schrewe B, Pusic MV. Pedagogical validity: The key to understanding different forms of 'good' teaching. *Medical Teacher*. 2019;41(6):638-40.
18. Jacobs JCG, Wilschut J, van der Vleuten C, Scheele F, Croiset G, Kusrkar RA. An international study on teachers' conceptions of learning and teaching and corresponding teacher profiles. *Medical Teacher*. 2020;42(9):1000-4.
19. Jacobs JCG, Van Luijk SJ, Van Berkel H, Van der Vleuten CP, Croiset G, Scheele F. Development of an instrument (the COLT) to measure conceptions on learning and teaching of teachers, in student-centred medical education. *Med Teach*. 2012;34(7):e483-91.
20. Tagawa M. Development of a scale to evaluate medical professional identity formation. *BMC Med Educ*. 2019;19(1):63.
21. Chen Y, Watson R, Hilton A. A review of mentorship measurement tools. *Nurse Education Today*. 2016;40:20-8.
22. Berk RA, Berg J, Mortimer R, Walton-Moss B, Yeo TP. Measuring the Effectiveness of Faculty Mentoring Relationships. *Academic Medicine*. 2005;80(1):66-71.
23. Artino AR, Jr., La Rochelle JS, Dezee KJ, Gehlbach H. Developing questionnaires for educational research: AMEE Guide No. 87. *Med Teach*. 2014;36(6):463-74.

24. Willis GB, Artino AR, Jr. What Do Our Respondents Think We're Asking? Using Cognitive Interviewing to Improve Medical Education Surveys. *Journal of graduate medical education*. 2013;5(3):353-6.
25. Argyris C, Schön DA. *Theory in practice: increasing professional effectiveness*. San Francisco; Jossey-Bass; 1974.
26. Baker R, Brick JM, Bates NA, Battaglia M, Couper MP, Dever JA, et al. Summary Report of the AAPOR Task Force on Non-probability Sampling. *Journal of Survey Statistics and Methodology*. 2013;1(2):90-143.
27. Pett MA, Lackey NR, Sullivan JJ. *Making sense of factor analysis : the use of factor analysis for instrument development in health care research*. Thousand Oaks, CA: Sage; 2003.
28. Stevens J. *Applied multivariate statistics for the social sciences*. 5th ed. ed. London: Routledge Academic; 2009.
29. Henson R, Roberts J. Use of Exploratory Factor Analysis in Published Research Common Errors and Some Comment on Improved Practice. *Educational and Psychological Measurement - EDUC PSYCHOL MEAS*. 2006;66:393-416.
30. McCoach DB, Gable RK, Madura JP. Instrument development of the affective domain. *School and corporate applications. Educacion Quimica*. 2013;24(EXTRAORD. 2):538-9.
31. Straus SE, Chatur F, Taylor M. Issues in the Mentor–Mentee Relationship in Academic Medicine: A Qualitative Study. *Academic Medicine*. 2009;84(1):135-9.
32. Steinert Y, Mann K, Anderson B, Barnett BM, Centeno A, Naismith L, et al. A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update: BEME Guide No. 40. *Med Teach*. 2016;38(8):769-86.
33. Steinert Y, Mann K, Centeno A, Dolmans D, Spencer J, Gelula M, et al. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. *Med Teach*. 2006;28(6):497-526.
34. McLeod PJ, Steinert Y. Peer coaching as an approach to faculty development. *Medical Teacher*. 2009; 31(12):1043-4.
35. O'Keefe M, Lecouteur A, Miller J, McGowan U. The Colleague Development Program: a multidisciplinary program of peer observation partnerships. *Medical Teacher*. 2009;31(12):1060-5.
36. Branch WT, Jr. Use of critical incident reports in medical education. A perspective. *Journal of general internal medicine*. 2005;20(11):1063-7.
37. Vanassche E, Kelchtermans G. Facilitating self-study of teacher education practices: toward a pedagogy of teacher educator professional development. *Professional Development in Education*. 2015;42(1):100-22.

APPENDIX 1: MERIT SURVEY QUESTIONS

Answer options (presented as radio buttons in online survey):

1. Completely untrue for me
2. Somewhat untrue for me
3. Neither true nor untrue for me
4. Somewhat true for me
5. Completely true for me

Why I mentor

My reason to mentor is to help my mentees develop into their own individual person.
 My reason to mentor is to help my mentees optimize their wellbeing.
 My reason to mentor is to help my mentees become better learners.
 My reason to mentor is to help my mentees envision what kind of professional they want to be in the future.

Who I am and what I do as mentor

As a mentor, I am a sort of “help desk” for my students, providing them with information or referring them to resources.
 As a mentor, I provide my mentees with insights into how the academic world works.
 As a mentor, I help my mentees gain better understanding of the results of their actions.
 As a mentor, I am my mentees’ trusted person within the university.

What is important for me as mentor

For me as mentor, the personal development of my mentee is extremely important.
 For me as mentor, having access to progress indicators of my mentee is critical.

Advice and problem solving

It is my mentees’ own responsibility to ask me for advice if they have any questions
 I advise my mentees what they should do based on my own experiences
 I cannot solve problems for my mentees, they have to do that themselves.
 I can help my mentees to solve problems

Feedback

If my mentees fail to meet expected performance standards, I will let them know.
 If my mentees want feedback on how they are doing, they should ask me for it.

Providing support

I want my mentees to adhere to my professional norms.
 My relationship with my mentees is based on an equal power balance.

The amount of support I provide depends on the needs of each of my mentees.
There is a limit to the amount of support I am prepared to give to my mentees.

Demographic and general questions:

- In which educational program do you primarily mentor?
- In which country do you primarily mentor?
- How many years of mentoring experience do you have?
- Do you have to assess your mentee (on any aspect of their functioning)?
- What is your year of birth?
- What is your gender?
- What is your own initial training (multiple answers possible)?
- What do you see as your current 'main profession' (please select one option)?
- You have now answered a number of items on mentoring. These items may or may not have encompassed the full complexity of your daily mentoring practice. Are there any aspects of mentoring that were not (sufficiently) covered in this survey?
- Are there any remarks you would wish to make on this survey (e.g. design, complexity, etc.)?
- Are you interested in receiving your personal answers to this survey?

APPENDIX 2: TABLES

Table 1 Personal characteristics of the 228 respondents to the MERIT survey.

Variable	No. of respondents (% of 228)
Gender	
Women	148 (65%)
Men	77 (34%)
Other	1 (.5%)
Unanswered	2 (1%)
Age	
26 – 35 years	45 (20%)
36 – 45 years	72 (32%)
46 – 55 years	51 (22%)
56 – 65 years	45 (20%)
66 – 75 years	12 (5%)
Unanswered	3 (1%)
Initial training of mentor	
Medicine	121 (53.1%)
Educational Sciences	41 (18.0%)
Health Sciences	35 (15.4%)
Psychology	24 (10.5%)
Biomedical Sciences	18 (7.9%)
Basic Sciences	13 (5.7%)
Social Sciences	10 (4.4%)
Allied Health Professions	8 (3.5%)
Public Health	6 (2.6%)
Nursing Sciences	2 (0.9%)
Pharmacy	2 (0.9%)
Other	22 (9.6%)
Current main profession	
Clinician	81 (35.5%)
Researcher	45 (19.7%)
Teacher/Educator	42 (18.4%)
Educationalist	23 (10.1%)
PhD Candidate	16 (7.0%)
Basic Scientist	5 (2.2%)
Other	16 (7.0%)

Table 2 Mentoring and mentor setting characteristics of the 228 respondents to the MERIT survey.

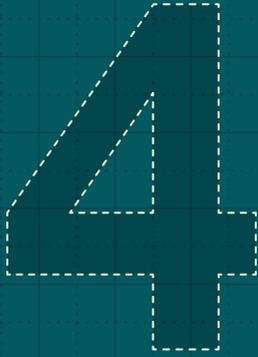
Variable	No. of respondents (% of 228)
Educational Program in which mentor mentors	
Medicine	137 (60.1%)
Health Sciences	33 (14.5%)
Educational Sciences	22 (9.6%)
Biomedical Sciences	19 (8.3%)
Allied Health Professions	5 (2.2%)
Pharmacy	2 (0.9%)
Public Health	1 (0.4%)
Dentistry	1 (0.4%)
Other	8 (3.5%)
Country in which mentor mentors (per continent)	
Europe	168 (73.3%)
North America	43 (18.9%)
Australia	8 (3.5%)
Asia	6 (2.6%)
Africa	3 (1.3%)
Years of mentoring experience	
0-5	99 (43.4%)
6-10	64 (28.1%)
11-15	31 (13.6%)
16-20	14 (6.1%)
21-25	13 (5.7%)
26-30	7 (3.1%)
31-35	2 (0.9%)
36-40	1 (0.4%)
41-45	0 (0.0%)
46-50	0 (0.0%)
51-55	0 (0.0%)
56-60	1 (0.4%)
Mentor assesses mentee	
Yes	180 (78.9%)
No	41 (18.0%)
Don't know	7 (3.1%)

Table 3 Mean, median, mode and *SD* on item level, frequencies of answers given per MERIT item. List ordered from highest to lowest average.

ITEM	Mean	Median	Mode	Standard Deviation	Factor	Frequencies per answer value (1 to 5)				
						Not at all true of me	Slightly true of me	Somewhat true of me	Mostly true of me	Completely true of me
The personal development of my mentee is extremely important for me as mentor.	4.5	5	5	0.72	1	1	3	16	74	134
The amount of support I provide depends on the needs of each of my mentees.	4.4	5	5	0.73	-	1	5	12	84	126
Helping my mentees develop into their own individual person is my reason to mentor.	4.4	5	5	0.81	1	2	6	18	79	123
Helping my mentees envision what kind of professional they want to be in the future is my reason to mentor.	4.4	4	5	0.77	1	1	6	18	91	112
If my mentees fail to meet expected performance standards, I will let them know.	4.2	4	5	0.93	4	5	10	22	94	97
Helping my mentees become better learners is my reason to mentor.	4.1	4	4	0.77	1	1	5	32	112	78
I can help my mentees to solve problems	4.1	4	4	0.75	-	-	10	22	126	70
Helping my mentees optimize their wellbeing is my reason to mentor.	4.1	4	4	0.81	1	2	5	39	109	73
I help my mentees gain better understanding of the results of their actions.	4.1	4	4	0.78	4	1	8	32	120	67
I provide my mentees with insights into how the academic world works.	4.1	4	4	0.87	2	3	9	36	106	74

Table 3 Continued.

ITEM	Mean	Median	Mode	Standard Deviation	Factor	Frequencies per answer value (1 to 5)				
						Not at all true of me	Slightly true of me	Somewhat true of me	Mostly true of me	Completely true of me
It is my mentees' own responsibility to ask me for advice if they have any questions	4.0	4	4	0.90	3	1	20	24	114	69
I am my mentees' trusted person within the university.	4.0	4	4	0.91	4	3	12	44	100	69
I am a sort of "help desk" for my students, providing them with information or referring them to resources.	3.9	4	4	0.92	2	2	20	35	109	62
Having access to progress indicators of my mentee is critical for me as mentor.	3.9	4	4	1.00	4	5	17	50	88	68
I advise my mentees what they should do based on my own experiences	3.7	4	4	0.93	2	2	31	43	116	36
There is a limit to the amount of support I am prepared to give to my mentees.	3.7	4	4	1.12	3	13	30	28	110	47
My relationship with my mentees is based on an equal power balance.	3.6	4	4	1.01	-	3	39	46	101	39
I want my mentees to adhere to my professional norms.	3.6	4	4	0.92	2	5	27	58	112	26
I cannot solve problems for my mentees, they have to do that themselves.	3.4	4	4	1.12	3	13	38	50	91	36
If my mentees want feedback on how they are doing, they should ask me for it.	3.2	3	4	1.17	2	15	57	55	66	35
Overall	3.97	4.11	4.26	0.89						



MENTORING IS IN THE 'I' OF THE BEHOLDER: SUPPORTING MENTORS IN REFLECTING ON THEIR ACTUAL AND PREFERRED WAY OF MENTORING

Published as:

Loosveld, L. M., Driessen, E. W., Vanassche, E., Artino, A. R., & Van Gerven, P. W. M. (2022). Mentoring is in the 'I' of the beholder: supporting mentors in reflecting on their actual and preferred way of mentoring. *BMC Medical Education*, 22, 638. <https://doi.org/10.1186/s12909-022-03690-3>

ABSTRACT

Background

An important strategy to support the professional development of mentors in health professions education is to encourage critical reflection on what they do, why they do it, and how they do it. Not only the ‘how’ of mentoring should be covered, but also the implicit knowledge and beliefs fundamental to the mentoring practice (a mentor’s personal interpretative framework). This study analyzed the extent to which mentors perceive a difference between how they actually mentor and how they prefer to mentor.

Methods

The MERIT (MEntor Reflection Instrument) survey (distributed in 2020, $N = 228$), was used to ask mentors about the how, what, and why of their mentoring in two response modes: (1) regarding their actual mentoring practice and (2) regarding their preferred mentoring practice. With an analysis of covariance, it was explored whether potential discrepancies between these responses were influenced by experience, profession of the mentor, and curriculum-bound assessment requirements.

Results

The averaged total MERIT score and averaged scores for the subscales ‘Supporting Personal Development’ and ‘Monitoring Performance’ were significantly higher for preferred than for actual mentoring. In addition, mentors’ experience interacted significantly with these scores, such that the difference between actual and preferred scores became smaller with more years of experience.

Conclusions

Mentors can reflect on their actual and preferred approach to mentoring. This analysis and the potential discrepancy between actual and preferred mentoring can serve as input for individual professional development trajectories.

INTRODUCTION

Mentors in health professions education are faculty who support their mentees' personal and professional development [1-6]. They can influence the career of the next generation of healthcare providers, making the professional development of mentors a key priority for health professions programs. An important strategy to support mentors' professional development is encouraging critical reflection on what they do, why they do it, and how they do it [7-14]. Research on reflection in and beyond health professions has convincingly shown that the connection between mentors' representations of their mentoring practice and their actual enactment of practice is rather loose [13, 14]. There often is a gap between what practitioners want or intend to do in practice and what they actually do [15]. Research suggests a myriad of explanations for these gaps, including institutional, curricular or collegial role expectations that conflict with mentors' personal understandings of good mentoring [16, 17], but also routinized individual and group behaviors and a lack of understanding of the beliefs that tacitly underpin practice [18, 19]. Critical reflection is crucial for mentors to identify the beliefs governing their actions, critically examine them, and explore alternatives for practice. It might help mentors to map and better understand the gap between the expressed and the realized, and if desirable, also close this gap [20, 21]. It is, however, not self-evident that mentors, often supporting their mentees to become reflective practitioners, are proficient themselves at reflecting on their experiences [1, 7]. Both the readiness and the ability to critically reflect on one's own mentoring practice and the beliefs and knowledge underpinning this practice differ between mentors [7, 10], indicating a need for supporting mentors in this reflection process as part of their professional development.

To help mentors make the "what, why, and how" of their actual practice explicit, and explore the implicit system of knowledge and beliefs underpinning practice, we developed a survey called MERIT: MEntor Reflection InstrumenT [4]. The intent of the MERIT is not to measure underlying psychological constructs, but rather to promote mentors' reflection on their role. Its development resulted in the identification of four 'focus points' in mentors' reflection on their mentoring practice: (1) supporting personal development, (2) modelling professional development, (3) fostering autonomy, and (4) monitoring performance [4].

The MERIT draws on research in the field of mentoring as well as our own empirical work on mentors' *personal interpretative framework*. Kelchtermans [22] describes this framework as a lens that teachers use to interpret and interact with their professional context. At the same time, the lens is influenced by that professional context too. It includes two dimensions with multiple underlying components, allowing for a more dynamic understanding of mentors' sense of self than the related notion of teacher identity. The first dimension of the personal interpretative framework is *professional*

self-understanding. This is the understanding mentors have of themselves as mentors at a certain point in time (the ‘what’ and ‘why’ of their mentoring). The second dimension, *subjective educational theory*, encompasses a mentor’s personal system of knowledge and beliefs about the way they mentor (the ‘how’) [22]. This multidimensional, dynamic view closely aligns with how van Lankveld, Thampy, Cantillon, Horsburgh and Kluijtmans [23] conceptualize teacher identity: as “both an understanding and as a presentation of oneself, shaped and reshaped in constant dialogue between a person and their social environment” (p. 2). Along similar lines, the personal interpretative framework is dynamic, rather than static, as it results from the meaningful interactions between mentors and their professional working context.

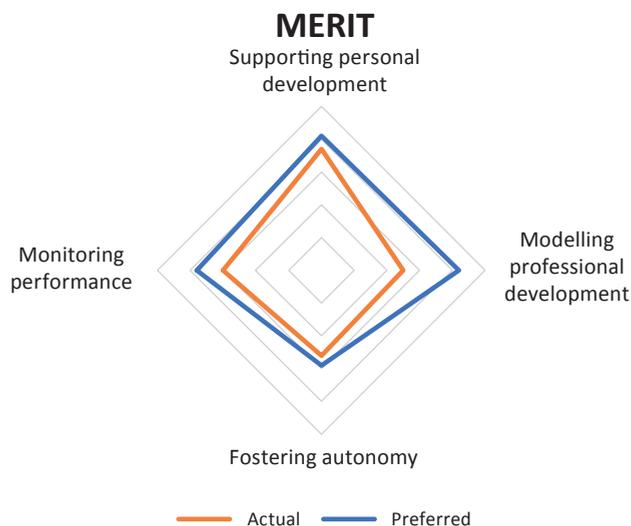
In the current article, we report on additional data about ‘preferred mentoring’ gathered during the MERIT development study [4]. With this additional data from this same sample of mentors we investigated the extent to which they experienced a gap between their actual and preferred mentoring. We base our analysis on the following two research goals: First, we evaluated whether mentors experience a discrepancy between their actual and preferred approach to mentoring. Second, we explored whether any discrepancy between actual and preferred mentoring is associated with mentors’ experience measured in years, their profession (e.g., educationalist, researcher, or physician), or the requirement to assess the performance of their mentees (e.g., a mentee’s portfolio in a programmatic assessment setting) [3, 24-28].

MATERIALS AND METHODS

Respondents

We invited mentors in health professions education to participate. In this article, our target population of mentors in health professions education is defined as faculty members who have a formal mentoring relationship with one or multiple (under)graduate students. The focus of this relationship is on supporting competence development and stimulating reflection (after Nicholls [2]). Respondents mentoring postgraduate students or mentoring outside the domain of health professions education were excluded from the sample, but no further exclusion criteria applied. Respondents were provided with a participant information letter, and a signed online informed consent was obtained from all respondents. All mentors who indicated that they were interested in receiving their survey results were sent an e-mail with an explanation and a radar chart (Figure 1), summarizing their individual results. The chart presented the difference between their actual and their preferred mentoring through colored lines.

Figure 1 A Simulated Radar Chart of the MERIT Data. The Depicted Data do not Belong to any of the Respondents in This Study and Were Generated for Illustrative Purposes Only.



Survey information

An extensive description of the design, distribution, and analysis of the psychometric properties of the survey can be found in Loosveld, Van Gerven, Driessen, Vanassche, Artino (2021). The survey was designed based on previous qualitative work with mentors in health professions education [28] and an extensive review of the literature on mentoring. It has been pre-tested and piloted, and the internal structure and reliability of the final survey have been assessed based on responses from an international sample of mentors [4]. The MERIT is composed of 20 items that use a five-point, Likert-type response scale: 'this item is' (1) not at all true of me – (2) slightly true of me – (3) somewhat true of me – (4) mostly true of me – (5) completely true of me [29]. A higher score thus indicates that mentors identify more with that particular item. Please see Appendix 1 for MERIT questions.

Sampling and survey distribution

A link to the online MERIT survey, which was hosted on Qualtrics (Provo, Utah), was distributed via Twitter accounts of the researchers (around 4,000 cumulative followers), LinkedIn (around 800 connections), and via 128 e-mails to contact persons between November 2019 and March 2020. Because of this distribution via contact persons and social media, the exact overall denominator was unknown, as a result of which it was impossible to calculate the overall response rate. As this study did not intend to characterize a population, the lack of response rate was considered less problematic [30].

Procedure

Upon signing informed consent, mentors entered an online survey environment where they were presented with each MERIT item twice. In each of those two instances, the question had to be answered in a specific response mode: the first time the respondents reported about their own *actual* mentoring practice and the second time, immediately after the first time, respondents were asked to envision their *preferred* mentoring. We included the following instruction to explain the two response modes:

Considering how you mentor, how true or untrue are these following 20 statements for you?

In the first set of answers, think about how you actually, currently act as a mentor, not how you ideally would want to or should act (that is, not based on either theory or how your colleagues mentor others).

The second set of answers allows you to indicate how you would prefer to mentor.

The answers to these two questions can be the same, but there can also be a difference between them. There are, however, no wrong answers to any of these questions.

Eight demographic questions and two open-ended questions about the content and design of the survey concluded the survey. The factor structure within the set of survey items was previously determined via Principal Access Factoring and the internal consistency reliability of the subscale scores evaluated using Cronbach's alpha [4]. Based on the Principal Access Factoring, the four subscales of the MERIT were determined to be: (1) *supporting personal development*, with survey items on the personal development of mentees, (2) *modelling professional development*, with items about providing insight on how academia works (3) *fostering autonomy* about advice-seeking and problem-solving, and (4) *monitoring performance*, about accessing and understanding performance data. An extensive description of the design, distribution, and analysis of the psychometric properties of the survey can be found in Loosveld, Van Gerven, Driessen, Vanassche, Artino (2021).

Analysis

To reach our current research objectives, we ran one-way analyses of covariance (ANCOVA) with Response Mode (levels: Actual, Preferred) as the within-groups independent variable. The dependent variables were the average score on the entire

MERIT survey, as well as average scores for the four subscales, based on MERIT factors. We included three covariates in our model: (1) Experience, (2) Main Profession, and (3) Assessment. Experience was the amount of mentoring experience in years. Main Profession was defined as the profession that mentors primarily identified with (Basic scientist, Researcher, Physician, Teacher/Educator, Educationalist, Sociologist, Psychologist, PhD-candidate, Other). Assessment, finally, indicated whether mentors were required to assess their mentee or not (Yes, No, Do not know). SPSS statistical software, version 25 (IBM Corporation, New York) and Microsoft Excel 2016 (Microsoft Corporation, Redmond, Washington) were used for data analysis and data management.

Ethical Approval

This research was approved by the Maastricht University Ethics Review Committee (UM-REC), file number: FHML-REC/2019/033, October 1, 2019.

RESULTS

After removing the data of four respondents mentoring outside the field of health professions education, 228 fully completed surveys remained for analysis.

Demographics

Our sample consisted of 77 (34%) mentors who identified as men and 148 (65%) who identified as women. One mentor indicated 'other' as their gender and two other mentors did not identify their gender (1%). The mean age of the respondents was 46.4 years (range = 26-72 years; three mentors did not reveal their age). As can be seen from Table 1, some mentors in our sample indicated being quite experienced, but given that it is not uncommon for health professionals to continue mentoring well after their retirement [31, 32], we did not consider their responses as inaccurate or erroneous. Since we did not require a specific minimum or maximum number of years of mentoring experience in order to participate in our study, we had no way to control how many junior or senior mentors participated in our study. Given that we invited mentors from the health professions education domain, it is not surprising that there is a relatively large proportion of mentors (35.5%) who identified 'physician' as their main profession. Additional information on mentors' professional working context and personal demographics can be found in Table 1.

Table 1 Features of Professional Working Context and Personal Demographics of the 228 MERIT Survey Respondents.

Variable	No. of respondents (% of 228)
Initial training of mentor	
Medicine	121 (53.1%)
Educational Sciences	41 (18.0%)
Health Sciences	35 (15.4%)
Psychology	24 (10.5%)
Biomedical Sciences	18 (7.9%)
Basic Sciences	13 (5.7%)
Social Sciences	10 (4.4%)
Allied Health Professions	8 (3.5%)
Public Health	6 (2.6%)
Nursing Sciences	2 (0.9%)
Pharmacy	2 (0.9%)
Other	22 (9.6%)
Current main profession	
Physician	81 (35.5%)
Researcher	45 (19.7%)
Teacher/Educator	42 (18.4%)
Educationalist	23 (10.1%)
PhD Candidate	16 (7.0%)
Basic Scientist	5(2.2%)
Other	16 (7.0%)
Educational Program in which mentor mentors	
Medicine	137 (60.1%)
Health Sciences	33 (14.5%)
Educational Sciences	22 (9.6%)
Biomedical Sciences	19 (8.3%)
Allied Health Professions	5 (2.2%)
Pharmacy	2 (0.9%)
Public Health	1 (0.4%)
Dentistry	1 (0.4%)
Other	8 (3.5%)

Table 1 Continued.

Variable	No. of respondents (% of 228)
Country in which mentor mentors (per continent)	
Europe	168 (73.3%)
North America	43 (18.9%)
Australia	8 (3.5%)
Asia	6 (2.6%)
Africa	3 (1.3%)
Years of mentoring experience *	
0-5	99 (43.4%)
6-10	64 (28.1%)
11-15	31 (13.6%)
16-20	14 (6.1%)
21-25	13 (5.7%)
26-30	7 (3.1%)
31-35	2 (0.9%)
36-40	1 (0.4%)
41-45	0 (0.0%)
46-50	0 (0.0%)
51-55	0 (0.0%)
56-60	1 (0.4%)
Mentor assesses mentee	
Yes	180 (78.9%)
No	41 (18.0%)
Don't know	7 (3.1%)

* Note: For the sake of brevity, this variable is shown in categorical units. It is analyzed as a continuous variable.

Total MERIT score

The results of the ANCOVA yielded a significant main effect of Response Mode, $F(1, 224) = 15.20, p < .001, \eta_p^2 = .064$, indicating that the average total MERIT score was higher in the Preferred ($M = 4.12, SD = .34$) than in the Actual ($M = 3.96, SD = .36$) response mode (see Tables 2 and 3). The covariate Experience did not have a significant main effect on the total MERIT score, $F(1, 224) = 1.38, p = .241, \eta_p^2 = .006$, and neither did the other two covariates, Main Profession and Assessment ($F_s < 1$).

Table 2 Mean MERIT Scores on Total and Subscale Level

	<i>M</i>	<i>SD</i>
Total MERIT score: Actual	3.96	0.36
Total MERIT score: Preferred	4.12	0.34
Supporting Personal Development: Actual	4.29	0.55
Supporting Personal Development: Preferred	4.53	0.45
Modelling Professional Development: Actual	3.68	0.58
Modelling Professional Development: Preferred	3.67	0.64
Fostering Autonomy: Actual	3.70	0.71
Fostering Autonomy: Preferred	3.76	0.74
Monitoring Performance: Actual	4.02	0.59
Monitoring Performance: Preferred	4.36	0.55

Table 3 Main Effects of Response Mode and Covariates on Total MERIT Score

	<i>F</i>	<i>p</i>	η_p^2
Response Mode	15.20	.000***	.064
Experience	1.38	.241	.006
Main profession	0.00	.960	.000
Assessment	0.84	.359	.004

* $p < .05$; ** $p < .01$; *** $p < .001$

There was however, a significant Response Mode \times Experience interaction, $F(1, 224) = 4.76$, $p = .030$, $\eta_p^2 = .021$, suggesting that the effect of Response Mode – that is, the discrepancy between Actual and Preferred MERIT scores – became smaller with more years of experience (see Figure 2 for a representation of the interaction pattern). The other three covariates did not show significant results (see Table 4).

Figure 2 Difference in the Overall Mean Score on the MERIT Between the Actual and Preferred Response Mode (i.e., Preferred – Actual) as a Function of Experience in Years.

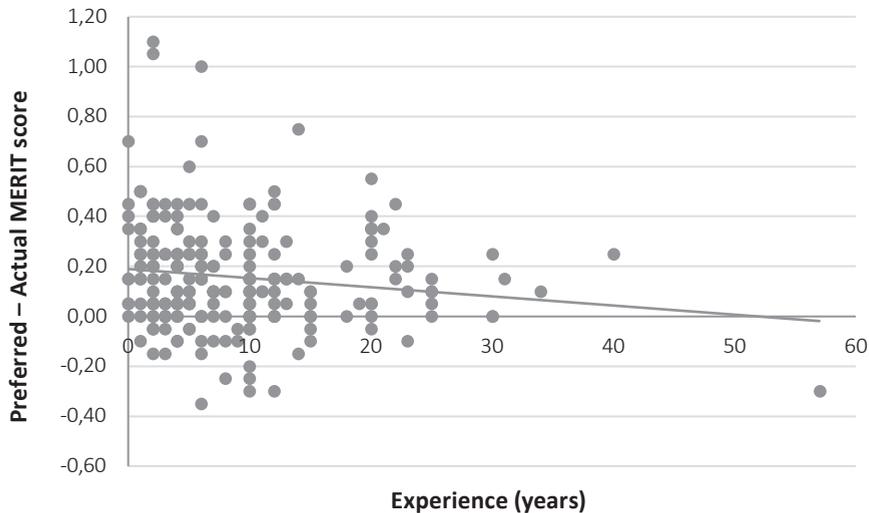


Table 4 Interactions Between Response Mode and the Three Covariates for Total MERIT Scores.

Dependent variable	Interaction	F	p	η_p^2
Total MERIT score	Response Mode × Experience	4.76	.030*	.021
	Response Mode × Main Profession	0.50	.481	.002
	Response Mode × Assessment	0.39	.536	.002

* $p < .05$, ** $p < .01$, *** $p < .001$

MERIT subscale scores

The ANCOVAs of two of the four factors, Supporting Personal Development and Monitoring Performance, yielded significant main effects of Response Mode. Results for Supporting Personal Development were $F(1, 224) = 13.75, p < .001, \eta_p^2 = .058$, indicating that mentors' score on this factor was higher for Preferred than for Actual mentoring. For Monitoring Performance, mentors' Preferred scores were again higher than Actual scores, $F(1, 224) = 13.01, p < .001, \eta_p^2 = .055$ (see Table 5). The covariate Main Profession was found to have a significant main effect on Fostering Autonomy,

$F(1, 224) = 12.99, p < .001, \eta_p^2 = .055$. The other covariates did not show main effects on any of the four factors ($F_s < 1$) (see Table 5 for a complete overview of main effects of the covariates).

Table 5 Main effect of Response Mode and Covariates on MERIT Subscale Scores

Dependent variable	Main effect	<i>F</i>	<i>p</i>	η_p^2
Supporting Personal Development	Response Mode	13.75	.000***	.058
	Experience	0.60	.438	.003
	Main profession	0.02	.886	.000
	Assessment	0.00	.962	.000
Modelling Professional Development	Response Mode	0.01	.918	.000
	Experience	0.04	.840	.000
	Main profession	0.76	.384	.003
	Assessment	0.88	.349	.004
Fostering Autonomy	Response Mode	1.79	.182	.008
	Experience	1.67	.197	.007
	Main profession	12.99	.000***	.055
	Assessment	0.05	.821	.000
Monitoring Performance	Response Mode	13.04	.000***	.055
	Experience	2.91	.089	.013
	Main profession	2.09	.149	.009
	Assessment	3.98	.047	.017

* $p < .05$, ** $p < .01$, *** $p < .001$

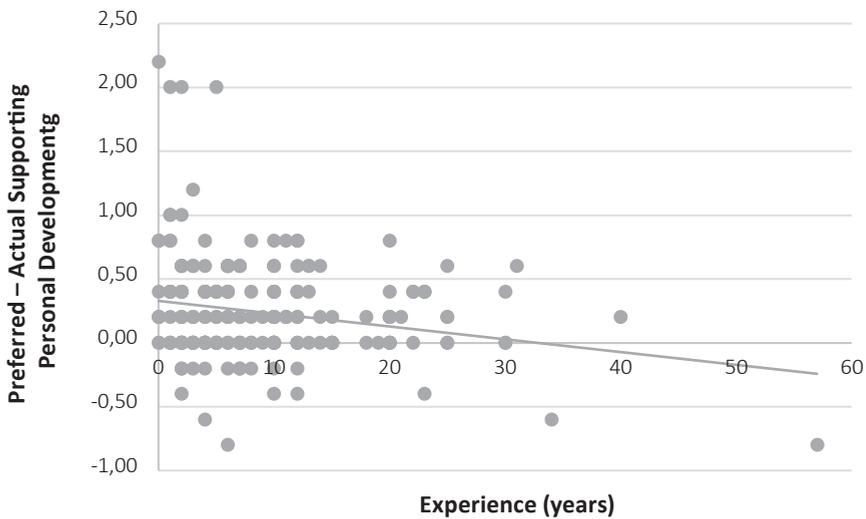
Response Mode did not interact with Main Profession or Assessment ($F_s < 1$), suggesting that these covariates did not affect the discrepancy between Actual and Preferred MERIT scores (see Table 6). For Supporting Personal Development there was a significant Response mode \times Experience interaction, $F(1, 224) = 10.55, p = .001, \eta_p^2 = .045$, again suggesting that the effect of Response Mode, on the level of Supporting Personal Development, became smaller with more years of Experience (see Figure 3 for a representation of the interaction pattern). A significant Response mode \times Experience interaction in that same direction was found for the subscale Monitoring Performance, $F(1, 224) = 4.33, p = .039, \eta_p^2 = .019$, although this interaction did not survive Bonferroni correction. No further interactions between response mode and covariates were found. Table 6 includes the full overview of interactions.

Table 6 Interactions Between Response Mode and the Three Covariates on MERIT Subscale Level.

Dependent variable	Interaction	F	p	η_p^2
Supporting Personal Development	Response Mode × Experience	10.55	.001*** ^a	.045
	Response Mode × Main Profession	0.86	.354	.004
	Response Mode × Assessment	0.64	.423	.003
Modelling Professional Development	Response Mode × Experience	0.18	.673	.001
	Response Mode × Main Profession	0.09	.767	.000
	Response Mode × Assessment	0.00	.992	.000
Fostering Autonomy	Response Mode × Experience	0.84	.362	.004
	Response Mode × Main Profession	0.10	.754	.000
	Response Mode × Assessment	2.95	.087	.013
Monitoring Performance	Response Mode × Experience	4.33	.039*	.019
	Response Mode × Main Profession	0.56	.455	.002
	Response Mode × Assessment	3.22	.074	.014

* $p < .05$, ** $p < .01$, *** $p < .001$. ^a Remains significant after Bonferroni correction.

Figure 3 Difference in the Mean Score on the MERIT Between the Actual and Preferred Response Mode (i.e., Preferred – Actual) on the Subscale Supporting Personal Development as a Function of Experience in Years.



DISCUSSION

Findings from this study suggest that the mentors in our sample perceive a discrepancy between their actual and preferred mentoring. Moreover, mentoring experience significantly moderated this discrepancy: The more years of experience as a mentor, the smaller the discrepancy became. This interaction effect appeared to be driven by responses on the subscale Supporting Personal Development.

It is important to note that we did neither intend to make evaluative statements about mentoring capabilities, nor did we try to uncover the reason behind discrepancies between one's actual and preferred mentoring. Moreover, identified discrepancies between actual and preferred mentoring do not imply that someone is not a good mentor. Rather these discrepancies may indicate conflicting narratives – for example, between professional self-understanding and curriculum requirements –, which could hamper mentors to put their personal knowledge and beliefs into practice [33-35]. Prior research has shown the potentially detrimental effects of not being able to act according to one's personal beliefs for mentors' job motivation and collegial position [13, 16, 36].

Based on these findings, we believe that the merit of the MERIT survey for mentors lies in offering support during their professional development. Critical reflections on experiences from their daily practice can help mentors to identify and prioritize learning needs [15, 37, 38], thereby serving as an entry point for their professional development [12]. This enables mentors to acquire, refine, or broaden their mentor-specific knowledge and skills [28, 39-43]. We therefore argue that not only students [44], but also faculty in medical education should be supported in the reflective process that is foundational to their professional development. Without critical reflection on the how, what, and why of mentoring, faculty development may be nothing more than transferring custom practices and tricks of the trade, without thinking through why, for whom, and under what conditions these approaches (do not) work [2, 45].

A limitation to this study is that we had little means to control who filled out the survey. Even though we asked mentors to respond only when they met our inclusion criteria and we examined the responses for mentors who did not meet the inclusion criteria, we cannot be sure that all respondents indeed fit our description of mentors in health professions education. In addition, despite our efforts to distribute the survey globally, the majority of our respondents fulfilled their mentoring role in Europe (73.3%) or North America (18.9%). Therefore, our sample may not reflect a worldwide representation of mentors in health professions education and we cannot rule out the influence of, for example, local administrative rules and regulations. However, given the context specificity of the personal interpretative framework, we argue that an accurate representation of how individual mentors perceive their mentoring only exists within the specific professional working context of that mentor.

Another limitation of this study is that we were not able to analyze how mentors interpreted or explained their reflections. Follow-up research could therefore take a more explanatory approach, where mentors are asked to reflect on their mentoring practice and then, together with an interviewer, explore their answers and discuss how those answers shape their personal interpretative framework. Because of our quantitative approach, we also do not know whether there are other factors that might influence mentors' actual and preferred mentoring. Given the personalized and contextualized nature of mentoring, this is an avenue that warrants further exploration.

CONCLUSION

The perceived discrepancy between actual and preferred mentoring of the mentors in our sample is influenced by their years of experience: More experienced mentors perceive a smaller discrepancy between their actual and preferred mentoring. This discrepancy could guide faculty development initiatives that involve active and collaborative formats to help mentors discuss, reinforce, and challenge their personal interpretative framework.

REFERENCES

1. Šaric M, Šteħ B. Critical Reflection in the Professional Development of Teachers: Challenges and Possibilities. *Center for Educational Policy Studies Journal*. 2017;7(3):67-85.
2. Nicholls G. Mentoring: the art of teaching and learning. In: Jarvis P, editor. *The Theory & Practice of teaching*. Abingdon: Routledge; 2006. p. 157-68.
3. Balmer DF, Darden A, Chandran L, D'Alessandro D, Gusic ME. How Mentor Identity Evolves: Findings From a 10-Year Follow-up Study of a National Professional Development Program. *Academic medicine: journal of the Association of American Medical Colleges*. 2018;93(7):1085-90.
4. Loosveld LM, Van Gerven PWM, Driessen EW, Vanassche E, Artino AR. MERIT: a mentor reflection instrument for identifying the personal interpretative framework. *BMC Med Educ*. 2021;21(1):144.
5. Dimitriadis K, von der Borch P, Störmann S, Meinel FG, Moder S, Reincke M, et al. Characteristics of mentoring relationships formed by medical students and faculty. *Medical Education Online*. 2012; 17(1):17242.
6. National Academies of Sciences E, Medicine. *The Science of Effective Mentorship in STEM*. Byars-Winston A, Dahlberg ML, editors. Washington, DC: The National Academies Press; 2019. 306 p.
7. Van Eekelen IM, Vermunt JD, Boshuizen HPA. Exploring teachers' will to learn. *Teaching and Teacher Education*. 2006;22(4):408-23.
8. Dugdill L, Coffey M, Coufopoulos A, Byrne K, Porcellato L. Developing new community health roles: can reflective learning drive professional practice? *Reflective Practice*. 2009;10(1):121-30.
9. Clayton P, Ash S. Reflection as a key component in faculty development. *On The Horizon - The Strategic Planning Resource for Education Professionals*. 2005;13(3):161-9.
10. Rogers RR. Reflection in Higher Education: A Concept Analysis. *Innovative Higher Education*. 2001; 26(1):37-57.
11. Kelchtermans G. Getting the Story, Understanding the Lives: From Career Stories to Teachers' Professional Development. *Teaching and Teacher Education*. 1993;9(5-6):443-56.
12. Fornari A, Murray TS, Menzin AW, Woo VA, Clifton M, Lombardi M, et al. Mentoring program design and implementation in new medical schools. *Medical Education Online*. 2014;19(1):24570.
13. Orland-Barak L, Klein S. The expressed and the realized: Mentors' representations of a mentoring conversation and its realization in practice. *Teaching and Teacher Education*. 2005;21(4):379-402.
14. Aspfors J, Fransson G. Research on mentor education for mentors of newly qualified teachers: A qualitative meta-synthesis. *Teaching and Teacher Education*. 2015;48:75-86.
15. Schon DA, DeSanctis V. *The Reflective Practitioner: How Professionals Think in Action*. *The Journal of Continuing Higher Education*. 1986;34(3):29-30.
16. Vanassche E, Kelchtermans G. A narrative analysis of a teacher educator's professional learning journey. *European Journal of Teacher Education*. 2016;39(3):355-67.
17. Steinert Y, Mann K, Anderson B, Barnett BM, Centeno A, Naismith L, et al. A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update: BEME Guide No. 40. *Medical teacher*. 2016;38(8):769-86.
18. Hafler JP, Ownby AR, Thompson BM, Fasser CE, Grigsby K, Haidet P, et al. Decoding the Learning Environment of Medical Education: A Hidden Curriculum Perspective for Faculty Development. *Academic Medicine*. 2011;86(4):440-4.
19. McLeod PJ, Meagher T, Steinert Y, Schuwirth L, McLeod AH. The Clinical TeacherClinical teachers' tacit knowledge of basic pedagogic principles. *Medical Teacher*. 2004;26(1):23-7.
20. Bradbury LU. Educative mentoring: Promoting reform-based science teaching through mentoring relationships. *Science Education*. 2010;94(6):1049-71.
21. Wang J, Odell SJ. Learning to Teach toward Standards-Based Writing Instruction: Experiences of Two Preservice Teachers and Two Mentors in an Urban, Multicultural Classroom. *The Elementary School Journal*. 2003;104(2):147-74.
22. Kelchtermans G. Who I am in how I teach is the message: self-understanding, vulnerability and reflection. *Teachers and Teaching*. 2009;15(2):257-72.

23. van Lankveld T, Thampy H, Cantillon P, Horsburgh J, Kluijtmans M. Supporting a teacher identity in health professions education: AMEE Guide No. 132. *Medical Teacher*. 2021;43(2):124-36.
24. Jacobs JCG, van Luijk SJ, van der Vleuten CPM, Kusurkar RA, Croiset G, Scheele F. Teachers' conceptions of learning and teaching in student-centred medical curricula: the impact of context and personal characteristics. *BMC Med Educ*. 2016;16(1):244.
25. Jacobs JCG, Wilschut J, van der Vleuten C, Scheele F, Croiset G, Kusurkar RA. An international study on teachers' conceptions of learning and teaching and corresponding teacher profiles. *Medical Teacher*. 2020;42(9):1000-4.
26. Jacobs JCG, van Luijk SJ, Galindo-Garre F, Muijtjens AMM, van der Vleuten CPM, Croiset G, et al. Five teacher profiles in student-centred curricula based on their conceptions of learning and teaching. *BMC Med Educ*. 2014;14(1):220.
27. Meeuwissen SNE, Stalmeijer RE, Govaerts M. Multiple-role mentoring: mentors' conceptualisations, enactments and role conflicts. *Medical Education*. 2019;0(0).
28. Loosveld LM, Van Gerven PWM, Vanassche E, Driessen EW. Mentors' Beliefs About Their Roles in Health Care Education: A Qualitative Study of Mentors' Personal Interpretative Framework. *Academic Medicine*. 2020;95(10):1600-6.
29. Artino AR, Jr., La Rochelle JS, Dezee KJ, Gehlbach H. Developing questionnaires for educational research: AMEE Guide No. 87. *Med Teach*. 2014;36(6):463-74.
30. Baker R, Brick JM, Bates NA, Battaglia M, Couper MP, Dever JA, et al. Summary Report of the AAPOR Task Force on Non-probability Sampling. *Journal of Survey Statistics and Methodology*. 2013;1(2):90-143.
31. Bank I, de Leeuw JP, Lijfering WM, de Bois MHW, van Woerkom TCAM, Wijnen-Meijer M. Are retired physicians suitable for the coaching of clerks? *International journal of medical education*. 2017;8:343-50.
32. Stearns J, Everard KM, Gjerde CL, Stearns M, Shore W. Understanding the Needs and Concerns of Senior Faculty in Academic Medicine: Building Strategies to Maintain This Critical Resource. *Academic Medicine*. 2013;88(12):1927-33.
33. Sambunjak D, Straus SE, Marusic A. A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *J Gen Intern Med*. 2010;25(1):72-8.
34. Vleuten CPM. When I say ... context specificity. *Medical Education*. 2014;48(3):234-5.
35. Mishler EG. Meaning in context: Is there any other kind? *Harvard Educational Review*. 1979;49(1):1-19.
36. Vanassche E, Kelchtermans G. Facilitating self-study of teacher education practices: toward a pedagogy of teacher educator professional development. *Professional Development in Education*. 2015;42(1):100-22.
37. Fleming P. Reflection a neglected art in health promotion. *Health education research*. 2007;22(5):658-64.
38. Schaepkens SPC, Veen M, de la Croix A. Is reflection like soap? a critical narrative umbrella review of approaches to reflection in medical education research. *Advances in Health Sciences Education*. 2021.
39. Ramani S, Gruppen L, Kachur EK. Twelve tips for developing effective mentors. *Medical Teacher*. 2006;28(5):404-8.
40. Heeneman S, de Grave W. Development and initial validation of a dual-purpose questionnaire capturing mentors' and mentees' perceptions and expectations of the mentoring process. *BMC Med Educ*. 2019;19(1):133.
41. Skjevik EP, Boudreau JD, Ringberg U, Schei E, Stenfors T, Kvernenes M, et al. Group mentorship for undergraduate medical students—a systematic review. *Perspectives on Medical Education*. 2020; 9(5):272-80.
42. Driessen EW, Overeem K, van der Vleuten CPM. Get yourself a mentor. *Medical Education*. 2011;45(5):438-9.
43. Pfund C, Maidl Pribbenow C, Branchaw J, Miller Lauffer S, Handelsman J. The merits of training mentors. *Science (New York, NY)*. 2006;311(5760):473-4.
44. Brydges R, Butler D. A reflective analysis of medical education research on self-regulation in learning and practice. *Medical Education*. 2012;46(1):71-9.
45. Sheri K, Too JYJ, Chuah SEL, Toh YP, Mason S, Radha Krishna LK. A scoping review of mentor training programs in medicine between 1990 and 2017. *Medical Education Online*. 2019;24(1):1555435.

APPENDIX 1: MERIT SURVEY QUESTIONS

Answer options (presented as radio buttons in online survey):

1. Completely untrue for me
2. Somewhat untrue for me
3. Neither true nor untrue for me
4. Somewhat true for me
5. Completely true for me

Why I mentor

My reason to mentor is to help my mentees develop into their own individual person.

My reason to mentor is to help my mentees optimize their wellbeing.

My reason to mentor is to help my mentees become better learners.

My reason to mentor is to help my mentees envision what kind of professional they want to be in the future.

Who I am and what I do as mentor

As a mentor, I am a sort of “help desk” for my students, providing them with information or referring them to resources.

As a mentor, I provide my mentees with insights into how the academic world works.

As a mentor, I help my mentees gain better understanding of the results of their actions.

As a mentor, I am my mentees’ trusted person within the university.

What is important for me as mentor

For me as mentor, the personal development of my mentee is extremely important.

For me as mentor, having access to progress indicators of my mentee is critical.

Advice and problem solving

It is my mentees’ own responsibility to ask me for advice if they have any questions

I advise my mentees what they should do based on my own experiences

I cannot solve problems for my mentees, they have to do that themselves.

I can help my mentees to solve problems

Feedback

If my mentees fail to meet expected performance standards, I will let them know.

If my mentees want feedback on how they are doing, they should ask me for it.

Providing support

I want my mentees to adhere to my professional norms.

My relationship with my mentees is based on an equal power balance.

The amount of support I provide depends on the needs of each of my mentees.
There is a limit to the amount of support I am prepared to give to my mentees.

Demographic and general questions:

- In which educational program do you primarily mentor?
- In which country do you primarily mentor?
- How many years of mentoring experience do you have?
- Do you have to assess your mentee (on any aspect of their functioning)?
- What is your year of birth?
- What is your gender?
- What is your own initial training (multiple answers possible)?
- What do you see as your current 'main profession' (please select one option)?
- You have now answered a number of items on mentoring. These items may or may not have encompassed the full complexity of your daily mentoring practice. Are there any aspects of mentoring that were not (sufficiently) covered in this survey?
- Are there any remarks you would wish to make on this survey (e.g. design, complexity, etc.)?
- Are you interested in receiving your personal answers to this survey?



COMBINING SUPPORT AND ASSESSMENT IN HEALTH PROFESSIONS EDUCATION: MENTORS' AND MENTEES' EXPERIENCES IN A PROGRAMMATIC ASSESSMENT CONTEXT

Published as:

Loosveld LM, Driessen EW, Theys M, Van Gerven PWM, Vanassche E. (2023) Combining Support and Assessment in Health Professions Education: Mentors' and Mentees' Experiences in a Programmatic Assessment Context. *Perspectives on Medical Education*. 12(1): 271–281. DOI: <https://doi.org/10.5334/pme.1004>

ABSTRACT

Introduction

Mentors in programmatic assessment support mentees with low-stakes feedback, which often also serves as input for high-stakes decision making. That process potentially causes tensions in the mentor-mentee relationship. This study explored how undergraduate mentors and mentees in health professions education experience combining developmental support and assessment, and what this means for their relationship.

Methods

The authors chose a pragmatic qualitative research approach and conducted semi-structured vignette-based interviews with 24 mentors and 11 mentees that included learners from medicine and the biomedical sciences. Data were analyzed thematically.

Results

How participants combined developmental support and assessment varied. In some mentor-mentee relationships it worked well, in others it caused tensions. Tensions were also created by unintended consequences of design decisions at the program level. Dimensions impacted by experienced tensions were: relationship quality, dependence, trust, and nature and focus of mentoring conversations. Mentors and mentees mentioned applying various strategies to alleviate tensions: transparency and expectation management, distinguishing between developmental support and assessment, and justifying assessment responsibility.

Discussion

Combining the responsibility for developmental support and assessment within an individual worked well in some mentor-mentee relationships, but caused tensions in others. On the program level, clear decisions should be made regarding the design of programmatic assessment: what is the program of assessment and how are responsibilities divided between all involved? If tensions arise, mentors and mentees can try to alleviate these, but continuous mutual calibration of expectations between mentors and mentees remains of key importance.

INTRODUCTION

Undergraduate mentors in health professions education (HPE) are increasingly involved in the programmatic assessment of their mentees, wherein multiple low-stakes assessments are aggregated to serve as robust input for high-stakes decision making (e.g., receiving course credits or not, passing an entire year, go/no-go decisions on progression to clinical rotations). Mentors can take different approaches to support the personal and professional development of mentees in health professions education (HPE). They can, for example, act as a role model to foster professional behavior, ask questions to stimulate reflection on past performance, support mentees in building a portfolio, help with interpreting feedback from others, and provide feedback themselves [1–9]. In doing so, mentors may unintentionally merge supportive feedback with evidence for performance-based decision making [10–16].

Several authors [9, 16–19] conclude that tensions arise when feedback intended to support the growth of the learner is also used as input for high-stakes decision making such as pass/fail assessments. In some residency programs, where the mutual relationship between the supervisor and the learner could be considered similar to that between an undergraduate mentor and mentee, using feedback for this dual purpose led to changing dynamics between the learner and the supervisor, lower quality of feedback, and increased difficulty for learners to discriminate between low- and high-stakes assessments [17]. Moreover, it made learners change their behavior to please their supervisor, hide vulnerabilities, or avoid seeking feedback on certain aspects of their functioning altogether [9, 12, 20]. Thus, no matter what the assessment intentions were, learners tend to perceive low-stakes feedback as a high-stakes assessment [9, 11, 17, 21, 22].

Furthermore, tensions are not only experienced by learners, but by their teachers and supervisors as well [11, 12, 20, 23]. Especially for mentors, being perceived as both a provider of developmental support and an assessor could have detrimental effects on the mentor-mentee relationship [24–26]. In a study by Schut et al. [11], for example, teachers indicated that they refrained from building close relationships with their students in order to minimize potential personal bias during the assessment process. Purposefully creating distance might hinder a trusting mentor-mentee relationship.

Earlier work on the personal interpretative framework [27] of mentors [24, 25] has demonstrated that mentors actively shape their mentoring practice based on the interaction between their knowledge and beliefs about mentoring, and the context within which they operate. This in turn determines what, to them, are valuable goals and purposes of mentoring. However, conflicting narratives may arise when mentors' task perception and their definition of what it means to be a mentor are misaligned with program requirements such as having to assess mentees. This potentially inhibits mentors from putting their personal knowledge and beliefs about mentoring into

practice, with adverse effects [28–30], such as impacting their self-esteem and future motivation for mentoring [29].

Based on these observations, we argue that entrusting mentors with the support of mentees while also being involved in their programmatic assessment potentially causes tensions for both. Therefore, we investigated what combining these responsibilities means for the mentoring relationship, which is often characterized by open, honest, and, at times, sensitive conversations between mentors and mentees. For this purpose, we interviewed both mentors and mentees in HPE with the following research question in mind: How do undergraduate mentors and mentees experience combining developmental support and assessment in a programmatic assessment context?

METHODS

Design

Because we aimed to describe and understand how undergraduate mentors and mentees experience combining developmental support and assessment, we used a pragmatic qualitative research approach and thematic analysis [31]. We worked from a constructivist philosophical perspective, acknowledging and aiming to understand mentors' and mentees' experiences in and of mentoring, and how they actively make sense of these experiences in interaction with a particular program context [32, 33].

Setting

We purposefully selected undergraduate (pre-clinical) programs from the Faculty of Health, Medicine and Life Sciences at Maastricht University in the Netherlands. We selected those programs in which mentors support mentees' personal and professional development, and were involved in their portfolio-based programmatic assessment. Two programs met these criteria: Medicine and Biomedical Sciences at the Faculty of Health Medicine and Life Sciences.

In both programs, mentors support mentees for the entire three-year duration of their undergraduate program. They support groups of five (Medicine) or nine to 16 mentees (Biomedical Sciences), with whom they meet three to five times a year, both individually and in groups. Mentor-mentee dyad allocations were assigned randomly within the respective programs. Individual meetings focus on development goals formulated by the mentees, and are often based on evidence mentees gather on so-called "reflection cards" in their e-portfolio [34, 35]. Mentors do not observe their mentees in educational or clinical settings. In both programs, mentors are involved in the programmatic assessment process: at the end of each academic year, they are requested to give a pass/fail advice [22]. Mentors base their advice on the meetings they had with mentees throughout the year and the information mentees gathered in

their portfolios (e.g., reflections on experiences, action plans, self-directed learning diaries, progress test results).

Mentors collaborate in that decision making process with a second mentor from the same program with whom they can discuss mentees' progress. In both programs, this 'second pair of eyes' [35] also checks mentees' portfolios and endorses or challenges mentors' end-of-year assessment advice. The assessment advice mentors give is then formalized by a "portfolio assessment committee". This committee holds the authority to either validate or overrule mentors' advice, based on information from the portfolio and/or the second mentor. Generally, the committee adopts the mentors' advice without further adjustments, and directly converts this into a final assessment.

Participants

Within each program, we opted for mentors and mentees involved in the third year of the undergraduate programs, ensuring that they had experienced the full yearly cycle of low and high-stakes assessment at least twice. To contact participants, we used Qualtrics (Provo, Utah) survey software. Using this software, we emailed invitations and reminders to all eligible mentors to participate in this study. Based on convenience sampling, all who confirmed were invited for an interview hosted on Zoom (San Jose, California). Mentees were contacted via the university's learning management system and group messages on social media (WhatsApp, Facebook) distributed by student representatives. All mentees who positively reacted to the invitation and were available for an interview were invited to participate. Mentees received a small digital gift card as a token of appreciation.

The final sample included 24 mentors of which 15 identified as women and nine as men. Mentors from both programs represented a range of professional backgrounds, including, but not limited to, basic scientist, physician, biomedical scientist, health scientist, psychologist, and educationalist. Eleven mentees participated with 10 identifying as women, one as man. Six mentees studied medicine and five studied biomedical sciences.

Data collection

Our interview guide consisted of three sections: (1) open-ended questions about how participants regard their mentoring relationship, (2) exploratory questions guided by a vignette, and (3) questions about the combination of developmental support and assessment in mentoring. The open-ended questions in our interview guide were based on earlier work on mentoring and assessment [11, 21, 25, 26, 36]. The vignette contained a fictitious mentor-mentee conversation combining developmental support and assessment of the mentee. The first version of all interview materials was developed by LL and MT, consistently refined in dialogue with the larger research

team, and piloted with a mentor and a mentee from the target population. Initial piloting resulted in small changes in the wording of some questions. A second pilot with another mentor did not result in further changes. The final versions of the interview guide and vignette can be found in Appendix 1 and Appendix 2.

All interviews were conducted and recorded by LL and MT between January 12 and March 30, 2022. Recurring discussions amongst the research team led us to conclude that after interviewing 24 mentors and 11 mentees we were able to build a rich understanding of how participants experience combining developmental support and assessment, and had reached data sufficiency [37, 38]. The interview recordings were transcribed verbatim and anonymized before further analysis.

Ethical approval

Ethical approval was obtained from the Maastricht University Research Ethics Committee (UM-REC), file number: FHML-REC/2021/106, January 5, 2022.

Data analysis

We used thematic analysis [31, 39, 40] to inductively identify, analyze, interpret, and display the data. LL reread the interview transcripts and process memos and drafted an inductive codebook. With this codebook, a set of five interviews was iteratively coded until no additional codes could be generated from the data. LL and PVG then discussed this codebook regarding completeness, omissions, and clarity, resulting in a refinement of the codebook and recoding of the initial five transcripts, supplemented by another five interviews. The entire research team checked and discussed the codebook. After the team agreed on this version of the codebook, LL coded all remaining transcripts. A list of all codes (translated from Dutch to English) can be found in Appendix 3.

The coded transcripts were used to draw up overviews per participant, based on a further clustering of our codes. With these clusters, we intended to briefly capture how participants experienced developmental support and assessment within mentoring, how they dealt with combining this in daily practice and to summarize participants' most salient comments on support, assessment, and the relationship between those. All transcripts were re-read by LL, and the overviews were enriched with supporting quotes. We used the following eight clusters: (1) role of the mentor, (2) role of the mentee, (3) role of portfolio in mentoring, (4) mentoring goals, (5) meaning of feedback, (6) meaning of assessment, (7) opinion on design of programmatic assessment, and (8) opinion on having to combine support and assessment.

We used ATLAS.ti Version 22 (Scientific Software Development GmbH, Berlin, Germany) and Microsoft Excel 2016 (Microsoft Corporation, Redmond, Washington) to manage data throughout the analysis.

RESULTS

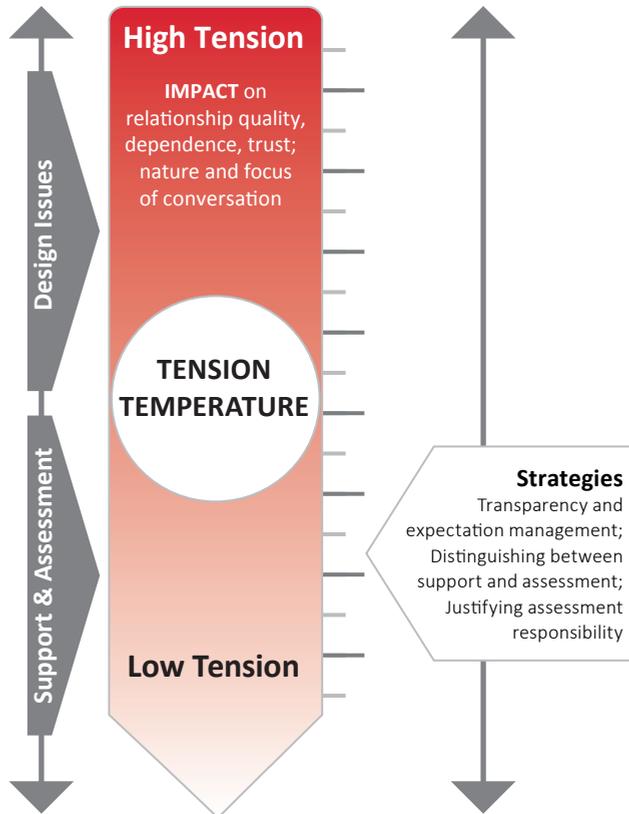
Undergraduate mentors and mentees experienced and dealt with combining developmental support and assessment in different ways. For some mentors, assessment was a well-integrated part of their mentoring. For others, it felt like an additional task, not belonging to what to them mentoring inherently entailed. Mentees expressed similar feelings; for some it was logical that their mentors assessed them, whereas others felt their mentor was not the right person to be entrusted with this task. So, for some participants combining developmental support and assessment worked well, whereas other mentor-mentee dyads experienced tension.

For this latter group we found tension to affect their relationship quality, dependence, trust, and the nature and focus of conversations. In some relationships, tension was intensified because of how programmatic assessment was implemented at the program level. Mentors who experienced tensions described different ways of alleviating these, which we categorized into three strategies: (1) transparency and expectation management; (2) distinguishing between developmental support and assessment; and (3) justifying assessment responsibility. Mentees mention similar approaches, but in less delineated strategies.

To visualize these results we introduce the metaphor of a “tension thermometer” (Figure 1). The factors displayed on the left and right side influence the experienced “tension temperature” in the central circle. Increased tension temperature can be alleviated with one or more of the strategies presented in the slider at the right of the figure. The remainder of this results section discusses the elements of the tension thermometer. To safeguard the anonymity of the mentees, the pronouns “they” and “them” were used for all mentees and their mentors to make descriptions less identifiable.

Low tension

Mentors and mentees both stated that in well-functioning, informal relationships, where mentees were able to distinguish their mentors' personal opinion from their professional assessment, there was no issue in being assessed by the mentor. This also was the case in relationships where mentees were doing well and assessment was positive. Some mentors stated that combining developmental support and assessment should not cause issues because they perceived this as an integrative part of their mentoring role: “It’s totally fine if you aim to develop a person and help them improve, and then also assess how that improvement is going.” [mentor8]. Some mentors considered themselves as the most appropriate or even the only person capable of properly assessing their mentees. Because of their longitudinal involvement, mentors got to know mentees on a personal level, witnessed their growth (or lack thereof), and could take into account mentees' personal circumstances.

Figure 1 The Tension Thermometer

Some mentees agreed that due to the longitudinal nature of their relationship, their mentors saw their growth and development and knew their personal stories. This made the assessment feel more closely linked to their real life experiences. They felt that it was their mentor's responsibility to make sure that assessment and developmental support could go hand-in-hand, and as long as mentees displayed an open attitude in their reflections, assessment had no negative impact on the mentoring relationship.

Higher tension

In cases where mentors and mentees did experience a substantial degree of tension between developmental support and assessment, they mentioned different effects.

Impact on relationship, dependence, and trust

Mentors indicated a negative influence on the relationship with their mentees, such as reduced mentee openness or trust. They pointed out that in already strained relationships, feeling that they had to fail mentees imposed additional tension on that relationship, which could lead to a breach in trust. Mentors were also aware of the dependency mentees felt, and the double role they held in their eyes. “They’re still dependent of me, and even if I convince them that this will not make a difference, if I were them, I would not risk it either.” [mentor26] one mentor said when describing how open their mentees were to them.

Mentees confirmed that assessment could lead to a breach in trust and influenced the – at times fragile – dependency relationship between them and their mentors: “What if, as a medical student I start residency and I will be assessed by that same person again?” [mentee30]

Impact on nature and focus of conversations

Both mentors and mentees expressed that during mentor-mentee conversations, talking about competence or portfolio assessment (e.g., reaching a certain depth in the reflections or meeting a required number of portfolio items) often got in the way of talking about mentees’ personal stories or made conversations contrived. As one mentee said: “it is trying to objectify something very subjective.” [mentee35]. One of the mentors expressed: “It makes mentoring very artificial, everything is about assessment.” [mentor31]

Higher tension because of design issues

Some mentors expressed that tensions they perceived were increased by issues inherent to the way programmatic assessment was implemented at the program level. An unintended consequence of the fact that the portfolio assessment committee frequently adopted mentors’ assessment advice one-to-one, was that mentors and mentees subsequently perceived this advice as the actual assessment, whereas – technically – mentors were only advising on the performance of mentees, not assessing them. Consequently, participants never spoke about “an assessment advice”, but about “assessing” or “being assessed”.

At the same time, mentors perceived their responsibilities to clash with those of other actors in the programmatic assessment system, for example, second mentors and portfolio assessment committees. A clash occurred when a portfolio assessment committee overruled mentors’ assessment, adjusted it on unclear grounds or without any explanation. At times, mentors also felt there were unspoken rules they were gauged against. As an exemplar, one mentor stated: “You are apparently not expected to grade more than half of your mentees as ‘above expectation’, because then they [the committee] will rein you in” [mentor37]. Mentors also felt scrutinized themselves;

they felt held personally accountable when the portfolio of one of their mentees was not up to standards. This led some mentors to being stricter than necessary towards mentees. One mentor said, “I feel that I do that more to cover for myself, than for the development of the mentees.” [mentor31] when explaining why they required their mentees to extensively document everything in their portfolio.

Strategies to alleviate tensions

Mentors shared several strategies they used to alleviate tensions. The way mentees handled tensions often manifested itself in less delineated strategies, but was noticeable in the way they dealt with their reflections and portfolio entries.

Transparency and expectation management

By communicating clear expectations and providing frequent and extensive feedback from the outset and throughout the year, mentors tried to make their assessment fair for their mentees. In doing so, they wanted to demonstrate that they were engaged with their mentees during the entire year. They already hinted on the outcome of their assessment during interim meetings: “I repeatedly tell mentees: ‘This is not up to expectations, and if that doesn’t improve I have to fail you [later this year].’” [mentor20]. Mentors hoped this could prevent unsatisfactory portfolio grades altogether, or at the very least avoid surprises about a low grade later. If mentees were on track, mentors felt their feedback conversations throughout the year sufficed, and explicit conversations about the assessment were deemed unnecessary: “If everything is running smoothly and mentees are handling my feedback well, why should I still bother to talk about assessment explicitly?” [mentor20].

Mentees approved of this strategy of their mentors. They preferred mentors to be clear about what was expected, so they could ask for specific requirements. Also, they felt that as long as they were familiar with their mentors’ expectations in advance, it was fair if mentors would fail them after repeated feedback indicating that improvement was necessary but did not occur: “If they don’t tell you this, you still don’t know where exactly the areas of improvement are” [mentee27]. To deal with tension, mentees actually often appeared to become *less* transparent. They no longer genuinely reflected on their experiences, but wrote reflections on what they thought their mentors wanted to read when assessing their portfolio: “I make up and write down the emotions things can give me. I am not into feelings at all. I’m more of a thinker.” [mentee15]

Distinguishing between developmental support and assessment

Another strategy mentors applied was to distinguish between what they interpreted as supporting development (i.e., talking about the content of the reflections in the portfolios) and assessing development (i.e., checking the quality and quantity of those reflections in the portfolio). An example of this strategy is that mentors tried to

minimize talking about assessment with their mentees as much as possible. They left it to the very end of a mentor meeting, after all personal matters were discussed, or completely removed assessment talk from meetings altogether, discussing it only via email instead: "I separate what is related to the portfolio assessment from my role as a mentor, because this is the only way to become a mentor. Only towards the end of a meeting I mention portfolios." [mentor31].

Mentees agreed that tension would lessen when their mentors clearly distinguished between supporting and assessing development. In addition, for them, being assessed for the degree to which they showed personal or professional growth was acceptable. Their mentors should, however, not assess the 'worthiness' of the topics of their reflections and fail a student based on the content they were reflecting on. Related to that, a point stressed by multiple mentees was that mentors should take care not to sacrifice developmental support or a referral to a specialist for mentees that struggled (i.e., mentees with rather superficial reflections due to personal health circumstances should get a referral to a specialist, not an insufficient grade for their reflective skills).

In a way, mentees also tried to distinguish between support and assessment, albeit with a different effect in practice. Some of the mentees who experienced tension began to see their mentor as a kind of representative of the assessment program, disconnected from the intended development support goals. They saw mentor meetings as part of the assessment process instead: "At the end of the story, I don't go to my mentor with my personal problems, I just go to them because it's assessed and obligatory." [mentee14]

Justifying assessment responsibility

Another strategy mentors used to alleviate at least a part of their experienced tension was justifying why they were the person engaged in both the developmental support and assessment of their mentees. Some explained to their mentees that assessment was obliged by the educational program. Others tried shifting the assessment responsibility onto someone else, like the second mentor or the portfolio assessment committee. One mentor explained this as follows: "I'm a coach, not an assessor, so I always use my second mentor. I say: 'You have to do this for the second mentor.' So do I hide behind that a little? Yes I do." [mentor34]. Others tried siding with their mentees by complaining about the system together, or resorted to justifying their responsibilities in such a way that it seemingly minimized the effort required for, or importance attributed to, the assessment.

DISCUSSION

Our findings suggest that making undergraduate mentors responsible for both developmental support and assessment did not cause tension per se. In fact, for some mentors and mentees it fit well due to the longitudinal nature of a mentor-mentee relationship. In other mentor-mentee dyads, however, it did not provide a basis for a well-functioning relationship. Participants in the latter group indicated that it could generate tension, especially when the relationship between mentors and mentees was not optimal, when the assessment of mentees was unfavorable, or when the way programmatic assessment was designed hampered combining support and assessment. When assessment caused tension, the quality of the relationship and the degree of dependence and trust between mentors and mentees were impacted. Additionally, it changed the nature and content of the conversations between mentors and mentees. Mentors mentioned different strategies to alleviate tensions: they tried to be transparent towards their mentees about their expectations, they tried to distinguish between developmental support and assessment, or they tried to justify combining support and assessment. Mentees endorsed these strategies and showed related approaches to deal with tensions.

Comparing the experiences of our undergraduate mentors and mentees to those of participants in other research we noticed underlying similarities. The fact that combining developmental support and assessment is possible under certain conditions was also concluded elsewhere [11, 26, 41]. Valentine and Schuwirth [41], for example, concluded that assessment by a coach needs to be perceived as ‘fair’ (credible, transparent, fit for purpose, and accountable), for a learner to accept it and learn from it. We noticed participants in the current study reasoned along similar lines: some told us it made sense that there was an assessment component to the mentoring role, as mentors were the one to see mentees grow, or not. But this was only perceived as fair in well-functioning relationships (where the mentor was perceived as credible or accountable), or when it was clear to both parties what exactly was assessed – and to what standards –, and why this was done by the mentor (in other words; when the assessment was perceived as fit for purpose and transparent). Atkinson and Watling [42] too noted that for feedback to be effective as developmental support, it not only needed to come from someone with whom mentees have developed a good relationship, by whom they felt respected, and who they perceived as credible and trustworthy, but that there also was a responsibility of the program to put into place effective learning and assessment structures, and to provide faculty development opportunities for mentors.

When interpreting the results from the point of the personal interpretative framework [27], we can indeed conclude that some mentors and mentees experience an incongruence between how they would like to mentor – or be mentored – and what

their professional context requires. This discrepancy between actual and preferred mentoring [43] could impact mentors' professional self-understanding.

Implications

Assigning undergraduate mentors to facilitate mentees' development in a programmatic assessment context requires a commitment from all involved if we want to keep the tension-temperature low. The content of the program of assessment should be made clear: what is assessed, to what standards, and how [16, 35, 44–47]? For instance, how exactly will competence development and growth be assessed? Requiring a minimum number of reflections in a portfolio potentially increases the risk of artificial reflections and other strategic behavior of mentees towards mentors to pass the assessment. These mentees appear to engage in true reflection, but behave like “reflective zombies” [48–50] so that the portfolio no longer reflects their actual knowledge, skills, and attitudes, but rather operates as a form of impression management [16]. Developmental support and programmatic assessment should be implemented in such a way that they do not objectify mentees or prescribe standardized ways of reflection, but embrace diverse approaches to reflection [47, 48], so that mentees are able to reflect authentically. Also, mentors should take care not to write off topics they deem unworthy of reflection [51].

To prepare mentors for possible tensions and support them in dealing with these tensions, assessment could be addressed during faculty development activities. Mentors could engage in peer consultation and discuss approaches of how to be clear on what they expect of their mentee and vice versa, how to provide feedback for mentees' growth without making it feel like an assessment, and discussing the boundaries of their role and how to delineate these boundaries.

Additionally, on the program level, being able to combine developmental support and assessment requires a well-thought-out design, where the responsibilities of all involved do not interfere or contradict unintentionally [10, 16]. Assessor training and frequent calibration sessions [12, 19, 52] would help mentors, portfolio assessment committees, and mentees [53] to co-construct a shared mental model on fair programmatic assessment.

STRENGTHS, LIMITATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

We deliberately made the decision to interview mentors and mentees from classroom-based programs. Because this undergraduate mentoring context in programmatic assessment has been explored to a much lesser degree in research than its graduate and clinical counterparts in HPE, it can add an additional perspective to the discussion. A drawback of this decision, however, is that due to its inherent contextual differences with workplace based learning it might be hard to fit this information into the puzzle of

what is already known from previous research. We are convinced, however, that this classroom-based learning perspective adds value, as patterns in undergraduate mentor-mentee interactions and the expectations that become ingrained there form the basis of subsequent mentor-mentee relationships in the clinical workplace.

Due to our methodological choices we cannot be sure whether mentors and mentees in settings with a different programmatic assessment design also experience the tensions our participants brought forward. Considering this in light of the personal interpretative framework [27] and our earlier work on perceived discrepancies between actual and preferred mentoring approaches [43], however, we welcome the continuation of this research in different program contexts and with other groups of mentors or mentees. Further research into the experiences of mentors within programmatic assessment in undergraduate education contexts could, therefore, help strike a balance between developmental support and assessment in the mentor-mentee relationship. It is also worthwhile to explore the role of mentees in more depth: what agency do mentees have when being assessed by their mentors?

CONCLUSION

Making undergraduate mentors responsible for both developmental support and assessment in a programmatic assessment context requires a well-implemented, clear program of assessment and unambiguous responsibilities laid out for all involved. When these conditions are not fully met, mentors and mentees will have to work harder for their relationship to function tension-free. This may involve tension alleviating strategies, but above all continuous discussion, calibration, fine-tuning, and agreement upon mutual expectations and commitments.

REFERENCES

1. Nicholls G. Mentoring: the art of teaching and learning. In: Jarvis P, (ed.), *The Theory & Practice of teaching*. Abingdon: Routledge; 2006. p. 157–68.
2. Driessen EW, Overeem K. Mentoring. In: Walsh K, (ed.), *Oxford Textbook of Medical Education*. Oxford University Press; 2013. p. 265–84. DOI: <https://doi.org/10.1093/med/9780199652679.003.0023>
3. Driessen EW, Overeem K, van der Vleuten CPM. Get yourself a mentor. *Med Educ*. 2011; 45(5): 438–9. DOI: <https://doi.org/10.1111/j.1365-2923.2011.03948.x>
4. Sambunjak D, Straus SE, Marusić A. A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *J Gen Intern Med*. 2010; 25(1): 72–8. DOI: <https://doi.org/10.1007/s11606-009-1165-8279>
5. Sambunjak D, Straus SE, Marusić A. Mentoring in academic medicine: a systematic review. *JAMA*. 2006; 296(9): 1103–15. DOI: <https://doi.org/10.1001/jama.296.9.1103>
6. Kashiwagi DT, Varkey P, Cook DA. Mentoring Programs for Physicians in Academic Medicine: A Systematic Review. *Acad Med*. 2013; 88(7): 1029–37. DOI: <https://doi.org/10.1097/ACM.0b013e318294f368>
7. Straus SE, Chatur F, Taylor M. Issues in the Mentor–Mentee Relationship in Academic Medicine: A Qualitative Study. *Acad Med*. 2009; 84(1): 135–9. DOI: <https://doi.org/10.1097/ACM.0b013e31819301ab>
8. Hattie J, Timperley H. The Power of Feedback. *Rev Educ Res*. 2007; 77(1): 81–112. DOI: <https://doi.org/10.3102/003465430298487>
9. Sawatsky AP, Huffman BM, Hafferty FW. Coaching Versus Competency to Facilitate Professional Identity Formation. *Acad Med*. 2020; 95(10): 1511–4. DOI: <https://doi.org/10.1097/ACM.00000000000003144>
10. van der Vleuten CPM, Schuwirth LWT, Driessen EW, Dijkstra J, Tigelaar D, Baartman LKJ, et al. A model for programmatic assessment fit for purpose. *Med Teach*. 2012; 34(3): 205–14. DOI: <https://doi.org/10.3109/0142159X.2012.652239>
11. Schut S, Heeneman S, Bierer B, Driessen E, van Tartwijk J, van der Vleuten C. Between trust and control: Teachers' assessment conceptualisations within programmatic assessment. *Med Educ*. 2020; 54(6): 528–37. DOI: <https://doi.org/10.1111/medu.14075>
12. Watling CJ, Ginsburg S. Assessment, feedback and the alchemy of learning. *Med Educ*. 2019; 53(1): 76–85. DOI: <https://doi.org/10.1111/medu.13645>
13. van der Vleuten CP, Schuwirth LW. Assessing professional competence: from methods to programmes. *Med Educ*. 2005; 39(3): 309–17. DOI: <https://doi.org/10.1111/j.1365-2929.2005.02094.x>
14. Schuwirth LWT, Van der Vleuten CPM. Programmatic assessment: From assessment of learning to assessment for learning. *Med Teach*. 2011; 33(6): 478–85. DOI: <https://doi.org/10.3109/0142159X.2011.565828>
15. Tillema H. Formative Assessment in Teacher Education and Teacher Professional Development. In: Peterson P, Baker E, McGaw B, editors. *International Encyclopedia of Education* (Third Edition). Oxford: Elsevier; 2010. p. 563–71. DOI: <https://doi.org/10.1016/B978-0-08-044894-7.01639-0>
16. Brand PLP, Jaarsma ADC, van der Vleuten CPM. Driving lesson or driving test? *Perspect Med Educ*. 2021; 10(1): 50–6. DOI: <https://doi.org/10.1007/S40037-020-00617-W>
17. Branfield Day L, Miles A, Ginsburg S, Melvin L. Resident Perceptions of Assessment and Feedback in Competency- Based Medical Education: A Focus Group Study of One Internal Medicine Residency Program. *Acad Med*. 2020; 95(11): 1712–7. DOI: <https://doi.org/10.1097/ACM.00000000000003315>
18. Brand PLP, Scheele F. Feedback in de medische opleiding. Scheid het begeleiden van het beoordelen. *NTVG*. 2022; 166.
19. Heeneman S, de Grave W. Tensions in mentoring medical students toward self-directed and reflective learning in a longitudinal portfolio-based mentoring system – An activity theory analysis. *Med Teach*. 2017; 39(4): 368–76. DOI: <https://doi.org/10.1080/0142159X.2017.1286308>
20. Bok HGJ, Teunissen PW, Favier RP, Rietbroek NJ, Theyse LFH, Brommer H, et al. Programmatic assessment of competency-based workplace learning: when theory meets practice. *BMC Med Educ*. 2013; 13(1): 123. DOI: <https://doi.org/10.1186/1472-6920-13-123>
21. Schut S, Driessen E, van Tartwijk J, van der Vleuten C, Heeneman S. Stakes in the eye of the beholder: an international study of learners' perceptions within programmatic assessment. *Med Educ*. 2018; 52(6): 654–63. DOI: <https://doi.org/10.1111/medu.13532>

22. Heeneman S, Oudkerk Pool A, Schuwirth LWT, van der Vleuten CPM, Driessen EW. The impact of programmatic assessment on student learning: theory versus practice. *Med Educ*. 2015; 49(5): 487–98. DOI: <https://doi.org/10.1111/medu.12645>
23. Looney A, Cumming J, van Der Kleij F, Harris K. Reconceptualising the role of teachers as assessors: teacher assessment identity. *Assess Educ*. 2018; 25(5): 442–67. DOI: <https://doi.org/10.1080/0969594X.2016.1268090>
24. Loosveld LM, Van Gerven PWM, Driessen EW, Vanassche E, Artino AR. MERIT: a mentor reflection instrument for identifying the personal interpretative framework. *BMC Med Educ*. 2021; 21(1): 144. DOI: <https://doi.org/10.1186/s12909-021-02579-x>
25. Loosveld LM, Van Gerven PWM, Vanassche E, Driessen EW. Mentors' Beliefs About Their Roles in Health Care Education: A Qualitative Study of Mentors' Personal Interpretative Framework. *Acad Med*. 2020; 95(10): 1600–6. DOI: <https://doi.org/10.1097/ACM.0000000000003159>
26. Meeuwissen SNE, Stalmeijer RE, Govaerts M. Multiple-role mentoring: mentors' conceptualisations, enactments and role conflicts. *Med Educ*. 2019; 605–6015. DOI: <https://doi.org/10.1111/medu.13811>
27. Kelchtermans G. Getting the Story, Understanding the Lives: From Career Stories to Teachers' Professional Development. *Teach Educ*. 1993; 9(5–6): 443–56. DOI: [https://doi.org/10.1016/0742-051X\(93\)90029-G](https://doi.org/10.1016/0742-051X(93)90029-G)
28. Orland-Barak L, Klein S. The expressed and the realized: Mentors' representations of a mentoring conversation and its realization in practice. *Teach Educ*. 2005; 21(4): 379–402. DOI: <https://doi.org/10.1016/j.tate.2004.05.003>
29. Vanassche E, Kelchtermans G. A narrative analysis of a teacher educator's professional learning journey. *Eur J Teach Educ*. 2016; 39(3): 355–67. DOI: <https://doi.org/10.1080/02619768.2016.1187127>
30. Vanassche E, Kelchtermans G. Facilitating self-study of teacher education practices: toward a pedagogy of teacher educator professional development. *Prof Dev Educ*. 2015; 42(1): 100–22. DOI: <https://doi.org/10.1080/19415257.2014.986813>
31. Savin-Baden M, Major CH. *Qualitative Research: The Essential Guide to Theory and Practice*. Routledge; 2013.
32. Neergaard MA, Olesen F, Andersen RS, Sondergaard J. Qualitative description – the poor cousin of health research? *BMC Med Res Method*. 2009; 9(1): 52. DOI: <https://doi.org/10.1186/1471-2288-9-52>
33. Sandelowski M. Whatever happened to qualitative description? *Res Nurs Health*. 2000; 23(4): 334–40. DOI: [https://doi.org/10.1002/1098-240X\(200008\)23:4<334::AID-NUR9>3.0.CO;2-G](https://doi.org/10.1002/1098-240X(200008)23:4<334::AID-NUR9>3.0.CO;2-G)
34. Heeneman S, Driessen E, Durning SJ, Torre D. Use of an e-portfolio mapping tool: connecting experiences, analysis and action by learners. *Perspect Med Educ*. 2019; 8(3): 197–200. DOI: <https://doi.org/10.1007/S40037-019-0514-5>
35. Driessen E, van der Vleuten C, Schuwirth L, van Tartwijk J, Vermunt J. The use of qualitative research criteria for portfolio assessment as an alternative to reliability evaluation: a case study. *Med Educ*. 2005; 39(2): 214–20. DOI: <https://doi.org/10.1111/j.1365-2929.2004.02059.x>
36. Tillema HH, Smith K, Leshem S. Dual roles – conflicting purposes: a comparative study on perceptions on assessment in mentoring relations during practicum. *Eur J Teach Educ*. 2011; 34(2): 139–59. DOI: <https://doi.org/10.1080/02619768.2010.543672>
37. Dey I. *Grounding grounded theory: guidelines for qualitative inquiry*/Ian Dey. San Diego: Academic Press; 1999. DOI: <https://doi.org/10.1016/B978-012214640-4/50011-5>
38. LaDonna KA, Artino AR, Jr, Balmer DF. Beyond the Guise of Saturation: Rigor and Qualitative Interview Data. *Journal of Graduate Medical Education*. 2021; 13(5): 607–11. DOI: <https://doi.org/10.4300/JGME-D-21-00752.1>
39. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006; 3: 77–101. DOI: <https://doi.org/10.1191/1478088706qp0630a>
40. Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide No. 131. *Med Teach*. 2020; 42(8): 846–54. DOI: <https://doi.org/10.1080/0142159X.2020.1755030>
41. Valentine N, Schuwirth L. Using fairness to reconcile tensions between coaching and assessment. *Med Educ*. 2023; 57(3): 213–6. DOI: <https://doi.org/10.1111/medu.14968>
42. Atkinson A, Watling CJ, Brand PLP. Feedback and coaching. *Eur J Pediatr*. 2022; 181(2): 441–6. DOI: <https://doi.org/10.1007/s00431-021-04118-8>

43. Loosveld LM, Driessen EW, Vanassche E, Artino AR, Van Gerven PWM. Mentoring is in the 'I' of the beholder: supporting mentors in reflecting on their actual and preferred way of mentoring. *BMC Med Educ.* 2022; 22(1): 638. DOI: <https://doi.org/10.1186/s12909-022-03690-3>
44. van der Vleuten CP, Schuwirth LW, Driessen EW, Dijkstra J, Tigelaar D, Baartman LK, et al. A model for programmatic assessment fit for purpose. *Med Teach.* 2012; 34(3): 205–14. DOI: <https://doi.org/10.3109/0142159X.2012.652239>
45. Dannefer EF. Beyond assessment of learning toward assessment for learning: Educating tomorrow's physicians. *Med Teach.* 2013; 35(7): 560–3. DOI: <https://doi.org/10.3109/0142159X.2013.787141>
46. Siddiqui ZS, Fisher MB, Slade C, Downer T, Kirby MM, McAllister L, et al. Twelve tips for introducing E-Portfolios in health professions education. *Med Teach.* 2023; 45(2): 139–44. DOI: <https://doi.org/10.1080/0142159X.2022.2053085>
47. de la Croix A, Schaepkens S, Veen M. Zombies in onderwijsland, Health care humanities als medicijn tegen 'skillification'. *Tijdschrift voor Gezondheidszorg en Ethiek.* 2022; 32(3): 58–63.
48. de la Croix A, Veen M. The reflective zombie: Problematizing the conceptual framework of reflection in medical education. *Perspect Med Educ.* 2018; 7(6): 394–400. DOI: <https://doi.org/10.1007/S40037-018-0479-9>
49. Schaepkens SPC, Veen M, de la Croix A. Is reflection like soap? a critical narrative umbrella review of approaches to reflection in medical education research. *Adv Health Sci Educ.* 2021; 27: 537–51. DOI: <https://doi.org/10.1007/s10459-021-10082-7>
50. Veen M, de la Croix A. How to Grow a Professional Identity: Philosophical Gardening in the Field of Medical Education. *Perspect Med Educ.* 2023. DOI: <https://doi.org/10.5334/pme.367>
51. Veen M, Skelton J, de la Croix A. Knowledge, skills and beetles: respecting the privacy of private experiences in medical education. *Perspect Med Educ.* 2020. DOI: <https://doi.org/10.1007/S40037-020-00565-5>
52. Lefroy J, Watling C, Teunissen PW, Brand P. Guidelines: the do's, don'ts and don't knows of feedback for clinical education. *Perspect Med Educ.* 2015; 4(6): 284–99. DOI: <https://doi.org/10.1007/S40037-015-0231-7>
53. Könings KD, Mordang S, Smeenk F, Stassen L, Ramani S. Learner involvement in the co-creation of teaching and learning: AMEE Guide No. 138. *Med Teach.* 2021; 43(8): 924–36. DOI: <https://doi.org/10.1080/0142159X.2020.1838464>

APPENDIX 1: INTERVIEW GUIDE

INTRODUCTION: Introduce yourself and let the participant introduce themselves. Thank you again for taking the time to participate in this study. As stated in the information letter, this study addresses the current knowledge gap around how facilitating professional development and assessing interrelate during mentoring.

We will start with your own practice, then look at a vignette, and then come back to your own practice as well. *For Mentors:* For your own practice, you can take the similarities or common denominator of your mentees in mind.

It is not my intention to judge you on your performance as a mentor/mentee, I am really looking for how you see this situation.

Is it ok for you if I record this interview? You can speak freely and critically if you wish; everything you say is confidential, and will only be used within the scope of my research on mentoring. If you mention names or specific situations I will anonymise these.

Do you have any questions at this moment? I am now going to start the recording.
[start recording]

1 Opening questions → daily practice

What does a regular mentor meeting actually look like for you?
How do you prepare for these conversations?
How does your mentor/mentee prepare for these conversations?
Who usually takes the lead in your mentor-mentee relationship? How does that make you feel?
What adjectives would you use to describe the connection between you and your mentee / your mentor? So, for example open, distant, cozy, formal
Why exactly do you choose x? (and then purposefully explore the meaning of each chosen adjective)
// What kind of mentor-mentee relationship do you have?
When are you satisfied with relationship with your mentor/mentee?
(rephrase: what goals are you trying to achieve with your mentoring)
So, what is therefore needed for a successful relationship with your mentor/mentee? (ingredients, conditions, terms, etc.)

2 Questions after vignette

What did you think of the case?
If not mentioned: What do you think of the reaction of the mentor in this vignette?
If Benjamin was your mentee / If Ann was your mentor, how would you respond?
How do you expect the next meeting with the mentor/mentee to go?

3 Remaining questions → back to own daily practice

The vignette reflects several tasks of mentoring: guiding and assessing students.
What do you think about assessment as a mentor/mentee?
How important is it (for your mentor) to be part of this assessment process?
What role does that assessment play in your mentoring practice?
Let's follow up on that: how does that combination between supporting professional development and assessing the mentee work in your practice? (Dichotomy, simultaneously, etc.)
Do you make that division explicit? Do you do this for yourself, and/or also to your mentee?
If yes: If you make this explicit (as e.g. in vignette), when and how do you make this clear: beforehand, when it comes up...
If not: How is assessment woven into the conversations you have with your mentor/mentees?
OFF- the record questions:
We've talked about this for a while now, did this reflection provide any take-aways for you on how you handle your mentorship? Are you going to take things back to practice?
What do you think now about our conversation?

APPENDIX 2: INTERVIEW VIGNETTE

Setting:

This mentor-mentee meeting is taking place as the last meeting before the final mentor assessment. It is a face-to-face meeting at the office of the mentor, Ann.

The mentee (Benjamin) is doing okay regarding his investigator/scholar competency, passing most courses. His professional/organiser competency is up to par a little less, as he struggles with putting his deep reflections on paper and only has a very superficial portfolio.

Meeting:

As per usual, A(nn) and B(enjamin) started their Monday-afternoon conversation with an update on how their respective weekends were.

A: I went to the zoo this weekend with my children, my son just loves the giraffes, can't get enough of them!

B: Oh, sounds fun! So, my weekend was not that great... My bike got stolen when I was out with friends, again.... If that wasn't enough, my grandma also developed a fever yesterday and is getting tested for COVID today... I really hope she's not infected but I am worried...

A: Oh, I'm sorry, that's not good news, and I really hope you grandma can recover quickly.

B: Yeah thanks, I hope so too. But okay, I am here to talk about my practicals and upcoming exams so let's do that.

After that, they talked for a bit about a practical that B failed and his upcoming exams. B now expresses his worries about his portfolio.

B: "well, I'm not sure about the number of experience cards I've made so far. Are you going to fail me on my professional/organiser competence when I don't have enough cards?"

A: "Well, you can check the requirements for how many cards you need to make, but for me it's not as much in the number of cards, but the depth of reflection in your cards that is still lacking. We've discussed this the last few meetings too, but until now I don't see much progress to be honest."

B: "Ok, well, but what should I do to correct that? As the final mentor assessment is rapidly coming closer, and I don't know how to compensate for this?"

A: "Yes, the final mentor assessment is approaching indeed, and I do have to send in my final advice soon, so your concern is legitimate. Remember that at the end of last year we had this exact same conversation? I have seen you grow on many levels over the past three years and we always had constructive conversations, but we might need to revisit the heart of the matter. And such conversations are never the easiest to have. I mean, I'm wearing multiple hats in our mentor-mentee relationship; being the person who supports your personal and professional development, but also having to advise

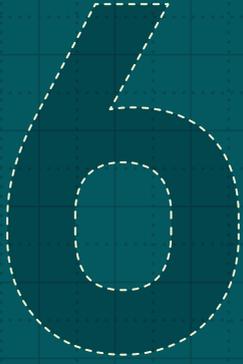
on your competencies and portfolio, and for the moment they are just not ... [gets interrupted by B]

B: "But you know me, right? We always had conversations on how I'm doing throughout these entire three years, and I always reflect on my experiences during our meetings."

APPENDIX 3: CODES OVERVIEW

Code group: Mentoring goals
Development of: reflection, portfolio, student, study skills, Professional behaviour
Approachable, accessible, supportive
Ask how students are doing
Be of meaning to student /support/think along
Asking further / deeper questions
Explaining Maastricht University / academic world system
Befriending or not
Getting to know mentee as person
Honest and clear
Mentor learns from mentoring/mentee
Reassuring
Personal growth of mentee
Rapport building
Reflecting on past
Students participates in mentoring because of assessment (mentee goal)
Practical support in learning goals / card / reflections
Support Wellbeing
Talking about feelings
Trusted person
Code group: Programmatic Assessment attitude
Depersonification / scapegoating as rationale of portfolio
Assessment and supporting clash
Assessment directs student behaviour
P.A. creates Logistic/Admin/Bureaucracy/systems – type friction
Mentee doesn't mind that mentor assesses too
mentee must document for external accountability
mentee should not be burdened with mentors' portfolio opinion
Mentee writes portfolio towards/for/aimed at mentor
Mentor can assess
mentor content with system / portfolio
mentor does not use portfolio much
Mentor is needed to assess Portfolio
Mentor primarily assesses
Not assess but provide feedback
Mentor does not want to assess

Portfolio , assess and development are all the same / inextricably linked
Portfolio writing, reflection, professional behaviour are assessable competencies
Portfolio is responsibility of mentee
Separating between assessment and mentoring
Code group: Mentoring Relationship Type
Awkward
Distant
Driven by mentee
Driven by mentor
Formal/
Informal
Open/closed mentor
Open/closed student
Personal disclosure
Respectful
Technical/ instrumental
Code group: Role Perception
Advisor (or not)
Assessor
Coach
Mentor motivates student
Objective vs subjective
Strict/ business-like or not
Psychologist or not
Mirror behaviour
Supporting student with portfolio
Codes without group
Mentor needs curriculum knowledge to be able to mentor
Mentor has multiple teaching roles
Programmatic assessment effect: Student is closed due to dependency relationship



GENERAL DISCUSSION

DISCUSSION

In the introduction, I stated that by answering the questions central to this thesis I hope to not only contribute to ongoing theory development on the mechanisms of mentoring, but also support the professional development of mentors in health professions education (HPE). This thesis delivered an in-depth understanding of HPE mentors' personal interpretative framework (PIF) and how they enact their practice, which is new to this field of research. These insights can provide a basis for faculty development initiatives for mentors in HPE.

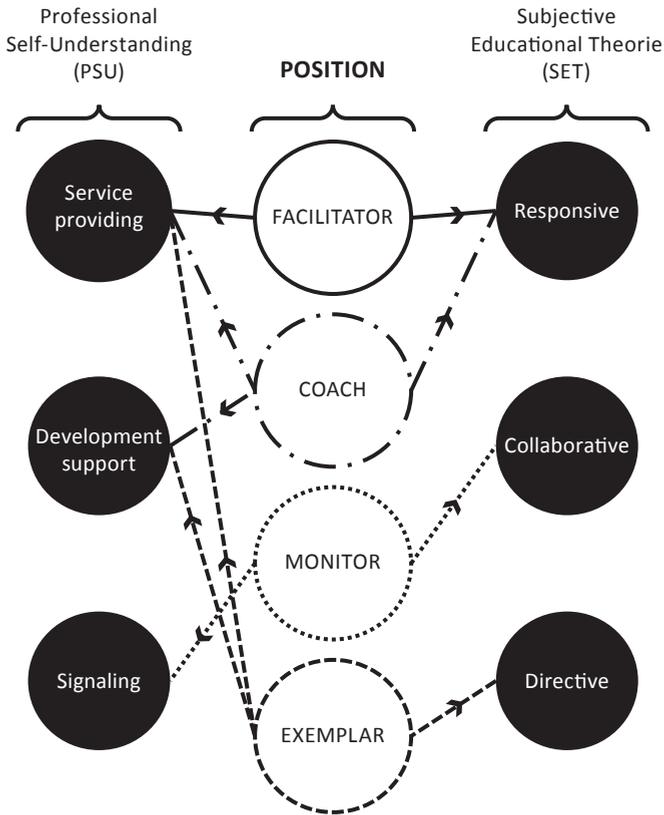
While writing this chapter, I reflected on my own PIF, and opted for a slightly alternative approach to addressing the overall findings of this research project. Being a mentor, faculty developer and researcher, my roles span across the department of Educational Development and Research, as well as the school of Health Professions Education of Maastricht University. Consequently, I find myself reflecting on the results presented in this thesis from various perspectives. In my opinion, if I were to interpret the research findings as isolated narratives, I believe I would not be doing justice to their meaning. In this Discussion chapter I address the question "what to do as mentor, how to do it, and how to know I am doing it 'right'?" in such a way that the answer holds significance for mentors, faculty developers, researchers, educational designers and coordinators alike.

DYNAMIC MENTOR POSITIONS

When applying the personal interpretative framework (PIF) as a frame of reference, there are several approaches to describing the what, why and how of mentoring. Referring to the study outlined in **Chapter 2**, I conclude that mentors can assume different temporary states of being (positions), which can be described in terms of professional self-understanding (PSU) and subjective educational theory (SET). The positions include facilitator, coach, monitor and exemplar. When identifying and conceptualising the different mentoring approaches underpinning mentors' personal interpretative framework, it was a deliberate decision to use the term 'positions', and not 'styles'. The latter implies a certain finality, or fixed trait, whereas the results described in **Chapter 2** should be considered as an inherently dynamic mental set of knowledge and beliefs, which can change in and between contexts, and over time (Kelchtermans, 1993). Mentors switch away from and come back to the different positions depending on the situation they find themselves in (e.g., mentees' needs and stages of development, program guidance, etc.). Positions are thus not fixed: they change in and between contexts, but also over time. Figure 1 visualises the relationships between positions, PSU and SET. The positions are depicted in the central column with

white circles in Figure 1. Arrows pointing from the central column to the two outward columns with black circles indicate the PSU and SET related with these positions.

Figure 1 Mentor Positions Mapped on the Dimensions of the Personal Interpretative Framework.



Mentors taking a facilitator position see themselves as a familiar face for their mentees, a first point of entry for mentees with questions, providing them – in their own words – with a type of “service”. This can range from modelling how the academic world works (e.g., advising mentees on how to address an email to a lecturer or providing tips on effective ways of self-study), to referring someone to the student advisor, or helping mentees find information about how to book a resit for a course exam. Facilitator mentors took a responsive approach when mentoring: their mentees could come to them with questions or issues, but they tried to not proactively intervene, and let the mentee take the lead.

Mentors taking a coach position support their mentees in their development in the broadest sense. This includes exploring the perspective of the mentees as future professionals, but also helping them think about how to maintain their wellbeing. When taking a coach position, mentors use a responsive approach towards their mentees, similar to the mentors holding a facilitator position.

Mentors who adopt a monitor position have a signalling professional self-understanding, in this case meaning that they provide their mentees with suggestions and advice. They keep track of how mentees are doing, and can signal upward or downward trends in their performance. Monitoring mentors also help their mentees to become reflective learners by mirroring behaviour and stimulating reflection. This means that mentors holding a monitor position use a more collaborative approach than mentors in a facilitator or coach position. How reactive or proactive monitoring mentors actually are, depends on the needs of their mentees during the various stages of their development, to which monitors flexibly adapt their level of support.

A mentor in an exemplar position does not express a strong preference for either service providing or development supporting activities, but engages in both. They make use of their own experiences to support mentees, and are found to take the initiative for conversations. They do this more than mentors in the three other positions. This also makes the exemplar position more directive than the three others. Exemplar mentors can be firm towards mentees that do not appear to meet expectations, but with mentees showing a keen interest in the professional field of their mentor they share a lot of personal and professional expertise.

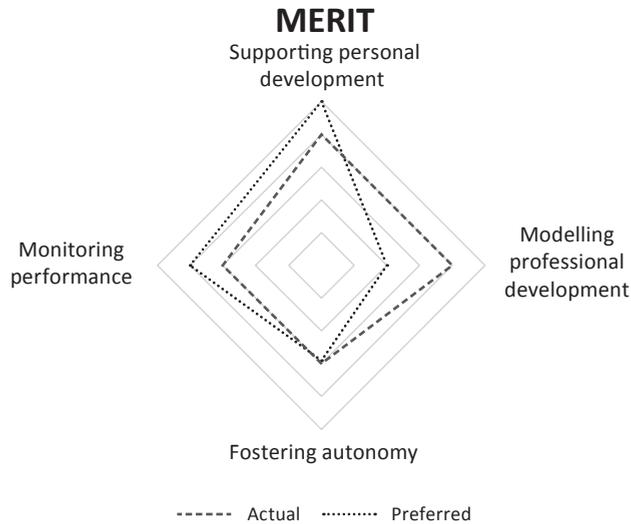
MENTOR FOCUS POINTS

Mentors can thus hold various positions when mentoring. These positions can vary depending on the professional context they mentor in, as they are not stable traits but dynamic states. To an extent, when thinking about “what to do as mentor?” the mentee plays a vital role within the professional context of mentors. The nature of mentoring, tailored to meet the varying needs of mentees throughout their personal and professional development, impacts mentors’ task perception (**Chapter 3 and 4**). Whereas the mentoring positions in **Chapter 2** conceptually span the entire width of the personal interpretative framework, I now zoomed in closer on what mentors feel that belongs to their mentoring tasks (the task perception component). With the help of the MEntor Reflection Instrument (MERIT) I was able to identify four distinct points that mentors can focus their mentoring tasks on: supporting personal development, modelling professional development, fostering autonomy and monitoring performance. It is important to note that these four focus points are not either-or principles, as mentors most likely simultaneously focus on multiple points to a certain degree, and can shift between these.

Mentors focussing on supporting personal development direct their mentoring towards the personal development of mentees, such as helping them optimise their wellbeing, helping them come up with personal learning goals that help them develop into unique individuals, or support them to become better learners. Mentors focussing on modelling professional development aim to provide their mentees insights into how the academic world works, or can make use of their own professional experiences when advising mentees. When focussing on fostering autonomy mentors felt it was their mentees' own responsibility to ask for advice when needed, and that there was a limit to the amount of support mentors could provide. The fourth focus point, monitoring performance, was aimed at, for example, letting mentees know when they failed to meet a certain expected performance standard. For this, mentors would need to have access to the progress indicators of their mentees, such as grades, feedback forms or other portfolio entries.

Another valuable insight that mentors can gain from research conducted with the MERIT is that their focus during actual mentoring practice may not always align with their preferred approach (**Chapter 4**). This can result in discrepancies between actual and preferred mentoring focus points. As mentors obtain more years of experience, the aforementioned discrepancy between their actual mentoring focus and their preferred approach tends to diminish. It is important to note that the MERIT does not evaluate mentoring; identified discrepancies between actual and preferred mentoring do not imply bad mentoring. Rather, discrepancies could signal that a mentor's professional context prevents them from putting their personal knowledge and beliefs into practice in their preferred way. Figure 2 visually represents a simulated example of what discrepancies between actual and preferred mentoring could look like. Assessment requirements could serve as an example here. When a mentor would prefer to focus on supporting mentees' personal development, but their mentee struggles with putting their reflections on paper in a required portfolio, a mentor might temporarily focus more on modelling professional development instead, by explaining that they themselves also need to document their personal reflections and developments regularly, to build a recognition and rewards portfolio to maybe be promoted to full professor later.

Figure 2 A Simulated MERIT Data Radar Chart.



The Depicted Data do not Belong to Any of the Respondents in This Study and Were Generated for Illustrative Purposes Only.

PROGRAMMATIC ASSESSMENT AS A PROFESSIONAL CONTEXT FOR MENTORING

Mentors' actual and preferred mentoring approach do not always align. This can be due to personal but also contextual factors. One such contextual factor is programmatic assessment, in which mentors are required to both support and assess their mentees (**Chapter 5**). When asked how combining support and assessment influences the mentor-mentee relationship, the experiences of both mentors and mentees ranged from concluding that combining assessment and developmental support was feasible, to experiencing tensions. Mentors and mentees who experienced tensions indicated that this was especially the case when the relationship between mentors and mentees was strained from the start; the assessment of mentees was not favourable; or when unintended design issues exacerbated a smooth combination of support and assessment. When mentors and mentees experienced tension, this influenced the quality of their relationship, the degree of trust and dependence between them, and the nature and content of their meetings. To mitigate these issues, mentors used strategies such as being transparent about expectations, separating developmental support and assessment, or justifying the combination of both. Mentees endorsed these approaches and employed similar strategies to resolve tensions.

It should be noted, however, that preventing or dealing with possible tensions should not be solely resting on the shoulders of mentors and mentees. There is also an organisational responsibility to design an assessment program in which the degree of tensions is kept as low as possible. Brand et al. (2021), for example, caution the blending of feedback intended for the support of growth with that serving as input for performance-based assessment. They advocate for teaching teachers about the distinction between feedback and assessment. Instruction and practice workshops aimed at learning how to assess, combined with calibration sessions among mentors could help not only mentors and assessment committees (Heeneman & de Grave, 2017; Lefroy et al., 2015; Watling & Ginsburg, 2019), but also mentees to come to a shared mental model (Könings et al., 2021) on how to combine development and support in a programmatic assessment context. Furthermore, a clear program of assessment should be designed, outlining what is assessed and to what standards, and how this is done (Brand et al., 2021; Dannefer, 2013; de la Croix et al., 2022; Driessen et al., 2005; Siddiqui et al., 2023; van der Vleuten et al., 2012).

Mentees – just like their mentors – determine their goals and what they find valuable (learning) activities to engage in based on the interactions between their personal system of knowledge and beliefs, and the context they find themselves in. If a program of assessment (the learning context) instructs that mentees need to reflect on their experiences according to a structure with predefined questions, but the questions are not in line with mentees' daily practice, or too directing, reflection might lose its value to mentees. Assessment programs should therefore embrace a diverse range of ways to reflect, to prevent mentees from becoming reflective zombies when only standardized ways of reflection are allowed (de la Croix & Veen, 2018). In addition to solutions concerned with design at the program level, assessment-related tension could be a topic on the agenda during faculty development activities. Discussing assessment might not avoid tension per se, but it can prepare mentors for its emergence, and help them to navigate it. Together with peers, mentors could engage in discussions about approaches for expectation management conversations with mentees, providing formative feedback, and delineating the boundaries of the mentoring role.

SO, HOW DO MENTORS EXPERIENCE THE WHAT, WHY AND HOW OF THEIR OWN MENTORING?

Summarising the above, the answer to the question “How do mentors experience the what, why and how of their own mentoring?” is quite dynamic and multi-layered. Mentors temporarily adopt positions and focus on various points throughout their mentoring, and these implicit decisions or shifts are context dependent, with the

mentee and assessment requirements being essential contextual aspects. My advice for mentors would be to regularly reflect on their preferred what, why and how of mentoring, and discuss it with their mentees, peers and with faculty developers. In doing so, it is important to keep in mind that there are no right or wrong positions or focus points in mentoring.

However, when mentors reflect on whether they are mentoring from a facilitator, coach, monitor, or exemplar position, and what their mentoring focus is, they may find possible discrepancies between their actual and preferred mentoring. In addition, incongruences may exist between how they would like to mentor and what their professional context requires from them (i.e., their professional context prevents them from putting their personal knowledge and beliefs into practice in their preferred way). Not all discrepancies or incongruences necessarily cause tension, but by bringing them into conscious awareness, mentors can explore which ones do.

The mentors sharing their story in **Chapter 5** can serve as a meaningful example here: one of them did experience tension, as they preferred to talk with mentees about how they are doing (and hence, supporting their personal development), but this mentor ended up mainly discussing whether mentees would pass the end-of-year assessment advice (monitoring performance), with little time left for personal conversations. Another mentor experienced no tension, as they – in fact – appreciated the combination of assessing and supporting their mentees, which enabled them to witness their mentees’ development from up close, and assess their overall development, instead of separate achievement impressions only. In this mentor we might recognise someone, at least temporarily, adopting a monitor position.

THE MERIT OF THE MERIT

As an instrument for professional development

I would thus advice mentors to reflect on the what, why, and how of their mentoring, and on whether possible discrepancies and incongruences cause tension. By being aware of this, mentors can try to prevent or alleviate tension. The MERIT could be a driving force in stimulating mentors to reflect on their own mentoring, making explicit and critically examining the beliefs underlying their daily practice. This can increase understanding of how and why mentors act in certain situations, and – when needed – help them become aware of other suitable strategies (Kelchtermans, 2009). To rephrase this in terms of the personal interpretative framework: mentors should not only think about what they did and what the result of their action was, but also consider what beliefs underlie their practice: why they made that decision in that context (Vanassche & Kelchtermans, 2015). This can lead to a deeper understanding of the what, why and how of mentoring, and might also help to reassure mentors that there

is not one proper way of mentoring, but a range of approaches that work (broadly defined) in different contexts (Loosveld et al., 2020; Sambunjak, Straus, & Marusić, 2010).

Critically examining the beliefs foundational to mentoring practice is no easy feat, however, because much of the knowledge and beliefs of mentors is tacit. Mentors often find it difficult to explicitly put into words what they do, and why they do things in this way. Therefore, reflection oriented faculty development activities can be valuable. Reflection does not have to be an individual endeavour. In fact, bringing to the surface or discussing personal reflections with peers can be very beneficial. Not only because peers can help with the reflection itself, by asking the right questions at the right time, but also because they can question, confirm or contradict mental frameworks, and help to think about alternative methods of action that can prevent or alleviate tension. Reflections on personal knowledge and beliefs can also make engagement in peer supervision, coaching, communities of practice and simulation of mentee-cases or critical incidents more relevant (Abigail, 2016; Cantillon et al., 2016; McLeod & Steinert, 2009; O'Sullivan & Irby, 2011; O'Keefe et al., 2009; Prenger et al., 2017; Schreurs et al., 2016; Wenger, 1998). In doing so, learning what to do and how to do it as a mentor becomes more than learning just the tricks of the trade, but instead critically considering what works or does not work in mentors' personal context, and why this is the case. Faculty development activities should thus not prescribe how mentoring *should* be done, as if mentoring were a set of tricks or a standardized process. Instead of converging to standard tactics and procedures, we need to encourage mentors to bring their personal knowledge and beliefs about mentoring into faculty development activities.

As a tool for mapping knowledge and beliefs

The MERIT serves a dual purpose: it acts as a catalyst for professional development, encouraging mentors to engage in reflective practice, while also functioning as a valuable tool to map mentors' knowledge and beliefs regarding their mentoring task. Expanding our understanding in this area contributes to the continuous development of theories related to the mechanisms of mentoring. This knowledge is valuable not only for mentors themselves but also for their mentees, faculty developers, program coordinators, and designers. Furthermore, there is potential for the development of additional versions of the MERIT, for example tailored for mentees, faculty in various other teaching roles, or mentors outside the realm of health professions education.

MENTEES' EXPERIENCES OF MENTORING

Even though we have not explicitly explored mentees' knowledge and beliefs about mentoring, **Chapter 5** provides an insight in what they see as valuable mentoring goals and purposes, and how these goals can be met. First of all, mentees perceived their mentors as the ones responsible for making assessment within their developmental relationship work. What they saw as their own task was to be open and honest in the reflections they shared with their mentors. For some it made sense to be assessed by their mentors, exactly because of their longitudinal relationship, but for others this was not so evident, as they felt it impacted the bond of trust they wished to have with their mentors.

Mentees indicated that talking about assessment often got in the way of having personal conversations, and that it forced them to objectify the reflections on experiences they went through, so that they were able to use these as input for portfolio forms. One wish expressed by mentees was that they wanted their mentors to be very clear on what level was expected in terms of assessment. Repeated feedback from an early starting point enabled mentees to work towards these expectations, but would also make it fair if a mentor failed them when they were not able to meet these standards after all. Multiple mentees indicated that they hoped their mentors would not sacrifice support in favour of assessment.

METHODOLOGICAL LIMITATIONS AND DIRECTIONS FOR FURTHER RESEARCH

A general limitation of the two qualitative studies presented in this thesis (**Chapter 2** and **5**) is the composition of the sample of participating mentors and mentees. Since I sent out open invitations for participation to all Maastricht University mentors and mentees meeting my inclusion criteria, I did not personally invite people, or applied specific sampling strategies to try and make sure that I spoke with different or specific groups of teaching staff, or to mentors with a certain amount of mentoring experience. It is thus possible that I interviewed a subset of mentors and mentees. I did, however, determine criteria to purposefully sample (Patton, 2015) the settings from which participants were invited to join the interviews, which allowed us to gain a rich understanding of mentoring in a specific context.

Something that can be seen as both a limitation and a strength at the same time is that mentors and mentees interviewed for both studies taught or studied in an undergraduate context, which has received considerably less attention in research. It therefore makes it less straightforward to compare results to existing work in the field, but it does add a novel perspective, as mentoring patterns that take shape in undergraduate

education are foundational to interactions and expectations in later mentor-mentee relationships in graduate or clinical education.

In the limitations section of **Chapter 2**, I mentioned that it would be interesting to explore whether more experienced mentors hold positions distinct from their more junior colleagues. In the subsequent quantitative study (**Chapter 4**) I followed up on this by including the number of years of experience mentors have in the analyses, but for that study too the recruitment of respondents could be seen as a limiting factor. Due to the way the survey was distributed, it first of all was not possible to calculate a response rate. Secondly, I could not control who filled out the survey, and it was therefore possible that, despite explicitly describing who I saw as appropriate respondents, people who filled out the survey were not representing mentors in the field of health professions education. When looking at the demographic data of respondents I also noticed that the vast majority of them resided in Europe and North America, which could have skewed data to include a primarily western, educated, industrialised, rich, democratic (WEIRD) perspective (Arnett, 2008). Follow-up research on mentors' positions and focus points could involve deliberate sampling strategies to explore the experience of mentors outside the WEIRD context. The work of Venktaramana et al. (2023), for example, made clear that mentors in Singapore also included their spiritual and religious values, beliefs and principles in their task perception, whereas this angle was not mentioned by the mentors whose experiences are captured in this thesis. Another area worth more explicit exploration is mentees' task perception: how do they see their role and that of their mentor? Although we have gained some insights into how mentees perceive this, our current knowledge is limited to how they see their mentors combining support and assessment, and it does not include other facets of the relationship between mentors and mentees.

The current setup of the MERIT showed considerable reliability variation across its four factors (**Chapter 3** and **4**). Further development of the MERIT's internal structure and content, and after that collecting additional validation data is therefore warranted, especially for the subscales with lower reliability. Currently, at least one research project outside Maastricht University is engaged in this development, applying it in another context and collecting additional validation data. The current value of the MERIT thus lies in helping mentors to become aware of their personal interpretative framework and points of focus during mentoring. A worthwhile avenue for continued research with the MERIT could be of a more qualitative nature, as with the current studies I was not able to analyse *how* mentors interpreted or explained their MERIT results. Engaging in explanatory follow-up research would therefore be important. Mentors could be asked to fill out the MERIT, and then reflect on their approach and the MERIT results together with a researcher, or with a group of peers and a researcher to explore answers and discuss how these answers make explicit their personal interpretative framework.

IMPLICATIONS AND CONCLUDING REMARKS

A red thread throughout all research I have done as part of this thesis is that none of the positions, focus points or tension-alleviating strategies are meant to be normative prescriptions of how mentoring *should* be done, as mentoring is inherently contextualised and dynamic (Mishler, 1979; Sambunjak, Straus, & Marusić, 2010; Vleuten, 2014). Instead, they are interpretative descriptions of how it is and could be done. This thesis also does not pass judgement on what ‘good’ or ‘bad’ mentoring is, and the results are not intended to make evaluative statements about mentoring capabilities. For example: in the cases of mentors’ actual versus preferred mentoring, experiencing discrepancies does not imply that someone is not a good mentor. What these discrepancies *could* indicate is that mentors find themselves in an environment where they cannot fully put their personal knowledge and beliefs into practice, and therefore experience conflicting narratives, for example when they would need to assess a mentee because of curricular design requirements, but feel this is at odds with their personal task perception (Orland-Barak & Klein, 2005; Sambunjak, Straus, & Marusić, 2010; Vanassche & Kelchtermans, 2015, 2016; Vleuten, 2014). Circling back to the first sentence of this paragraph: this thesis does not define what mentoring is, but by building theory on what mentors are doing, how they are doing it and why, it does provide insight into the mechanisms of mentoring and may well offer a vision for what mentoring could look like.

REFERENCES

- Abigail, L. K. M. (2016). Do communities of practice enhance faculty development? *Health Professions Education*, 2(2), 61-74. <https://doi.org/10.1016/j.hpe.2016.08.004>
- Arnett, J. J. (2008). The neglected 95%: why American psychology needs to become less American. *The American psychologist*, 63(7), 602-614. <https://doi.org/10.1037/0003-066X.63.7.602>
- Aspfors, J., & Fransson, G. (2015). Research on mentor education for mentors of newly qualified teachers: A qualitative meta-synthesis. *Teaching and teacher education*, 48, 75-86.
- Athanases, S. Z., Abrams, J., Jack, G., Johnson, V., Kwock, S., McCurdy, J., . . . Totaro, S. (2008). Curriculum for mentor development: problems and promise in the work of new teacher induction leaders. *Journal of Curriculum Studies*, 40(6), 743-770.
- Brand, P. L. P., Jaarsma, A. D. C., & van der Vleuten, C. P. M. (2021). Driving lesson or driving test? *Perspectives on Medical Education*, 10(1), 50-56. <https://doi.org/10.1007/s40037-020-00617-w>
- Cantillon, P., D'Eath, M., Grave, W., & Dornan, T. (2016). How do clinicians become teachers? A communities of practice perspective. *Advances in Health Sciences Education*, 21(5), 991-1008.
- Dannefer, E. F. (2013). Beyond assessment of learning toward assessment for learning: Educating tomorrow's physicians. *Medical teacher*, 35(7), 560-563. <https://doi.org/10.3109/0142159X.2013.787141>
- de la Croix, A., Schaepkens, S., & Veen, M. (2022). Zombies in onderwijsland, Health care humanities als medicijn tegen 'skillification'. *Tijdschrift voor Gezondheidszorg en Ethiek*, 32(3), 58-63.
- de la Croix, A., & Veen, M. (2018). The reflective zombie: Problematizing the conceptual framework of reflection in medical education. *Perspectives on Medical Education*, 7(6), 394-400. <https://doi.org/10.1007/s40037-018-0479-9>
- Driessen, E., van der Vleuten, C., Schuwirth, L., van Tartwijk, J., & Vermunt, J. (2005). The use of qualitative research criteria for portfolio assessment as an alternative to reliability evaluation: a case study. *Med Educ*, 39(2), 214-220. <https://doi.org/10.1111/j.1365-2929.2004.02059.x>
- Driessen, E. W., & Overeem, K. (2013). Mentoring. In K. Walsh (Ed.), *Oxford Textbook of Medical Education* (pp. 265-284). Oxford University Press.
- Driessen, E. W., Overeem, K., & van der Vleuten, C. P. M. (2011). Get yourself a mentor. *Medical education*, 45(5), 438-439. <https://doi.org/doi:10.1111/j.1365-2923.2011.03948.x>
- Ehrich, L. C., Hansford, B., & Tennent, L. (2004). Formal Mentoring Programs in Education and Other Professions: A Review of the Literature. *Educational Administration Quarterly*, 40(4), 518-540. <https://doi.org/10.1177/0013161x04267118>
- Gandhi, M., & Johnson, M. (2016). Creating More Effective Mentors: Mentoring the Mentor. *AIDS and behavior*, 20(2 SUPP/2), 294-303.
- Heeneman, S., & de Grave, W. (2017). Tensions in mentoring medical students toward self-directed and reflective learning in a longitudinal portfolio-based mentoring system – An activity theory analysis. *Medical teacher*, 39(4), 368-376. <https://doi.org/10.1080/0142159X.2017.1286308>
- Johnson, W. B. (2007). *On Being a Mentor: A Guide for Higher Education Faculty*. Lawrence Erlbaum Associates. <https://books.google.nl/books?id=kHhd7Vjtn6sC>
- Kashiwagi, D. T., Varkey, P., & Cook, D. A. (2013). Mentoring Programs for Physicians in Academic Medicine: A Systematic Review. *Academic Medicine*, 88(7), 1029-1037. <https://doi.org/10.1097/ACM.0b013e318294f368>
- Kelchtermans, G. (1993). Getting the Story, Understanding the Lives: From Career Stories to Teachers' Professional Development. *Teaching and teacher education*, 9(5-6), 443-456.
- Kelchtermans, G. (2009). Who I am in how I teach is the message: self-understanding, vulnerability and reflection. *Teachers and Teaching*, 15(2), 257-272. <https://doi.org/10.1080/13540600902875332>
- Könings, K. D., Mordang, S., Smeenk, F., Stassen, L., & Ramani, S. (2021). Learner involvement in the co-creation of teaching and learning: AMEE Guide No. 138. *Medical teacher*, 43(8), 924-936. <https://doi.org/10.1080/0142159X.2020.1838464>
- Lefroy, J., Watling, C., Teunissen, P. W., & Brand, P. (2015). Guidelines: the do's, don'ts and don't knows of feedback for clinical education. *Perspect Med Educ*, 4(6), 284-299. <https://doi.org/10.1007/s40037-015-0231-7>
- Loosveld, L. M., Driessen, E. W., Vanassche, E., Artino, A. R., & Van Gerven, P. W. M. (2022). Mentoring is in the 'I' of the beholder: supporting mentors in reflecting on their actual and preferred way of mentoring. *Bmc Medical Education*, 22(1), 638. <https://doi.org/10.1186/s12909-022-03690-3>

- Loosveld, L. M., Van Gerven, P. W. M., Vanassche, E., & Driessen, E. W. (2020). Mentors' Beliefs About Their Roles in Health Care Education: A Qualitative Study of Mentors' Personal Interpretative Framework. *Academic Medicine*, *95*(10), 1600-1606. <https://doi.org/10.1097/acm.0000000000003159>
- McLeod, P. J., & Steinert, Y. (2009). Peer coaching as an approach to faculty development. *Medical teacher*, *31*(12), 1043-1044. <https://doi.org/10.3109/01421590903188729>
- Meeuwissen, S. N. E., Stalmeijer, R. E., & Govaerts, M. (2019). Multiple-role mentoring: mentors' conceptualisations, enactments and role conflicts. *Medical education*, *0*(0), 605-6015. <https://doi.org/10.1111/medu.13811>
- Michael, O. (2008). Mentoring mentors as a tool for personal and professional empowerment in teacher education. *International Journal of Evidence Based Coaching & Mentoring*, *6*(1).
- Mishler, E. G. (1979). Meaning in context: Is there any other kind? *Harvard Educational Review*, *49*(1), 1-19. <https://doi.org/10.17763/haer.49.1.b748n4133677245p>
- Nicholls, G. (2006). Mentoring: the art of teaching and learning. In P. Jarvis (Ed.), *The Theory & Practice of teaching* (pp. 157-168). Routledge.
- O'Sullivan, P. S., & Irby, D. M. (2011). Reframing research on faculty development. *Acad Med*, *86*(4), 421-428. <https://doi.org/10.1097/ACM.0b013e31820dc058>
- O'Keefe, M., Lecouteur, A., Miller, J., & McGowan, U. (2009). The Colleague Development Program: a multidisciplinary program of peer observation partnerships. *Medical teacher*, *31*(12), 1060-1065. <https://doi.org/10.3109/01421590903154424>
- Orland-Barak, L., & Klein, S. (2005). The expressed and the realized: Mentors' representations of a mentoring conversation and its realization in practice. *Teaching and teacher education*, *21*(4), 379-402. <https://doi.org/https://doi.org/10.1016/j.tate.2004.05.003>
- Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods* (4 ed.). SAGE Publications, Inc.
- Pfund, C., Maidl Pribbenow, C., Branchaw, J., Miller Lauffer, S., & Handelsman, J. (2006). Professional skills. The merits of training mentors. *Science (New York, N.Y.)*, *311*(5760), 473-474.
- Prenger, R., Poortman, C. L., & Handelzalts, A. (2017). Factors influencing teachers' professional development in networked professional learning communities. *Teaching and teacher education*, *68*, 77-90. <https://doi.org/10.1016/j.tate.2017.08.014>
- Ramani, S., Gruppen, L., & Kachur, E. K. (2006). Twelve tips for developing effective mentors. *Medical teacher*, *28*(5), 404-408. <https://doi.org/10.1080/01421590600825326>
- Sambunjak, D., Straus, S. E., & Marusic, A. (2010). A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *J Gen Intern Med*, *25*(1), 72-78. <https://doi.org/10.1007/s11606-009-1165-8>
- Sambunjak, D., Straus, S. E., & Marusić, A. (2006). Mentoring in academic medicine: a systematic review. *JAMA*, *296*(9), 1103-1115.
- Sambunjak, D., Straus, S. E., & Marusić, A. (2010). A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *J Gen Intern Med*, *25*(1), 72-78. <https://doi.org/10.1007/s11606-009-1165-8>
- Schreurs, M.-L., Huveneers, W., & Dolmans, D. (2016). Communities of teaching practice in the workplace: Evaluation of a faculty development programme. *Medical teacher*(15), 1-7.
- Schut, S., Heeneman, S., Bierer, B., Driessen, E., van Tartwijk, J., & van der Vleuten, C. (2020). Between trust and control: Teachers' assessment conceptualisations within programmatic assessment. *Medical education*, *54*(6), 528-537. <https://doi.org/https://doi.org/10.1111/medu.14075>
- Schuwirth, L. W. T., & Van der Vleuten, C. P. M. (2011). Programmatic assessment: From assessment of learning to assessment for learning. *Medical teacher*, *33*(6), 478-485. <https://doi.org/10.3109/0142159X.2011.565828>
- Siddiqui, Z. S., Fisher, M. B., Slade, C., Downer, T., Kirby, M. M., McAllister, L., . . . Christine Brown, W. (2023). Twelve tips for introducing E-Portfolios in health professions education. *Medical teacher*, *45*(2), 139-144. <https://doi.org/10.1080/0142159X.2022.2053085>
- Sood, A., Tigges, B., & Helitzer, D. (2016). Mentoring Early-Career Faculty Researchers Is Important—But First “Train the Trainer”. *Academic Medicine*, *91*(12), 1598-1600. <https://doi.org/10.1097/acm.0000000000001264>

- Straus, S. E., Chatur, F., & Taylor, M. (2009). Issues in the Mentor–Mentee Relationship in Academic Medicine: A Qualitative Study. *Academic Medicine*, *84*(1), 135-139. <https://doi.org/10.1097/ACM.0b013e-31819301ab>
- Tan, Y. S., Teo, S. W. A., Pei, Y., Sng, J. H., Yap, H. W., Toh, Y. P., & Krishna, L. K. R. (2018). A framework for mentoring of medical students: thematic analysis of mentoring programmes between 2000 and 2015 [journal article]. *Advances in Health Sciences Education*, *23*(4), 671-697. <https://doi.org/10.1007/s10459-018-9821-6>
- van der Vleuten, C. P., & Schuwirth, L. W. (2005). Assessing professional competence: from methods to programmes. *Med Educ*, *39*(3), 309-317. <https://doi.org/10.1111/j.1365-2929.2005.02094.x>
- van der Vleuten, C. P., Schuwirth, L. W., Driessen, E. W., Dijkstra, J., Tigelaar, D., Baartman, L. K., & van Tartwijk, J. (2012). A model for programmatic assessment fit for purpose. *Med Teach*, *34*(3), 205-214. <https://doi.org/10.3109/0142159x.2012.652239>
- Vanassche, E., & Kelchtermans, G. (2015). Facilitating self-study of teacher education practices: toward a pedagogy of teacher educator professional development. *Professional Development in Education*, *42*(1), 100-122. <https://doi.org/10.1080/19415257.2014.986813>
- Vanassche, E., & Kelchtermans, G. (2016). A narrative analysis of a teacher educator's professional learning journey. *European Journal of Teacher Education*, *39*(3), 355-367. <https://doi.org/10.1080/02619768.2016.1187127>
- Venktaramana, V., Ong, Y. T., Yeo, J. W., Pisupati, A., & Krishna, L. K. R. (2023). Understanding mentoring relationships between mentees, peer and senior mentors. *Bmc Medical Education*, *23*(1), 76. <https://doi.org/10.1186/s12909-023-04021-w>
- Vleuten, C. P. M. (2014). When I say ... context specificity. *Medical education*, *48*(3), 234-235. <https://doi.org/doi:10.1111/medu.12263>
- Watling, C. J., & Ginsburg, S. (2019). Assessment, feedback and the alchemy of learning. *Med Educ*, *53*(1), 76-85. <https://doi.org/10.1111/medu.13645>
- Wenger, E. (1998). *Communities of practice : learning, meaning, and identity*. Cambridge University Press.

ADDENDUM

IMPACT PARAGRAPH

ENGLISH SUMMARY

NEDERLANDSE SAMENVATTING | SUMMARY IN DUTCH

ACKNOWLEDGEMENTS

ABOUT THE AUTHOR

SHE DISSERTATION SERIES

IMPACT PARAGRAPH

This chapter describes the scientific and societal impact of the research conducted at as part of this thesis. It will briefly outline the results, and set out in which ways the insights obtained are disseminated from an academic but also more practically oriented point of view.

RESEARCH

The studies gathered in this thesis tell a story about mentoring. The chapters do not have one single answer to a single overarching question, but each provide insights into different aspects of mentoring. **Chapter 2** (*“Mentors’ Beliefs About Their Roles in Health Care Education: A qualitative Study of Mentors’ Personal Interpretative Framework”*) reports on a semi-structured interview study, aimed at reconstructing mentors’ personal interpretative framework. These insights can offer mentors a heuristic for mapping and understanding why they act the way they do in certain situations and how this potentially may affect the learning of their mentees.

The four mentoring positions described in **Chapter 2** led to the development of the Mentor Reflection Instrument (MERIT) survey, as described in the article *“MERIT: a mentor reflection instrument for identifying the personal interpretative framework”*. **Chapter 3** details the development, first administration and initial validation of the MERIT, which was designed to support mentors’ reflections. Whereas the mentoring positions in **Chapter 2** concern mentors’ personal interpretative framework as a whole, the MERIT zooms in closer on what mentors feel belonging to their mentoring tasks. The MERIT results can be interpreted as focus points in one’s mentoring task perception. While certain focus points may be more prominent depending on the context and mentees involved, they are not mutually exclusive, and mentors can focus on multiple focus points at the same time. From the first administration of this survey we have learned that mentors can reflect on their actual and preferred approach to mentoring, and as mentors gain more experience, the discrepancy between these two modes tends to diminish (**Chapter 4**: *“Mentoring is in the ‘I’ of the beholder: supporting mentors in reflecting on their actual and preferred way of mentoring”*).

Additionally, this thesis focusses on a dilemma in daily mentoring practice: what happens when mentors are asked to combine the support of their mentees with assessment? This affects not only mentors but mentees too, therefore their perspective is brought into this thesis too. Both mentors and mentees were interviewed about their experiences with combining developmental support and assessment within a programmatic assessment context. The results of this study are described in *“Combining assessment and support: Mentors’ and mentees’ experiences in a programmatic assessment*

context" (**Chapter 5**). The study demonstrates that mentors can be responsible for both developmental support and assessment, and this arrangement can be highly effective. However, tensions may sometimes arise. Some tensions could be alleviated through specific strategies employed by mentors and mentees. Furthermore, a well-designed assessment program could preemptively address some of the tensions.

TARGET AUDIENCE

The relevance of this thesis extends to stakeholders involved in mentoring, including but not limited to mentors, mentees, faculty developers, program coordinators and designers. It can assist in establishing and maintaining programs that facilitate the personal and professional growth of both mentors and mentees. Similarly, it can contribute to the theoretical and practical understanding of the what, why, and how of mentoring, as it explores how mentors perceive their roles and how they enact these assumptions and beliefs in practice.

PRACTICAL AND THEORETICAL RELEVANCE

Relevance in a mentoring context

Throughout the research process, I have come to realize the significance of decision-making in the mentoring process at large. This encompasses not only the seemingly smaller decisions, such as establishing mutual expectations and responsibilities between mentors and mentees, or how to engage in a conversation with a shy – or conversely – a slightly too articulate mentee, but also broader design decisions at the faculty development level or overall program level. These last-mentioned decisions can influence the dynamics between mentors and mentees. For instance, when mentors are required to assess their mentees this may create tension and alter the nature of their relationship. On the faculty development level, choices regarding the topics offered and the working format used during mentor development trajectories can stimulate mentors' reflection on the how, what, and why of their mentoring.

Use of mentoring positions, focus points and MERIT at Maastricht University

At the Faculty of Health, Medicine and Life Sciences, faculty new to mentoring participate in a series of three mentoring workshops where they learn more about building a relationship with mentees, assisting mentees in critical and thorough reflection on their own actions, guiding mentees as they prepare specific learning objectives, and providing actionable feedback. A new component to these sessions is

explicit attention for questions central to the topic “who am I as mentor?”. Mentors engage in group discussions on the role of the mentor (and mentee), and the relationship between them. Discussions are stimulated with video clips of mentee interviews, recordings of so-called ‘critical incidents’ and case studies. Mentors are also encouraged to discuss issues from their daily practice with fellow mentors. Additionally, during the first workshop mentors brainstorm on what mentoring means to them, and they learn about the four mentoring positions. During the second part of that workshop mentors discuss their own mentoring in relation to the four mentoring positions. In between workshops two and three mentors fill out the MERIT survey. Workshop three opens with a short theoretical explanation about what the different MERIT focus points entail, and why mentors answered each question twice. They then interview each other and try to come up with examples of their highest and lowest MERIT scores. Subsequently, they discuss a written mentee case and try to look at the case from the perspective of multiple focus points.

Dissemination of mentoring positions, focus points and MERIT outside Maastricht University

Multiple national and international conference presentations, invited lectures and workshops have been presented on the work included in this thesis. Until now, a number of formal and informal requests have been submitted to use the mentoring positions and the MERIT in other institutions nationally and internationally, both with the aim of conducting research and using it in practice. An overview of this can be found in Appendix 1, Tables 1 and 2.

Relevance in other contexts

Insights gleaned from the research presented here can also have relevance outside the mentoring context. When exploring the personal interpretative framework of faculty in other teaching roles we would not only yield knowledge on these teachers’ knowledge and beliefs, but also shed light on whether they too are able to reflect on the how, what and why of their mentoring. If this is the case, incorporating reflective exercises in their professional development could be beneficial during faculty development trajectories. Teachers could, for example, first reflect on their personal interpretative framework individually, after which they share their findings with a group of peers. When this group engages in peer consultation – sometimes also called peer coaching or intervision – teachers could actively seek advice from peers whom they know to have similar (or different!) views on teaching, which could then in turn enrich their own teaching.

Additional versions of the MERIT could be developed that are applicable outside the context of health professions education. Due to the importance of professional context in the personal interpretative framework it would be good to not assume that

the MERIT is universally applicable, but that there is actual added value in revisiting individual questions and the overall coherence structure of the survey. Some questions or blocks of questions will need to be modified or completely replaced, which would warrant a new validation process.

Furthermore, the personal interpretative framework of mentees – more specifically their task perception – could be an interesting venue for more research. It is worth exploring whether the MERIT could be reworked as a student survey that mentees can use to reflect on what they see as important components in a mentor-mentee relationships, and what the tasks of mentors and mentees in that relationship are. Alternatively, interviews or focus groups could be considered to explore mentees' knowledge and beliefs about mentoring.

Publications

All studies presented in this thesis have been published via gold Open Access. For me it was important to provide access to all instruments developed during the research process and to be transparent about the prompts, questions and vignettes used during the interviews, so these were always made available as appendices. In this way they are available not only to colleagues, or those connected to well-funded institutions, but also to individuals outside that context.

APPENDIX 1: TABLES

Table 1 Conference sessions and other presentations.

Oral Presentation	Faculty development: mentoring education	2017, NVMO Egmond aan Zee, the Netherlands	Lianne M. Loosveld, Geraldine Clarebout, Eline Vanassche, & Erik W. Driessen
Round table presentation	Professional Development for mentors within health professions education	2018 EARLI SIG 11 Kristiansand, Norway	Lianne M. Loosveld, Geraldine Clarebout, Eline Vanassche, & Erik W. Driessen
Oral Presentation	A Blueprint for Double Blended Faculty development, aimed at Mentors in Health Professions Education	2018, Mini Rogano Amsterdam, the Netherlands	Lianne M. Loosveld, Pascal W.M. Van Gerven, Eline Vanassche, & Erik W. Driessen
Digital knowledgebase	Ask-AMEE mentoring	2018, AMEE	Sylvia Heeneman, Lianne Loosveld, Erik Driessen, Andrea Oudkerk Pool
Oral Presentation	Mentors role perceptions: a qualitative study on their personal interpretative framework	2019, IFDC Ottawa, Canada	Lianne M. Loosveld, Pascal W.M. Van Gerven, Eline Vanassche, & Erik W. Driessen
Oral Presentation	Mentors role perceptions: a qualitative study on their personal interpretative framework	2019, NVMO Rotterdam, the Netherlands	Lianne M. Loosveld, Pascal W.M. Van Gerven, Eline Vanassche, & Erik W. Driessen
Oral presentation	Mentors' role perceptions: a qualitative study on their personal interpretative network	2020, AMEE Online	Lianne M. Loosveld (presenter), Pascal W.M. Van Gerven, Eline Vanassche, & Erik W. Driessen

Table 1 Continued.

Webinar / Invited online lecture	The how, what and why of mentoring	2020, AMEE Online	Lianne M. Loosveld, Pascal W.M. Van Gerven
Magazine	Mentoring Magazine	2020, Online	Lianne Loosveld
Workshop	“Mentoring is in the ‘I’ of the beholder”	2021, SOP Online	Lianne Loosveld, Pascal Van Gerven, Erik Driessen, Eline Vanassche, Anthony Artino
ePoster	Mentoring is in the ‘I’ of the beholder: Supporting mentors in reflecting on their actual and preferred way of mentoring.	2022, AMEE Lyon, France	Lianne Loosveld, Erik Driessen, Eline Vanassche, Anthony Artino, Pascal Van Gerven
Invited lecture	MERITS of mentoring	2022, NVMO DP werkgroep Utrecht	Lianne Loosveld
Invited lecture / webinar	Mentoring in health professions education: Through the eyes of mentors and mentees.	2023, online, Brigham Education Institute Brigham and Women’s Hospital: Harvard Medical School	Lianne Loosveld, Subha Ramani
Preproposal to full proposal	How do mentors form their professional identity? A longitudinal mixed-methods study.	2023, AMEE Faculty development, Dundee	Felicitas Biwer, Lianne Loosveld, Erik Driessen
Workshop	Mentor ik zoals ik ben, zoals ik wil of zoals ik moet?	2023, NVMO Maastricht	Lianne Loosveld, Erik Driessen, Eline Vanassche, Anthony Artino, Pascal van Gerven
Workshop	Do I mentor like I am, like I want, or like I should?	2023, IFDC Glasgow	Lianne Loosveld, Erik Driessen, Eline Vanassche, Anthony Artino, Pascal van Gerven

Table 2 Use of MERIT data/ MERIT survey

Book reference	Mentoring In Health Professions Education: Evidence-Informed Strategies Across the Continuum (IAMSE Manuals)	2021	Alice Fornari (Editor), Darshana T. Shah (Editor)
Faculty Development offer for mentors	Use of MERIT findings published in (Loosveld LM, Van Gerven PWM, Driessen EW, Vanassche E, Artino AR. MERIT: a mentor reflection instrument for identifying the personal interpretative framework. BMC Med Educ. 2021;21(1):144.)	2022, Zucker School of Medicine at Hofstra/Northwell	Alice Fornari & Annalise R. Ellis
Dissertation trajectory in the Educational Doctorate program	Use of MERIT survey	2022, Delta State University	Robin Avant
Study of student teaching supervision/ mentorship in initial teaching certification.	Use of MERIT survey	2022, Elementary / Early Childhood Education Department Slippery Rock University	Laura Strong, Michelle Amodei

ENGLISH SUMMARY

This thesis explores how mentoring takes shape and how mentors look at their own mentoring. It aims to provide an answer to the question: **How do mentors experience the what, why, and how of their mentoring?** In this context, 'mentor' refers to a faculty member who establishes a long-term relationship with a mentee, with a focus on the mentee's personal and professional growth. The way mentors implement this relationship is unique to each individual, as they have their own personal interpretative framework that forms the foundation of their mentoring approach. The personal interpretative framework consists of two dimensions. The first is mentors' *professional self-understanding*, which refers to how mentors perceive themselves in their mentoring. The second dimension is *subjective educational theory*, which encompasses mentors' personal system of knowledge and beliefs about how they mentor. Within the context of this thesis, mentors' personal interpretative framework was explored through interviews and a survey. In addition, I explored how mentors and mentees experienced the impact of a specific contextual factor on their mutual relationship: what happens when mentors are not only involved in support, but also in the programmatic assessment of their mentees?

With the study described in **Chapter 2**, mentors' personal interpretative framework is reconstructed. 18 Mentors from three Maastricht University undergraduate programs were interviewed. The analysis of the interview data led to the identification of four mentoring positions: the facilitator, the coach, the monitor, and the exemplar. Each dynamic position represents a coherent set of normative beliefs about activities mentors engage in with their mentees. The positions also describe whether the mentor or mentee takes the lead in these activities and how they could be carried out. Mentors who adopt a facilitator or coach position often do this in a responsive manner, but facilitator and coach mentors differ with regards to the activities they engage in during mentoring. Facilitator mentors more feel that they provide a service to their mentees, where the coach mentors tend to focus more on support of development. Mentors taking a monitor position interact with mentees on a more collaborative basis, signalling how mentees are doing, and helping them to recognise and keep track of their progress. Exemplar mentors, on the other hand, do not have a clear preference for providing service or supporting development, and tend to be a bit more directive in nature.

The second study in this thesis, written up in **Chapter 3**, describes the development and collection of initial validity evidence for the MERIT survey, the MEntor Reflection Instrument. The MERIT is designed to support mentors' reflection, and is developed based on theory built in the qualitative first study of this thesis and additional literature review. The survey categorizes mentors' answers into four factors, representing focus points in their mentoring: (1) supporting personal development, (2) modelling professional development, (3) fostering autonomy, and (4) monitoring performance. Mentors often have

a specific focus, or combine focus points in their mentoring practice. It is important to note that mentors may prioritize certain focus points over others depending on the context and the mentee.

As described in **Chapter 4**, the MERIT survey includes duplicate questions. Each question is answered twice: once for actual mentoring and once for preferred mentoring. Mentors were asked to consider their current mentoring approach (actual mentoring) and reflect on whether they would like to do things differently (preferred mentoring). For some mentors the responses in these two modes differed from each other. The analysis of the survey responses revealed that the participating mentors perceived a discrepancy between their actual and preferred mentoring. This could indicate that they desired a different emphasis or level of presence of certain focus points in their mentoring. In general, when mentors perceived discrepancies, the years of experience as a mentor moderated the discrepancy between actual and preferred mentoring, with more experienced mentors perceiving a smaller discrepancy between their actual and preferred mentoring. This effect was particularly influenced by responses related to the focus on 'supporting professional development'.

Chapter 5 presents the final study in the thesis, where both mentors and mentees were interviewed to gain insights into their experiences with the combined responsibility of providing developmental support and conducting assessments. The study explores how this combination influenced their mutual relationship and how mentors and mentees coped with it. The findings indicate that this combination does not inherently cause tension, but it also does not always proceed smoothly. For some participants, making the mentor responsible for both developmental support and assessment fitted well due to the long-term nature of a mentor-mentee relationship. For others this combination caused tensions, which affected the quality of their relationship, the degree of dependence and trust between mentor and mentee and changed the nature and content of their conversations. To alleviate tensions, mentors and mentees described different strategies. Mentors emphasized transparency about their expectations towards their mentees, clearly distinguished between developmental support and assessment, or justified the combination of support and assessment. Mentees agreed with these strategies and discussed similar topics, but the practical outcomes varied. Alleviating tensions should not be a responsibility of mentors and mentees only. Programs of assessment should be designed in such a way that the 'tension temperature' is kept low. All stakeholders involved in programmatic assessment should be supported in learning how to combine support and assessment, and how to have conversations about the expectations of that combination.

NEDERLANDSE SAMENVATTING | SUMMARY IN DUTCH

Dit proefschrift onderzoekt hoe mentoring vorm krijgt en hoe mentoren naar hun eigen mentoring kijken. Het beoogt daarmee een antwoord te geven op de vraag: Hoe ervaren mentoren het wat, waarom en hoe van hun mentoring? In deze context verwijst “mentor” naar een docent die een longitudinale ontwikkelrelatie heeft met een mentee, waarin de focus over het algemeen ligt op de persoonlijke en professionele groei van de mentee. De manier waarop mentoren deze relatie in de praktijk tot uiting brengen is voor elke mentor uniek, omdat ze elk hun eigen persoonlijk interpretatiekader (*personal interpretative framework*) hebben dat de basis vormt van hun individuele aanpak. Het persoonlijk interpretatiekader bestaat uit twee dimensies. De eerste dimensie is het *professioneel zelfverstaan* van mentoren, wat verwijst naar hoe mentoren zichzelf zien als mentor. De tweede dimensie is de *subjectieve onderwijstheorie*, die de persoonlijke kennis en overtuigingen van mentoren omvat over hoe zij mentoring in de praktijk brengen. Binnen de context van dit proefschrift werd het persoonlijk interpretatiekader van mentoren onderzocht aan de hand van interviews en een vragenlijststudie. Daarnaast werd onderzocht hoe mentoren en mentees de impact van een specifieke contextuele factor ervoeren op hun onderlinge relatie: wat gebeurt er wanneer mentoren niet alleen verantwoordelijk zijn voor de ondersteuning, maar ook voor de programmatische toetsing van hun mentees?

Met de studie die wordt beschreven in **Hoofdstuk 2** wordt het persoonlijk interpretatiekader van mentoren gereconstrueerd. Achttien mentoren van drie bacheloropleidingen aan de Universiteit Maastricht werden geïnterviewd. De analyse van de interviewgegevens leidde tot de vorming van vier mentoring posities: de *facilitator*, de *coach*, de *monitor* en de *exemplar*. Elk van die dynamische posities bestaat uit een samenhangende set normatieve overtuigingen over de manier waarop mentoren hun doelen samen met mentees in praktijk brengen. De posities beschrijven ook of de mentor of mentee het voortouw neemt bij deze activiteiten en hoe ze kunnen worden uitgevoerd. Mentoren die een facilitator- of coachpositie innemen doen dit vaak beide op een responsieve manier, maar ze verschillen met betrekking tot de activiteiten die ze doen. Faciliterende mentoren voelen zich vaker dienstverlenend richting hun mentees, terwijl coachende mentoren zich meer richten op ondersteuning van ontwikkeling. Mentoren die een monitorpositie innemen werken op een meer collaboratieve basis met mentees. Ze monitoren de voortgang van hun mentees en helpen hen trends in hun ontwikkeling te herkennen en bij te houden. Exemplarmentoren daarentegen hebben geen duidelijke voorkeur voor dienstverlenen of het ondersteunen van ontwikkeling, en vaak zijn iets meer sturend van aard.

De tweede studie in dit proefschrift (**Hoofdstuk 3**), beschrijft de ontwikkeling en eerste aanzet tot validering van de MERIT-vragenlijst: het MEntor Reflection Instrument. De MERIT is ontwikkeld om de reflectie van mentoren te ondersteunen. De resultaten

van de eerste studie van dit proefschrift en aanvullend literatuuronderzoek boden daartoe input. De MERIT categoriseert de antwoorden van mentoren in vier factoren die kunnen worden gezien als focuspunten in hun taakopvatting: (1) ondersteuning van persoonlijke ontwikkeling, (2) modelleren van professionele ontwikkeling, (3) bevorderen van autonomie en (4) monitoren van prestaties. Mentoren hebben vaak een specifieke focus of combinatie van focuspunten in hun mentoringpraktijk. Deze focuspunten staan echter niet vast: mentoren kunnen bepaalde focuspunten (tijdelijk) prioriteren boven andere, afhankelijk van de context, zoals bijvoorbeeld de behoeften van hun mentees.

Zoals beschreven in **Hoofdstuk 4** wordt elke vraag in de MERIT twee keer beantwoord. Eén keer voor hoe mentoren hun persoonlijk interpretatiekader daadwerkelijk in de praktijk brengen, en één keer voor hoe zij dit wensen te doen. Mentoren wordt gevraagd hun huidige mentoringpraktijk (daadwerkelijke mentoring) in gedachten te nemen, en te reflecteren op of ze dingen anders zouden willen doen (gewenste mentoring). Voor sommige mentoren verschillen de antwoorden in deze twee antwoordmodi van elkaar. Een analyse van de resultaten toont bovendien aan dat mentoren een discrepantie ervaren tussen hun daadwerkelijke en gewenste mentoring. Over het algemeen verkleint het aantal jaar ervaring dat een mentor heeft de discrepantie tussen daadwerkelijke en gewenste mentoring. Met andere woorden: meer ervaren mentoren ondervinden een kleinere discrepantie, wat met name wordt beïnvloed door hun antwoorden op het thema “ondersteuning van professionele ontwikkeling”.

Hoofdstuk 5 beschrijft de laatste studie in dit proefschrift, waarin zowel mentoren als mentees worden geïnterviewd. Het doel van de studie is om meer zicht te krijgen op hoe deze doelgroep het feit ervaart dat mentoren vaak verantwoordelijk zijn voor de combinatie van het begeleiden én beoordelen van mentees. De studie onderzoekt hoe deze combinatie hun onderlinge relatie beïnvloedt en hoe mentoren en mentees hier vervolgens mee omgaan. Uit de resultaten blijkt dat deze combinatie niet noodzakelijkerwijs altijd spanning veroorzaakt, maar ook niet altijd even soepel verloopt. Voor sommigen past de gecombineerde verantwoordelijkheid voor begeleiden en beoordelen goed bij de langdurige aard van een mentor-mentee relatie. Voor anderen veroorzaakt deze combinatie spanning die de kwaliteit van hun relatie en de mate van afhankelijkheid en vertrouwen tussen mentor en mentee beïnvloedt en de aard en inhoud van hun gesprekken verandert. Om spanning te verlichten beschrijven mentoren en mentees verschillende strategieën. Mentoren benadrukken het belang van transparant zijn over hun verwachtingen ten aanzien van hun mentees, ze maken duidelijk onderscheid tussen begeleiden en beoordeling, of verantwoorden de combinatie ervan. Mentees kunnen zich vinden in deze strategieën en bespreken soortgelijke onderwerpen, maar de uitwerking hiervan in de praktijk verschilt van die van de mentoren.

Het verlichten van spanningen moet echter niet alleen de verantwoordelijkheid zijn van individuele mentoren en mentees. Toetsprogramma's dienen zo ontworpen te worden dat de spanningstemperatuur laag blijft. Alle betrokken belanghebbenden bij programmatisch toetsen dienen ondersteund te worden in het leren combineren van begeleiden en beoordelen, en bovendien in het uitspreken van verwachtingen ten aanzien van die combinatie.

ACKNOWLEDGEMENTS

Welkom bij het ongetwijfeld meest gelezen hoofdstuk van een proefschrift: het dankwoord. Misschien zou iemand daar een studie naar moeten doen: welk hoofdstuk wordt als eerste en vaakste gelezen? Ik denk dat ik de resultatensectie al wel durf te schrijven. Een goed dankwoord schrijven is echter niet eenvoudig, wat alle promovendi die mij zijn voorgegaan waarschijnlijk zullen beamen. Mijn originele plan was om dit alles kort en krachtig te doen, maar ik merkte al snel dat dat jammerlijk mislukte. Verwacht hier ook geen valide en betrouwbaar verhaal, maar hopelijk wel impact. Doen jullie zelf een membercheck?

Pascal, we hebben elkaar de afgelopen jaren veel gesproken, en ik heb je in al die tijd nog nooit op een dip in je enthousiasme en je betrokkenheid kunnen betrappen. En dat alles ondanks dat ik me goed kan voorstellen dat het allemaal soms best lang leek te duren (dat *deed* het uiteraard ook). Maar we zijn er, en ik durf wel te stellen dat het zonder jouw pragmatische houding, rappe maar diepgaande feedback en oog voor detail zowel een stuk minder secuur als minder snel zou zijn gegaan! Samen hebben we weleens gefoeterd op omslachtige procedures, en ik heb me door jou altijd erg gesteund gevoeld in de keuzes die ik maakte. Ik kan me nog goed herinneren dat jij bij het (in onze ogen overigens onnodig) moeten vertalen van een tekst een keer zei: “Nederlands schrijven in dit vak is een beetje als carnaval vieren in Staphorst. Geen gezicht.” Nou, mee eens! Ik kan alleen maar hopen dat de PhD’s die ik vast ooit ga begeleiden met net zo’n goed gevoel terugkijken op de samenwerking zoals ik die ervaren heb met jou.

“Trainen doe je met honden Lianne, niet met mensen”, ik hoor het je nog zeggen Eline! En hoewel het me in het begin soms hoofdbreken bezorgde ben ik daarmee de wereld wel door een andere bril gaan bekijken. Hóe je iets schrijft doet ertoe, en ik heb dankzij jou geleerd dat woorden nooit zomaar woorden zijn. Jou een vraag stellen staat garant voor een antwoord krijgen dat alles én meer omvat dan je had durven hopen toen de vraag opborrelde, en er zijn maar weinig mensen die de wereld van kwalitatief onderzoek zo toegankelijk voor me hebben kunnen maken als jij. Je nam me ooit mee voor een koffiewandelingetje waarin je vertelde dat je mijn voortgang voortaan van wat verder weg zou gaan volgen, maar dat heeft onze samenwerking nooit in de weg gestaan. Ik moet alleen wel echt mijn belofte om eens langs te komen nog steeds waarmaken, excuus daarvoor!

Erik, jij zei tijdens het brainstormen over een volgende studie wel vaker: “Ja, en dan maken we er gewoon de Loosveld vragenlijst van”. En natuurlijk zei je dat gekscherend, maar je gaf daarmee wel altijd het vertrouwen dat je mijn werk serieus nam en als

waardevol zag. Ik herkende al snel het geluid van je loopje op de gang als je langskwam voor een praatje tussendoor, nog afgezien van onze maandelijks formele afspraken. En dat formeel mag echt wel tussen aanhalingstekens, want hoe serieus het gesprek ook was, het ging altijd in een ontspannen sfeer. Ik heb veel van je geleerd en moet nog vaak gniffelen om die ene keer dat je een fietsroute van Kaj leende en je je rondje onbedoeld bijna bij onze voordeur eindigde.

Geraldine Clarebout, met jou in mijn team ben ik deze reis ooit begonnen en alhoewel het jammer is dat je er niet tot het eindstation bij hebt kunnen zijn ben ik erg blij met het spoor waarnaar je me begeleid hebt.

Herma, ik weet niet of je het weet, maar jij hebt me geleerd hoe reizen werkt. Dat klinkt misschien stom, maar jouw manier van mensen iets laten ontdekken en het stimuleren van het “zelf doen” zie ik terug in veel van wat je doet. Je stimuleert mensen om zelf na te denken, om dingen uit te proberen en je geeft ook volop ruimte om dat op een veilige manier te doen. En wanneer er ook maar een heel klein beetje ruimte is om iemand te coachen, complimenteren of op een voetstuk te zetten zal jij de eerste zijn die dat ook doet.

Maartep! Eh, Maarten, dus. Ik weet nog dat ik als kersverse bachelorstudent lid werd van DM en toen al enorm van je onder de indruk was (en toegegeven, zelfs een beetje geïntimideerd af en toe). Onder de indruk van je ben ik nog steeds. Ik vind het leuk om je op zowel professioneel als persoonlijk vlak te kennen, en er zijn maar bijzonder weinig mensen waarmee ik zó goed sarcastisch en ongemeend gemeen kan zijn als met jou! Zit me niet te mailen en laat vooral ook niet mijn proefschrift vallen!! Met vriendelijke griet, Liaenn.

Cintha, Astrid, Ruth en Sophie. Ik noem jullie nu in één adem, maar dat is natuurlijk volledig onterecht. Als ik bedenk hoeveel werk jullie verzetten dan is dat moeilijk te evenaren. Zonder jullie waren er geen trainingen, geen deelnemers, geen respondenten, geen actieoverleg, geen ruimtereserveringen, en geen koekjes bij de koffie, maar bovenal niet die geweldige gezellige en lieve mensen op kamer N4.16. En laat ik ook het secretariaat “boven” - in wisselende samenstelling - niet vergeten. Nicky, Hennie, Lisa, Eveline, Lilian, Audrey, Ryan, dank voor jullie nooit aflatende moeite om ons allemaal te ondersteunen in het beste uit onszelf en ons werk te halen.

Wladimir, als jij nooit had gezegd “solliciteer nou maar gewoon”, had ik hier nooit gestaan. Dus dankjewel daarvoor! Dank ook aan alle (voormalige) collega’s bij BO-FPN, het OI en DO van FHML. Ik heb het altijd ontzettend belangrijk gevonden om mijn onderzoek met de dagelijkse praktijk te kunnen verbinden, en wil daar ook graag mee blijven doorgaan.

Felicitas en Juliët, mijn medecreatievelingen binnen O&O, fijn dat bij jullie nooit een idee te gek is, en dat jullie ook dol zijn op het opstarten van clubjes en nieuwe initiatieven buiten werktijd. Daarnaast ook de dames van de “is het Teksel of Tessel” WhatsAppgroep: Michelle, Anne en Samantha, dank dat jullie me destijds hebben geadopteerd in jullie secundaire “kamer-app”, zo kon ik het fulltime PhD-leven toch een beetje meekrijgen. En Sanne en Sanne, bedankt dat ik me destijds bij jullie -Anne genootschap mocht voegen! Een korte noot ook aan het lunchwandelclubje van destijds: Greet, Mara en Anneke, onze rondjes door het Randwyck-parkje waren af en toe letterlijk en figuurlijk broodnodig, bedankt daarvoor.

Renée, heel fijn dat je me altijd blijft vragen voor een wandeling en/of koffie, en dat ik jou letterlijk knuffelvoeten heb mogen leren haken in ruil voor een sunrise-sessie smartphonefotografie. Ik tref je binnenkort vast wel weer bij Koffie, Coffelovers, Fixed Gear of Alley Cat voor een spontane koffiedate.

Nou Stephanie, we hebben min of meer nog net op tijd onze wederzijdse belofte ingelost om samen te gaan fietsen. Nu alleen nog een keer op een moment waarop we daadwerkelijk ergens gemakkelijk een koffie- & vlaaistop kunnen maken! Al dan niet met de mannen erbij (want laten we het qua planning vooral allemaal niet te gemakkelijk maken). En als dat niet lukt, laten we op zijn minst weer vaker samen richting huis fietsen om ongezouten de dag door te spreken en met elkaar mee te denken, want er zijn weinig mensen waarmee dat zo fijn lukt.

Mattias, je bent er duidelijk een van Leuven, en dat is absoluut een compliment! Zonder jouw theoretische kennis en praktische inzet was de laatste studie zeker niet zo snel en grondig verlopen. Excuses nog voor het lange wachten en de Nederlandse mayonaise.

Ik zou dit hoofdstuk nog heel veel langer kunnen maken, maar dat is waarschijnlijk voor niemand goed. Daarom richt ik ook graag een algemeen maar bijzonder welgemeend “dank dat je mee was/meelas/meedacht/meeschreef of anderszins betrokken was bij mijn werkplezier de afgelopen jaren” aan onder andere:

- De taakgroep DocProf
- De taakgroep E-learning & ID
- De collega's van O&O, SHE en MHPE
- De vele fulltime en parttime PhD-collega's die ik de afgelopen jaren heb mogen leren kennen, zowel binnen SHE als “aan de overkant” bij ERD
- De collega's van onder meer de CPD-werkgroepen bij FHML en UM-centraal; de OC-Health; de DocProfwerkgroepen binnen de UM, NVMO en AMEE; de UB-collega's en team studentadvisering
- Leo, Jan, Ronit, Ludwig & Veerle

- Mascha, Henny, Marijke & Margriet
- Maurice & Ruud
- Angelique
- Tony Artino
- Janneke
- Jill
- Tineke
- Alle mentoren en mentees die deelnamen aan de verschillende studies

Een speciaal woordje is hier ook op zijn plaats voor Kirsten. Niet alleen omdat je zonder aarzelen “ja” zei toen je alwéér door iemand gevraagd werd om paranimf te zijn. Maar ook omdat je ondanks ons nog altijd groeiend tempoverschil toch te porren bent voor een rondje wielrennen, wandelen, praten over werk, en het consumeren van de nodige hoeveelheden ijs of thee, al naargelang het seizoen.

Vanuit hier ga ik ook door naar de DM-classics, oud-FM'ers en alle nieuwe sportvrienden van LFC en MZPC met een bedankje voor de nodige sportieve afleiding, lange weekenden weg en vakanties door de jaren heen. And a creative thanks goes out to the members of the sewing council WhatsApp group, for all their advice in favour of or against buying fabric & notions and the never-ending encouragements that prevented many self-made projects from ending in indefinite timeout in the infamous “naughty box”.

Sabine en Moniek, mijn favoriete basilicum- en lama-liefhebbende vriendinnen van vroeger én nu! Ik ben echt zo ontzettend blij dat we door de jaren heen contact zijn blijven houden en dat we – ondanks dat we niet meer enorm dicht bij elkaar in de buurt wonen – elkaar nog regelmatig zien. We hebben al heel wat grote piekmomenten van elkaar mogen meemaken en zijn er ook voor elkaar in de dalen. Laten we alsjeblieft nooit stoppen met het plannen van dagjes weg, klagen over belangrijke bijzaken en foto's sturen vanuit pashokjes (“deze dan, of toch die eerste maar, want die past beter bij die cognackleurige laarsjes?”).

Marjo, Ton, Mats en Mindy, Arno, wat is het fijn om al jaren ook deel uit te mogen maken van de Raaijmakers-Roumans kant, ik voel me bij jullie altijd bijzonder welkom en gesteund, zowel op persoonlijk als professioneel vlak. Nu m'n proefschrift af is heb ik hopelijk weer wat meer schrijfmoraal voor jullie uitzonderlijk lange surprisegedichten!

Eline en Johan, dankzij jullie hoef ik nooit lang op zoek naar mensen om een bordspel mee te doen, en als ik érgens op een familiebijeenkomst zonder twijfel nog voordat de eerste hap genomen is durf uit te roepen dat dit het lekkerste gebak/ontbijt/lunch/diner/dessert ooit is, dan is het wel bij jullie thuis (en sorry nog voor die pittige paprikasoep hè!). Dank voor het bijzonder warme – tegenwoordig – Gelderse bad dat jullie altijd bieden!

Papa en mama, dank voor jullie “misschien zou je ook eens onderzoek moeten doen naar”-tips. Ook dankjewel dat jullie altijd binnen no time met raad en daad klaarstonden als ik weer eens een klusproject had bedacht. Jullie ondersteuning op dat vlak heeft mij veel geleerd in het dagelijks leven. Mam, ik vind het nog altijd bijzonder om het verhaal te kunnen vertellen dat ik ongepland in groep 3 van jou heb leren lezen, en dat jij dus letterlijk en figuurlijk aan de voet van mijn onderwijscarrière hebt gestaan. Pap, dank voor je niet aflatende vertrouwen en herhaaldelijke “dat kun je prima zelf, je moet gewoon even goed en logisch nadenken, en rustig aan doen” aan de telefoon als er in mijn ogen weer eens iets dringend NU gefikst moest worden. Ik hoor die woorden nog vaak in mijn hoofd weerklinken en ben nog altijd blij dat ik dankzij jou mijn eigen wand-contactdozen kan aansluiten.

Kaj, tot slot, omdat dat blijkbaar nou eenmaal zo hoort, maar je staat wat mij betreft natuurlijk eigenlijk met stip bovenaan. Jouw steun is al ruim meer dan tien jaar van onschatbare waarde. En niet alleen omdat je me met grote regelmaat voorzag van de hoognodige doses cafeïne en met ironie dooraderd sarcasme, maar ook omdat je altijd met me meegedacht hebt. En dat meedenken was niet alleen op inhoudelijk vlak. Sterker nog, onze gesprekken gingen meestal juist níet om de inhoud, maar over alles daaromheen. Als notoir doemdenkende twijfelaar heb ik maar geboft met jou in mijn leven. Ik ken weinig mensen die de wereld op zo’n abstracte maar realistische manier kunnen bezien als jij. En waar ik standaard tien “what-ifs” aan elkaar knoop omdat ik dénk dat ze van invloed zijn op de mogelijke langetermijnnuitkomst van mijn beslissing hak jij knopen door zonder ook maar één keer met je ogen te knippen. Als ik mezelf weer eens gek maakte over (figuurlijke) punten en komma’s die in mijn ogen wereldveranderend grote gevolgen zouden kunnen hebben en vervolgens sommige zinnen wel 10 keer herschreef zei jij kalm: “Tja, ik weet het natuurlijk ook niet, maar je ziet het vanzelf, toch?”

En zo is het maar net, je ziet het vanzelf. Bedankt lief!

ABOUT THE AUTHOR

Lianne was born in Venlo, the Netherlands on February 28th, 1988. She attended secondary education between 2000 and 2006. During this period, she enrolled in a bilingual program at Valuascollege Venlo, wherein she predominantly undertook coursework in the German language instead of her native Dutch. As a student at the Faculty of Psychology and Neuroscience (FPN) and later the School of Business and Economics (SBE), she moved to Maastricht in 2007 and has lived there ever since.

Upon attaining her bachelor's and master's degree and gaining professional experience at FPN for a number of years, she transitioned to the Faculty of Health, Medicine and Life Sciences. In 2014, she assumed the role of educational advisor within the Department of Educational Development and Research. Since 2016, her responsibilities have encompassed not only her involvement in the faculty development taskforce but also a research position within SHE (School of Health Professions Education). Her primary professional activities centre on the coordination, design, implementation, and research associated with the professional development of teaching faculty.

At present, Lianne chairs the Educational Programme Committee for the Health domain. Furthermore, she coordinates the faculty development programme for new mentors and the FHML programme for Continuing Professional Development. In addition to these roles, she co-coordinates the coach programme within the Master of Health Professions Education, and mentors and coaches bachelor and master students. During her PhD research journey, Lianne became actively involved in various local, national, and international special interest groups dedicated to faculty development and continuing professional development. She also represented the SHE PhD community in management team meetings and the central PhD committee of the faculty.

Lianne will continue her work within the faculty development taskforce as an assistant professor. Furthermore, she is already engaged in a diverse range of international research projects deriving from her own PhD work. She dedicates her free time to fibre crafts, endurance sports and, – of course – enjoying copious amounts of coffee.

SHE DISSERTATION SERIES

The SHE Dissertation Series publishes dissertations of PhD candidates from the School of Health Professions Education (SHE) who defended their PhD theses at Maastricht University. The most recent ones are listed below. For more information go to: <https://she.mumc.maastrichtuniversity.nl>

- Heijns, L. (16-06-2023) Aspects of geometry, fixation and materials in total hip arthroplasty. What have we learned?
- Gillespie, H. (06-06-2023) Helping students become doctors: analysing tensions and releasing opportunities in clinical workplaces
- Khan, M. (16-05-2023) Overcoming barriers in the prevention of surgical site infections: a master plan employing task-based interprofessional training
- Tremblay, M-L. (08-05-2023) Lights. Camera. Action. Debrief. Designing Immersive Simulation for Novices to Promote Learning
- Bynum, W. (15-02-2023) Out of the Shadows: A qualitative exploration of shame in learners across the continuum of medical education
- Mordang, S. (07-02-2023) Challenges in high-value cost-conscious care training of residents: Exploring the various stakeholders' roles and attitudes
- Brouwer, E. (12-12-2022) Medical education without borders. The what, why and how of International Medical Programmes
- Kellar, J. (26-10-2022) Becoming Pharmacists: Professional identity struggles of a profession in transition
- Biwer, F. (08-07-2022) Supporting Students to Study Smart – a learning sciences perspective
- Bransen, D. (22-06-2022) Beyond the self: A network perspective on regulation of workplace learning
- Lee, J. (08-06-2022) The Medical Pause in Simulation Training
- Kruepunga, N. (17-05-2022) Development of the caudal part of the human embryo
- Cantillon, P. (28-04-2022) The Social construction of clinical education: being and becoming in clinical teams
- Pieters, J. (01-04-2022) Let's talk about it: Palliative care education in undergraduate medical curricula
- Jonge de, L. (28-03-2022) Is it all in the mind? Stakeholder conceptions on workplace based assessment
- Beuken, J. (25-3-2022) Waves towards harmony: Learning to collaborate in healthcare across borders
- Ilgen, J. (15-12-2021) Comfort with uncertainty in medical professionals. An exploration of how clinicians experience and manage dynamic problems in practice

- Schut, S. (9-12-2021) 'The Burden of Proof - Agency and Accountability in Programmatic Assessment'
- Hui, L. (6-12-2021) 'Fostering Self-Regulated Learning: the Role of Perceived Mental Effort'
- Meeuwissen, S. (12-11-2021) 'Team learning at work. Getting the best out of interdisciplinary teacher teams and leaders'
- Nguyen Thi, V.A. (02-11-2021) 'Motivating and educating health professionals to work in less attractive specialties: Findings from experiences of Vietnam'
- Martens, S. (15-10-2021) 'Building student-staff partnerships in higher education'
- Lestari, E. (05-10-2021) 'INTERPROFESSIONAL EDUCATION Lessons from Indonesia'
- Atherley, A. (27-09-2021) 'Beyond the struggles: Using social-developmental lenses on the transition to clinical training'
- Schillings, M. (06-07-2021) 'Talking about feedback: Face-to-face peer dialogue about written feedback'
- Wilbur, K. (05-07-2021) 'NO WHERE | NOW HERE: Context and Competency Expectations in Workplace-Based Training'
- Bendermacher, G. (02-07-2021) 'Navigating from Quality Management to Quality Culture'
- Ahmed Khan, R. (29-06-2021) 'Assessing curriculum viability in Undergraduate Medical Education'
- Chim, H.Q. (30-03-2021) 'Physical Activity Behavior and Learning in Higher Education'
- Dominguez, L.C. (23-02-2021) 'Persistence in surgical training: The role of job crafting and leadership'
- Bindels, E. (22-02-2021) 'DOING WELL, GETTING BETTER; Facilitating physicians' reflection on their professional performance'
- Iqbal, Z. (15-12-2020) 'All stakeholders matter in faculty development: Designing entrustable professional activities for small group facilitation'
- Tran, QT. (09-12-2020) 'Nationwide implementation of medical skills training laboratories in a developing country: studies from Vietnam'
- Pacifico, J. (30-11-2020) 'Making the Implicit Explicit: Uncovering the Role of the Conceptions of Teaching and Learning and the Perceptions of the Learning Climate in Postgraduate Medical Training.'
- Nishigori, H. (17-11-2020) 'Why do doctors work for patients? Medical professionalism in the era of neoliberalism'
- Oudkerk Pool, A. (06-11-2020) 'Competency-based portfolio assessment – Unraveling stakeholder perspectives and assessment practices'
- Geel van, K. (05-11-2020) 'Lifelong learning in radiology: all eyes on visual expertise'
- Stammen, L. (16-10-2020) 'Pursuing - High-Value, Cost-Conscious Care - The Role of Medical Education'

- Meulen van der, M. (15-10-2020) Assessment of physicians' professional performance using questionnaire-based tools
- Matsuyama, Y. (05-10-2020) Contextual attributes fostering self-regulated learning in a teacher-centered culture: learner's professional identity formation is a trigger
- Rovers, S. (16-09-2020) Growing knowledge, supporting students' self-regulation in problem-based learning
- Bourgeois-Law, G. (03-09-2020) Conceptualizations of remediation for practicing physicians
- Giuliani, M. (19-05-2020) A Critical Review of Global Curriculum Development, Content and Implementation in Oncology
- Schreurs, S. (20-03-2020) Selection for medical school; the quest for validity
- Schumacher, D. (19-03-2020) Resident Sensitive Quality Measures: Defining the Future of Patient-Focused Assessment
- Sehlbach, C. (21-02-2020) To be continued.... Supporting physicians' lifelong learning

