DOCTORAL (PhD) DISSERTATION

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The Role of Adult Learning Processes in the Practice of Mentoring Novice Teachers

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Dedication

I dedicate my dissertation work to my family and many friends. A special feeling of gratitude to my loving husband, Balázs whose words of encouragement and push for tenacity was unconditional and to my parents who have never left me down and are also very special.

I dedicate this work and give special thanks to my wonderful daughters Zita and Emma for being there for me throughout the entire doctorate programme. You have been my best cheerleaders.

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Last but not the least, I express my gratitude to the opponents of this dissertation, the head of the defence committee, the secretary and the committee members for the time dedicated to reading my dissertation and provide invaluable reflections.

> *May the road rise up to meet you.*
> *May the wind be always at your back.*
> *May the sun shine warm upon your face;*
> *the rains fall soft upon your fields and until we meet again,*
> *may God hold you in the palm of His hand.*

Chapter 1 Introduction

This chapter presents the rationale and conceptual foundation of the dissertation project, states the purpose of the study and provides research questions, and clarifies their significance. This chapter ends with an outline of the dissertation.

1.1 BACKGROUND AND RATIONALE

We can, indeed, survive the terror of the coming journey and undergo the transformation by moving through, not around, our fear. Mentors give us the magic that allows us to enter the darkness: a talisman to protect us from evil spells, a gem of wise advice, a map, and sometimes simply courage. But always the mentor appears near the outset of the journey as a helper, equipping us in some way for what is to come, a midwife to our dreams. [...]

Mentors are guides. They lead us along the journey of our lives. We trust them because they have been there before. They embody our hopes, cast light on the way ahead, interpret arcane signs, warn us of lurking dangers and point out unexpected delights along the way. There is a certain luminosity about them and they often pose as magicians in tales of transformation, for magic is a word given to what we have much to learn from the mythology of the mentor. (Daloz, 1986, p. 16)[1]

Mentoring support is usually assigned to a route that people have to complete, a process that is difficult to adopt without the assistance of someone who has already done it. Mentoring in teacher training (TT – which refers to mentoring in initial teacher education and early career teacher mentoring in the first two years of teaching), is acknowledged as the most crucial support strategy through which novices learn about the teaching profession. Among many other goals, mentoring aims to help novices to survive, thrive and succeed the induction part of their career and encourages novices to define their professional identity as teachers (Fairbanks et al., 2000). Guided reflective teaching practice is fundamental for novice teachers to become and develop as teachers (Korthagen, 2004). Different mentoring programmes have certain elements in common concerning conceptual frameworks, role concepts and goals. These elements are integral parts of a comprehensive theory of mentoring in TT (Mathur et al., 2013). In the following

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[1] Daloz, L.A. (1986) Effective Teaching and Mentoring. San Francisco: Josey Bass. In Jarvis P., Griffin, C. Adult and Continuing Education: Teaching, learning and research (2003)

sections, the main themes and elements of the current dissertation how they relate to the theory are presented.

1.2 IMPACT OF MENTORS ON NOVICE TEACHERS

Gaining real teaching experience is considered to be an essential part of teacher training and the mentor teachers who work with novices in schools have a significant impact on the learning process in this context (e.g. Wang, 2001; Mathur, Gehrke & Kim, 2013). The important role of mentor teachers in training new generations of teachers is widely acknowledged in the European context, although the expected competences, professional attitudes, and practices are articulated only as broad recommendations by the European Commission (European Commission, 2013). Some member states further specify these in their national legislative documents, hence the different descriptions, frameworks and mentors' core competences are usually detailed in state-specific documents (European Commission, 2013, 2015a, 2015b). Nevertheless, in European initial teacher education which includes the Hungarian system as well (European Commission, 2015a), an integrated definition of 'the mentor' has gained general acceptance. Their main responsibility is to support beginning teachers and to develop their teaching competences. Further, it is generally understood that mentoring for reflective practice that is defined by Schön (1996, p. 26) as "thoughtfully considering one's own experiences in applying knowledge to practice while being coached by professionals in the discipline" underlies any work with novice teachers. Reflection, as referred to in this research project as well, is "the instrument by which experiences are translated into dynamic knowledge" (Korthagen, 2001, p. 53). It facilitates growth competence, that is, the ability to develop professionally in an ongoing manner guided by internally directed learning.

1.2.1 Importance of reflective practice

In Hungary as elsewhere in Europe, mentors should master and support the development of reflective thinking and professional analysis (cognitive knowledge), be able to develop beginning teachers' reflective thinking (ability) and devote attention to self-reflection for professional development (attitude) (Kotschy, Sallai & Szőke-Milinte, 2016, p. 11-13). Mentoring guidelines in Hungary, integrating international and national empirical research (Szivák, Lénárd & Rapos, 2011; Simon, 2013; Kotschy et al., 2016), present a comprehensive mentoring framework that includes mentors' duties and expected achievements of the mentoring process in TT. These documents contain, complete and

specify the European indicators and also present recommended mentoring strategies, activities and their conceptual foundations, whilst granting mentors with professional autonomy in choosing and developing the most appropriate models to use in their own practice. Nevertheless, it is generally understood that mentoring for reflective practice underlies any work with novice teachers.

1.2.2   Mentoring novices as adult learners

Although Hungarian mentoring guidelines (Szivák et al., 2011; Simon, 2013; Kotschy et al., 2016) and national and international research findings recommend applicable models, tools, strategies and necessary elements of mentoring, studies concerned with mentees' experiences of the mentoring process found that positive outcomes are often missing due to the lack of adaptive and differentiated reflective strategies in practice (Mathur et al., 2013; Gál, Singer, Simon & Szabados, 2014; Kovács, 2015; Kovács & Dombi, 2015; Van Ginkel, Oolbekkink, Meijer & Verloop, 2015a; Van Ginkel, Verloop & Denessen 2015b). Further, these practices could support student autonomy and responsibility for own learning progress. In particular, within the reflective practice of mentors an integrated perspective on adult learning is often missing and its potential for personal and professional development in building a teaching career is underestimated. Nevertheless, supporting self-regulated learning (SRL) and student autonomy (two concepts highlighted in adult learning programmes) is also core to TT programmes in general (Timperley, 2008, p. 6; Kramarski & Michalsky, 2009; Gaál, 2015). Teacher training programmes worldwide are designed within the paradigmatic and conceptual framework of adult learning (e.g.: Hobson et al, 2009, Cohen & Kaplan, 2013, Hudson, 2013, Clarke, Triggs & Nielsen, 2014). Recently, the interpretive possibilities of adult learning have become more important in education policies, however, developers of teacher training systems mostly acknowledge that the system alone cannot fully serve the professional needs of the entire teaching career (Lunenberg, 2005; Murray, 2005; Dolan, 2010; Kotschy, 2011). Continuous professional development in the teaching profession is (also) essential, so lifelong learning becomes paramount in a period of reflective modernity, when the learner has to think reflectively about complex choices (Hager, 2011). The incentive for this dissertation has been this particular discrepancy, particularly, to discover and analyse it in mentoring practices.

1.2.3 Different roles of mentors

While studies and regulations have shown what the role and duties of these teachers should be, it is also worth considering how this role and related tasks are conceptualised by the mentors themselves. Processes of mentoring for teaching in primary and secondary schools have been transforming simultaneously with the structural changes in teacher education in Hungary (Act CCIV of 2011 on National Higher Education; Act CXC of 2011 on National Public Education and the Government Decree 326/2013 (30. VIII)). Educational policy provisions are being introduced to make mentor teacher certification mandatory for mentors[2] who work with pre-service and in-service novice teachers in schools during their practicum. A two-semester formal mentor training programme focuses on raising pedagogical awareness for mentoring strategies, administrative and statutory duties, conflict management, expectations, roles and functions in mentoring and, importantly, it also prepares mentors for reflective practice (Korthagen, 2004; Schön, 1983). Mentor teachers usually do not have the ability, time or chance to access further methodological or professional support for managing mentorship after completing the teacher mentor certification programme. Further, since empirical research in this particular area is limited in the Hungarian context (partly due to the short period of time, concept of mentorship has been introduced in the Hungarian initial teacher education), there is a potential for improvement in this nationally underexplored research field.

1.2.4 Importance of school-university partnership

A mutually beneficial partnership between teacher training universities and practicum sites (schools of mentor teachers) is also a necessary condition for accomplishing a high level of reflexivity. A clear description of mentoring roles and mentors' activities is crucial in this process (Ng & Chan, 2012). Previous research focused on mentor teachers' role as teacher trainers and the competences related to it (Fairbanks et al., 2000; Hobson et al., 2009; M. Nádasi, 2010; Kovács, 2015), but studies rarely deal with how mentors are situated in the complex dynamics between universities (teacher training programmes) and the practicum sites (their own schools). Exploring the perspectives of the different participants in this network helps understand the discrepancies between the expected and realized practices of mentor teachers, which are often perceived as obstructive to effective

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[2] Title changed from „vezetőtanár" to „gyakorlatvezető mentortanár" in Hungarian. The change in terminology also suggests a change in the priorities of the role from leading to supporting novice teachers in their early teaching career.

school-university partnerships (SUPs) and thus to mentoring (Bullough & Draper, 2004; Cameron & Grant, 2017). Therefore, in this research, multiple perspectives of the participants are analysed on their diverse roles in SUPs: point-of-views of the mentor teachers, novice teachers, and the university-based mentor training programme directors (i.e. programme directors) and teacher educators.

1.3 DEFINITION OF TERMS

In this study, five basic terms are used for establishing the conceptual background for the empirical research: teacher training, school-based teacher mentor, novices and/or mentees, reflective practice and adult learning processes. In order to create a common ground for thinking, here short definitions for these terms are presented.

The term *teacher training* is used in this current study as integrative phrase to include both university-based teacher education and the introductory development phase in the first two years of novice teachers' career integrated in the continuous professional system of the Hungarian teacher education system. The word, *training* is used instead of education deliberately, to emphasise the training-like model of the system to induct novices to the profession (O'Neil, 1986; Stephens, Tonessen & Kyriacou, 2004)

Regarding the term teacher *mentor*, the definition[3] is used, according to which mentors are school-based educators and members of the teacher training network who play a special role in the induction of pre- and in-service novice teachers in their early career phase, and also support their colleagues in peer mentoring relationships (Caena, 2014). When this current text is referring to student/trainee teachers or teachers new to the profession, two terms are used interchangeably depending on the relational context. When the emphasis is put on the early career stage of students or new teachers, the term *novice* is used; while the relational aspect of the role is reflected, the term *mentee* is applied preferably.

Reflective practice, as Korthagen (2001) claims, is "the instrument by which experiences are translated into dynamic knowledge" (p. 53) and it facilitates growth competence (p.

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[3] This definition is in accordance with the legislative definition in the Hungarian regulation (Government Decree 326/2013 (30. VIII) §5): teachers starting their careers will receive help from a mentor at his/her school, appointed by the head of the school. The mentor is supposed to help the colleague find his/her place within the staff, coordinate their professional development as part of which mentors introduce them to the basic documents regulating the functioning of the school, visit their classes and assist them throughout their preparation for the certification examination.

47), that is, the ability to develop professionally in an ongoing manner guided by internally directed learning.

Adult learning is understood in the context of learning processes where adult learners are aware of conscious self-concept, adult learner experience, readiness to learn, orientation to learning and motivation to learning for employing basics, for obtaining new qualifications, for up-skilling or re-skilling for employment, for personal growth, or just for pleasure (Knowles, 1984a; Merriam & Bierema, 2013). Within adult learning processes, *self-regulated learning* (SRL) is understood as strong and individual autonomy and control for monitoring, directing and regulating actions to acquire information and expand knowledge or trigger self-improvement (Paris & Paris 2001). In initial teacher education, individual or student *autonomy* is interpreted as the "capacity for detachment, critical reflection, decision-making, and independent action" (Little, 1991, p. 4) with a greater responsibility for learning.

1.4   PURPOSES AND RESEARCH QUESTIONS

The aim of this current dissertation project is to explore, in the context of Hungarian teacher training, the common meeting points of endeavours to develop reflective practice and adult learning models in the mentoring phase of teacher training. The current analysis also provides an opportunity to address research questions that examine the joint work of mentor, mentee and the higher education professionals in developing reflective practice.

1.4.1   Purpose of the study

The purpose of the study described in the present dissertation was to fill in the practical-conceptual gap of mentoring novice teachers by exploring (1) the different ways the process of mentoring and the roles within are conceptualized by different actors in the process of teacher training; and (2) how these concepts are translated into the practical mentoring strategies to support mentees' adult learning. I also aim to explore the pre-assumption based on the literature review and pilot study that there is a certain degree of interconnectedness within the conceptualization of the mentoring profession and how that is affected by the external conditions of mentorship.

The dissertation was conducted in the pragmatic paradigm and applied a qualitatively-driven mixed-method approach combining several sub-studies: a Pilot Study (piloting interview themes and questions for the Main Study); an Audio Diary Study (monitoring mentoring processes in education); an Interview Study (with mentor training programme

directors and teacher educators); a cross-sectional Mentor Survey Study (with mentor teachers in Hungary).

This current dissertation has two main guiding questions to focus the orientation and objective of the research process. Added to the main research questions of this dissertation, a more detailed list of sub-questions is compiled in order to support designing, developing and categorizing the qualitative and quantitative data in the empirical studies. However, as this research project is meant to be a qualitatively driven relational study, it is also dealing with quantitative data to be analysed with logistic descriptive statistical methods. Thus, several assumptions have been formulated in accordance with the main research questions of this dissertation in order to examine the relations between the research elements. Significant correlations are expected to be detected between role concepts of mentors, their reflective practice and support provided for adult learning. By triangulating the evidence, the research aims to clarify and set the effect directions, scale and extent of these domains so as to summarise the findings in a multidimensional model of practices.

Firstly, this current dissertation research project aims to explore (1) *the different ways in which the process of mentoring, and the roles within, are conceptualized by different stakeholders in the process of teacher training.* It also intends to map out how these stakeholders see the current state-of-art of mentoring and how they think about the possible developmental options of mentoring, in and out of the mentoring process.

Secondly, this study will investigate (2) *how mentor teachers translate their concepts into the practical mentoring strategies they use to support mentees' adult learning.* This research aims to understand and analyse the relations between mentors' concepts and their approaches to mentoring, with a special focus of adult learning models.

1.4.2 Research questions

The research design was understood as a sequential protocol: first, three qualitative research studies (including the pilot study) were conducted to determine the concepts of teacher mentoring and the stakeholders' experience within, followed by a concurrent survey design in the quantitative tradition. The research questions were shaped to follow this sequential design, and the findings and results of each sub-study are manifested in the research questions of the following sub-study. The schematic causality of the design and the interconnected research questions and assumptions are presented in Figure 1 and in Table 1.
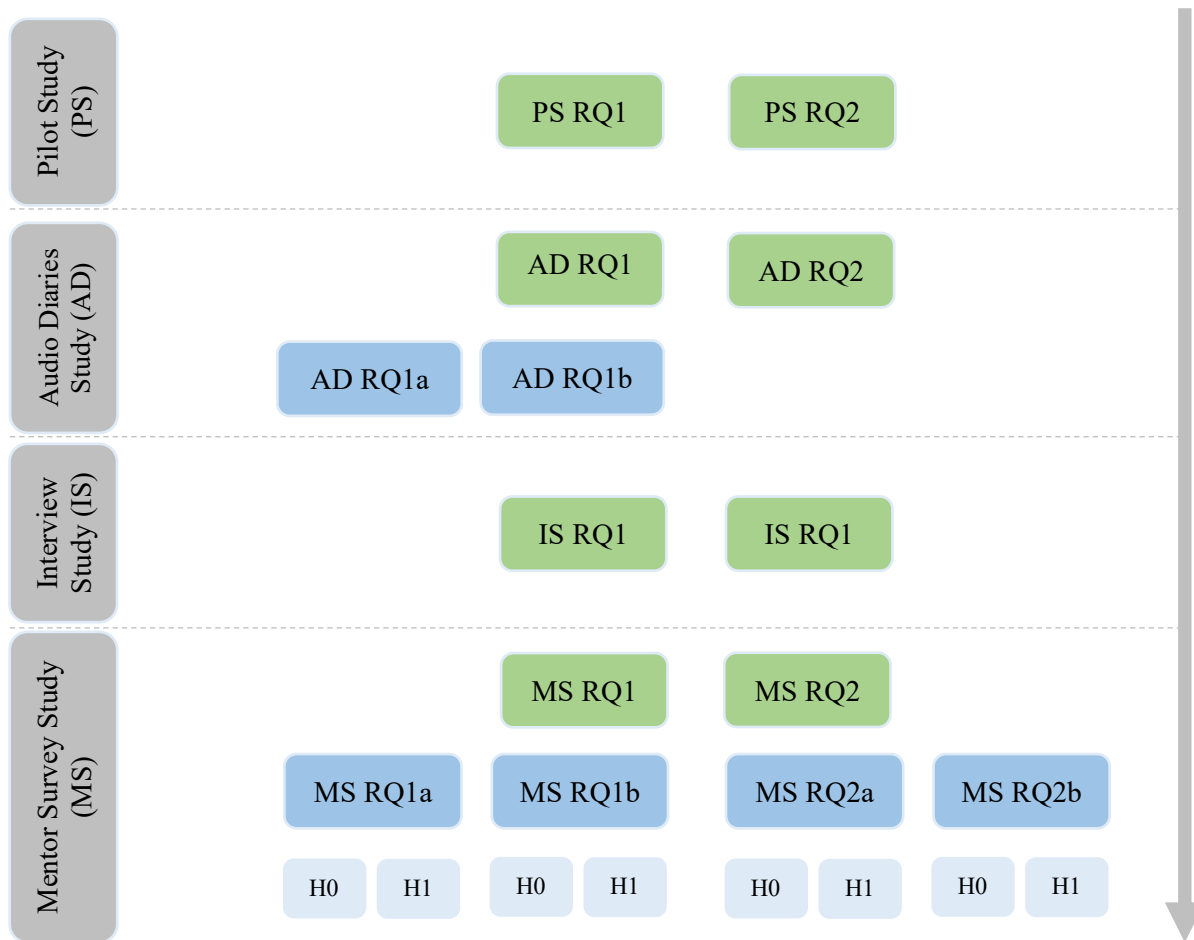
Figure 1. Visualization of the network of the research questions and related assumptions

There has been a first stage introductory study designed to strengthen and further elaborate the main research questions. The purpose of this *Pilot Study* was to map out, explore initial findings, and elicit the research focus for the main study by using an interpretative method to collect findings on a large spectrum of the mentoring process. The empirical research involved qualified and experienced school-based mentor teachers. Deep interviews were conducted, to gain as much information about the research field in focus as possible, in order to generate the most relevant research questions and select the most adequate research tool for the mixed method study. The Pilot Study sought to test and answer the following research questions for the Main Study:

PS RQ1: What are the different ways the process of mentoring and the roles within are conceptualized by different stakeholders in the process of teacher training? (Concepts of Mentoring)

PS RQ2: How do mentor teachers translate their concepts into practical mentoring strategies they use to support mentees' adult learning? (Supporting of Adult Learning)

The Pilot Study applied an interview approach to answer the research questions and drew data from 10 mentor teachers.

The purpose of the *Main Study* manifests the findings of the Pilot Study to investigate the complexity of mentoring process from various aspects. In this study, links and correlations are explored between those aspects of mentors, mentees, teacher educators and mentor training programme directors. The notions in focus were the mentoring concepts and practices, role of stakeholders in the process, relationship between mentor and the mentee, importance of mentoring qualification and the facilitation of adult learning within the process.

The sub-studies of the Main Study form research questions that sequentially intertwine, based on findings and results established by the proceeding research. This multi-layered sequential mixed methods research study sought to answer the research questions by the sub-studies as seen in Table 1. In the qualitative elements of the Main Study research, the complex set of factors around the central themes is explored and diverse concepts and interpretations are presented through the participants' perspective. While in the subsequent quantitative sub-study, the research scope is narrowed down to identify specific, narrow questions and hypotheses based on a few variables (Creswell, 2014).

Table 1. Collection of research questions and assumptions by sub-studies

Audio Diaries Study with mentor teachers and their mentees
RQ1a: What are the differences and similarities in how mentor teachers and their mentees perceive reflective practice and roles within their society of mind in their meta-position?
RQ1b: How is the mentoring intervention interpreted from different dialogical aspects by mentor teachers and their mentees?
RQ2: What are the benefits and difficulties of using audio diaries for reflective practice from the participants' perspectives?
Interview Study with mentor teachers, mentor training programme directors and teacher educators
RQ1: What are school-based mentors' concepts of their own roles and their mentees' process reflections?
RQ2: How do these the concepts of mentoring relate to the notions of university-based mentor training programme directors and teacher educators within the context of school-university partnerships?
Mentor Survey Study of mentor teachers
RQ1: In which manner do the different sets of complex components predict the process of mentoring in terms of qualification and mentoring experience?

RQ1a How does mentoring experience and qualification correlate with the complex concept about mentoring as learning held by the mentor teachers?
 	
         H0: Qualification and experience in mentoring are determinants for perceiving mentoring as an opportunity for professional learning and development.
         H1: Qualification and experience in mentoring do not show correlation with perceiving mentoring as an opportunity for professional learning and development.

RQ1b How does mentoring experience and qualification correlate with mentor teachers' practices of supporting mentees as adult learners?
 	
         H0: Qualification and experience in mentoring define certain patterns in conceptualizing mentoring as a support for adult learning processes.
         H1: Qualification and experience in mentoring do not define any particular patterns in conceptualizing mentoring as a support for adult learning processes.

RQ2: How do mentors perceive their work supported and motivated by external factors and stakeholders?

RQ2.a In which manner do mentors think that their work is supported by the teacher training institutions?
 	
         H0: Qualified mentor teachers feel rather supported by the teacher training institutions compared to non-qualified mentor teachers.
         H1: Qualified mentor teachers do not feel more supported by the teacher training institutions compared to non-qualified mentor teachers.

RQ2.b How do intrinsic and extrinsic motivators define mentoring?

> H0: Mentors tend to perceive extrinsic motivators stronger at the start of their mentoring career while in their current mentoring work, they feel intrinsic motivators stronger for staying in the profession.
>
> H1: Mentors do not report any change in perceiving extrinsic and intrinsic motivation for their mentoring work compared to their initial motivation when taking up mentoring.

In order to further elaborate the main research questions, several sub-questions were posed. The sub-questions highlight more subtle segments of the main questions and wrap around the fundamental objectives. These sub-questions elicit certain thematic elements and highlight foci summarized in Table 2.

Table 2. Thematic foci and key terms of the research sub-questions

	Concepts of Mentoring	Supporting Adult Learning
Key terms and foci of sub-questions	concept of learning to teach	mentee as an adult learner
	goals of mentoring	mentor as an adult educator
	efficacy of mentors	motivation
	reflective practice of mentors	self-regulation
	motivation of mentors	reflective circle
	roles in the process	situational and system-defined factors of mentoring adults
	external support provided for mentoring	concept of emergent adult
	mentor-mentee relationship	
	mentor's learning	
	mentor qualification	
	mentoring in school-university partnership	
	developmental initiatives	

The Main Study applied a qualitative-driven mixed-method study design to answer the research questions, involving 254 school-based mentor teachers, 14 mentees, teacher educators and university stakeholders from 7 universities nationwide. Participants for the study are identified through convenience sampling, and data were collected in semi-structured interviews, audio diary logs, and cross-sectional surveys.

1.5   SIGNIFICANCE OF THE STUDY

This current dissertation deals with an important, but empirically less studied field of teacher training in Hungary: concepts of mentorship and approaches to developing reflective practice in pre- and in-service teacher education in the larger context of adult learning models. This project builds on well-established international research and frameworks relating to the conceptualization of the roles of mentor teachers and their professional identity constructions; and provides insight into the challenges that mentors face in their practice. The study not only confirms the merits of mentoring in teacher training, but also demonstrates the significant responsibility that comes with the mentor's role; it explores possible strategies and models that may be applied to enhance the effects of the short but very intensive period of mentorship. This project thus aims to explore why and how mentoring strategies of reflective practices based on adult learning principles could enhance and contribute to a fruitful collaboration between mentor and mentee in order to establish a professional relationship that could lead to a sustainable teacher training system of the future.

Answering the research questions of the current study is expected to refine and enhance the educational context by fostering the efficacy of partnering collaborations in teacher training, and specifically in terms of mentoring. The prospective significance of this study can be classified into four domains, namely educational research, policy, teacher education, and teaching/mentoring practice.

The study is significant in terms of educational research because:

- It fills the research gap in the body of knowledge on mentoring concepts and real practices.
- It provides future research possibilities on the relationships among reflective practice, motivation, learning and teaching and school-based support for novices.
- It adapts an innovative methodological approach, namely, the audio diary approach to explore alternative ways for generating knowledge about teacher mentoring.

The study is significant in terms of educational policy because:

- It can inform educational policymakers about what is going on in the practice and how it could be supported by further measures. Policymakers can benefit from these findings when revising policies to promote mentorship in teacher training.

- It can aid policymakers to address contextual constrains and challenges to fostering reflexivity in mentoring. Policymakers could use the list of constraining and facilitating factors identified through the research to support even more fruitful and effective mechanisms within the context conducive to mentorship in teachers training.

The study is significant in terms of teacher training because:

- It provides an evidence base of what mentors and other stakeholders believe about mentoring. It offers a detailed account of Hungarian teacher mentors' beliefs and practices with respect to reflective practice in mentoring adults for teacher profession. Teacher education can build upon the findings of the current study and determine how the beliefs synthetized and explored in this study relate to pre-service and in-service teacher training programmes.

- It identifies factors that facilitate or limit mentors to translate their knowledges and intentions to manifest the mentoring programme more effectively. These factors can be reviewed and collaboratively reflected by the teacher training school, universities and by the mentors themselves.

The study is significant in terms of mentoring practice because:

- It provides mentor teachers with an overview of mentoring in education to inform concepts and practices of nurturing reflective practice with adult learning facilitation, which could help them develop more effective processes and learning management.

The significance of this study is discussed in more detail in Chapter 6, where implications, contributions, and suggestions for future research are presented based on the findings, and their interpretations.

1.6   OUTLINE OF THE DISSERTATION

The first three chapters of the dissertation establishes the basic considerations for the research. *Chapter 1* presented the background and rationale of the current study, included the research goals and research questions and connected assumptions. It also clarified the significance and possible impact of the research.

Chapter 2 contains the review of the literature in three areas: 1) mentoring in education: models, concepts, roles and strategies; 2) concepts of adult learning: models and domains; 3) adult learning processes in mentoring: potentials and evidence.

Chapter 3 explains the rationale and methods for conducting a qualitatively driven sequential mixed-method study in the pragmatic paradigm.

Chapter 4 briefly presents the results of the Pilot Study that oriented the foci and questions posed in the dissertation project. The chapter first discusses the interview methods applied to answer the pilot sub-questions, explains the relevance and strategy adopted, the protocol and selection of the participants as well as the data collected and analysed in the study. Results of the pilot study are presented next, along with the later formed research questions asked in the Main Study. Findings are then discussed and interpreted in relation to the existing body of literature on mentoring concepts, roles, and strategies. Chapter 4 ends with the conclusions drawn from the Pilot Study, its limitations, and implications for the subsequent Main Study.

Chapter 5 presents the Main Study of qualitatively driven sequential mixed method research. It discusses the mixed-method approach applied to answer the research (sub-) questions posed in the Pilot Study. This chapter explains the rationale behind the selection of the participants and presents the sample, details of the data collection and analysis methods, clarifies the steps taken to improve research quality, and describes the key ethical considerations. Chapter 5 then describes the findings of each of the research sub-sections in the chronological and interpretative order that the questions emerged from the procedures along the two main research questions and their sub-questions in the Main Study. Findings are then discussed and interpreted in relation to the existing body of literature on mentoring concepts and approaches, adult learning, reflective practice and school-university partnerships.

Chapter 6 brings together the findings, draw conclusion from the Main Study highlighting the key contributions and implications, as well as future directions for research.

Chapter 2 Literature Review

This chapter reviews the research literature at the intersection of mentoring, teacher training, adult learning and relevant spaces for school-university partnership in the present dissertation.

The chapter begins with an overview of mentoring (Section 2.1) discussing its research-based definition, theories, models, and roles relevant to understanding the phenomena in the context of teacher training. The chapter next examines the literature on reflective practice in mentoring (Section 2.2) reviewing the state-of-the-art research on reflective practice and thinking. Then, the literature on adult learning is discussed (Section 2.3) including the overview of theoretical models describing the potential of mentoring to support adult learning processes, roles and domains as the synthesis and appraisal of the evidence provided by the manifestation of adult learning in learning to teach.

2.1   MENTORING: DEFINITIONS, MODELS, CONCEPTS

2.1.1   Defining Mentoring

Approaches to define mentoring have diverse contextual foundations, but there are also common aspects that underline the primary importance of assisting the development of the mentee's expertise and to facilitate their induction into the culture of the organization/profession, within a specific local context (Hobson, 2009; Murray, 2001). *Mentoring* is conducted in various forms and through diverse settings (Kram, 2007; Mullen, 2012; Sorcinelli et al. 2011; Young & Brooks, 2008) that stimulates and structures developmental processes of mentees - and often mentors as well.

Mentoring has been defined in various ways. Some definitions underline the educational, learning focus of the process through networking and sponsoring (Tharp & Gallimore, 1995); others highlight the capacity building that the supporting process sustains (Crow & Matthews, 1998); another group of professionals put more emphasis on the impact that mentoring has on identity transformations with respect to socio/cultural differences (Young & Brooks, 2008; Kochan & Pascarelly, 2004). In this current dissertation, mentoring is understood in a socio-functional way as a dynamic process that encompasses different phases and functions in traditional and alternative settings (Ragins & Kram, 2007), which involves "primarily listening with empathy, sharing experience (usually

mutually), professional friendship, developing insight through reflection, being a sounding board, encouraging" (Clutterbuck, 2004, p. 22).

Mentoring programmes are built on "a complex interaction grounded by a close relationship" between the mentor and the mentee (Efstathiou et al., 2018, p. 1-2). Programme designs ideally integrate the following dimensions: (1) administrative support, (2) shared goals, (3) coordination for the length of the programme and the frequency of the mentoring sessions, (4) matchmaking procedure, (5) evaluation, and (6) service recognition. Mentoring as a continuously developing professional, social and psychological support may have various positive outcomes for mentors and mentees (Varney, 2009). Benefits are present on multiple levels, as it may have a positive influence on the institution, on the mentor and on the mentee (see Table 3). In a partnership of learning, mentoring has benefits also for the mentors and may positively influence the pedagogical climate on macro and micro levels as well.

Table 3. Benefits of mentoring

PERSPECTIVE	Institution Mullen & Hutinger, 2008; Phillips & Dennison, 2015; Efstathiou et al., 2018	Mentee Zahorski, 2002; de Janasz & Sullivan, 2004; Beckerman, 2010	Mentor Murray, 2001; Johnson, 2002; Beane-Katner, 2014
BENEFITS	− enhanced recruitment and retention processes, − more inclusive organization, − economic savings − preserved or re-cultured working, − support for new workforce to assimilate	− inclusion in the workplace culture, − reduced workplace isolation, − increased productivity and confidence, − developed teaching skills and competences, − more interaction and relationship	− sense of accomplishment and satisfaction, − renewed interest in work with new perspectives and ideas, − more networking and greater teaching and innovation efforts

Traditional mentoring models encompass skills-based, goal-oriented learning that tend to carry out the process in one-on-one learning arrangements (Mullen, 2012). Practitioners shape how novices learn in a professional development processes a part of a larger structure of the organization (Feiman-Nemser, 1990). Alternative model concepts expand the traditional approach of mentoring to a wider developmental spectrum, refuting the

characterisation of mentoring as a mere traded commodity (Darwin 2000). Alternative theories emphasize the importance of balance and transformation in the learning process (Mullen, 2012)

2.1.2 Goal of mentoring

All different types of mentoring are motivated by mutually agreed goals. These goals are best achieved if the organization (e.g. school, university, training provider) seeks to facilitate growth and development on an individual level. This facilitation is usually a strategy that encourages increased quality and efficacy of work, developed level of wellbeing and retention in the profession.

Meaningful goal-setting thus defines the mentoring process, its structure and dynamics, settings and roles taken. When main goals and smaller objectives of the programme are defined, the length and structure of the mentoring construct should be elaborated. Goals and functions of mentoring are categorized in two main thematic domains: career and psychosocial goals (Johnson, 2006; Mullen, 2012;). These domains are often overlapping in the mentoring process and include objectives that characterize both domains of categorization, namely, (1) sponsoring, (2) coaching, (3) exposing (introducing), (4) protecting, (5) challenging, (6) counselling, (7) confirming, (8) in/formally engaging, (9) role-modelling (Greenhaus & Singh, 2007, Hobson, 2009; Ragins & Kram, 2007)

2.1.3 Typology of mentoring

Main goals and objectives orient and define the mentoring process and structure, constructed by system-wide indicators. The above-mentioned goals and objectives of mentoring are manifested in various structures associated with different forms. *Figure 2* presents a complex indicator system of the mentoring process for mentor programme set-up in terms of structure and time framework, people involved, form of participation, matching process, nature of relationship, compensation available and modality of mentoring interactions. The diagram also presents the sub-components that further define these main indicators. Indicators are highly interdependent (Baugh & Fagenson-Eland 2007) and cross-impact the programme design.
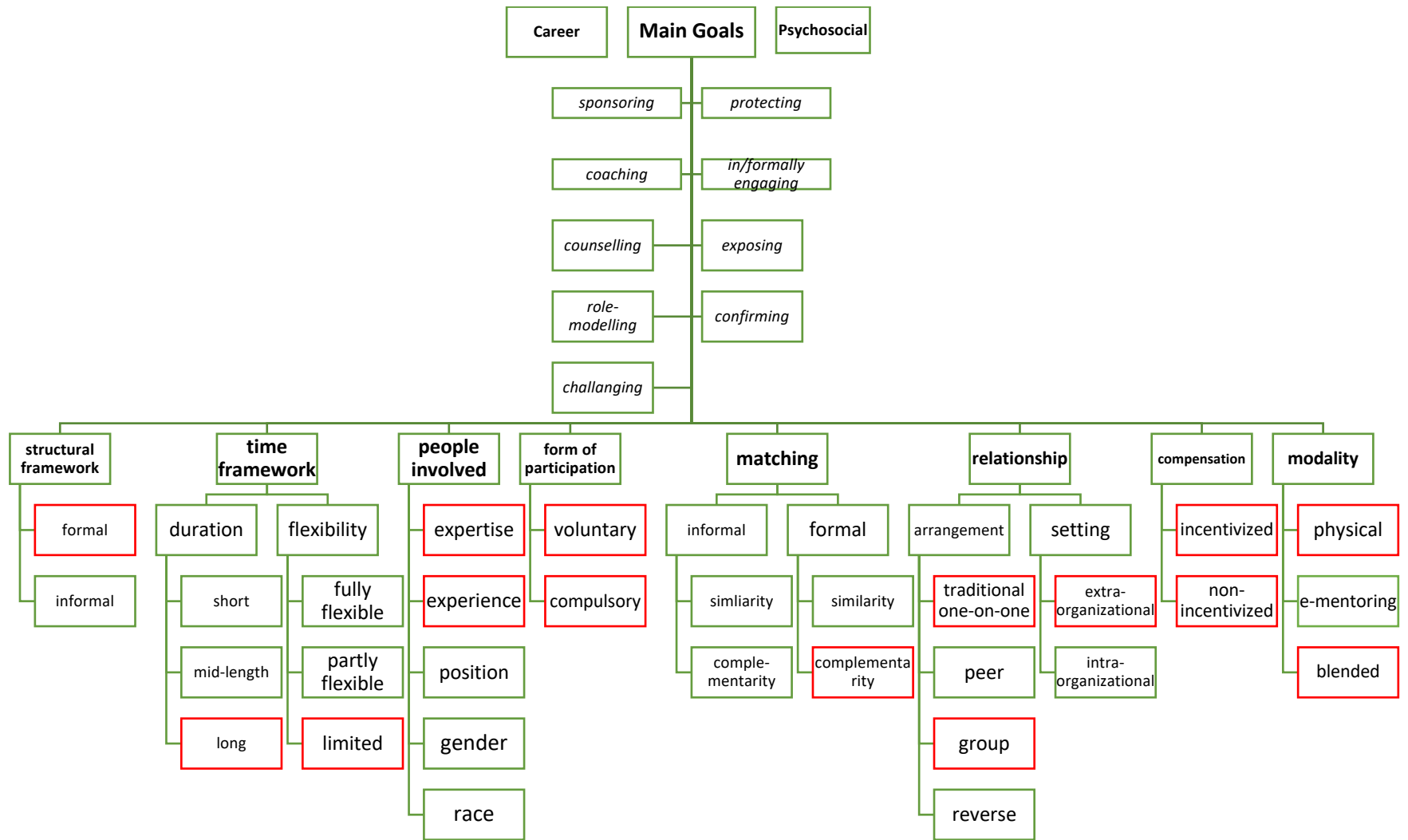
Figure 2. Indicators of mentoring programme constructs

In terms of structural framework, formal and informal structures are assigned to the degree of the organizational involvement. Formal or mandated mentoring relationships are developed by organizational intention while informal or humanistic relationships are formed and invested by the mentor-mentee interactions, needs and desires (Allen, Eby, & Lentz, 2006; Mullen, 2012; Varney, 2009). Formality of the relationship has a clear impact on the length of the mentoring process. Informal relationships last as long as it is mutually desired by the participants of the relationship, however, in a formal mentoring programme, the relationship is defined in a more limited time frame (Blake-Beard, Murell, & Thomas, 2007).

From the slightly structured and short relationship of mentors and mentees to highly structured and longstanding layout of the mentoring programme, the progress from goals and achievements vary and depend on the situational and contextual circumstances of the programme (Chao, Wlatz & Gardner, 1992; Shea, 2001; Inzer & Crawford, 2005). Structural and time framework indicators create a basic typology for mentoring structures and the different variations of these indicators differentiate between baseline concepts in mentoring structures (see Figure 3).
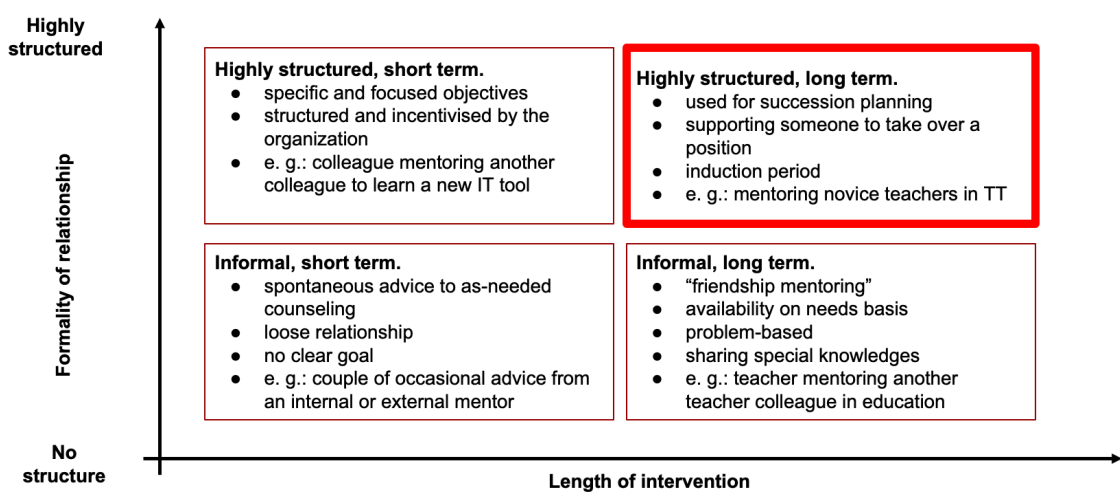
Figure 3. Structure and length spectrum of mentoring

(based on Chao, Wlatz & Gardner, 1992; Shea, 2001; Inzer & Crawford, 2005)

The typology of mentoring shows further diversion with reference to people involved, matching process, nature of relationship, compensation available and modality of the programme.

Along with the main goals and objectives, various parties (mentors, mentees and coordinators) are involved in mentoring based on their expertise and experience. Certain

mentoring programmes also take into account participants' position in the organization, gender and racial characteristics in the planning phase (cf. McKeen & Bujaki, 2007; Giscombe, 2007). Participation in the mentoring programmes is either compulsory, requiring participants to mentor or to be mentored; or voluntary, focusing on the holistic manifestations of developmental relationship (Varney, 2009; Mullen, 2012). Through formal or informal matching processes, participants form pairs or groups according to the complementarity or similarity indicators of their personal or professional profiles (Blake-Beard, O'Neill, & McGowan, 2007). The matching process may include several aspects within the profiles available or about the knowledge gap to be filled, but often it is oriented by only one main trigger, such as availability.

Participants are most commonly involved in traditional one-on-one mentoring processes (single mentee to a single mentor) where an experienced member of the organization is supporting a less experienced novice by instructing and developing various skills and competences related to career or psychosocial goals of the mentoring (Busse, Campbell, & Kipping, 2018). However, this is not the only form or mentoring that can fulfil people's needs and desires. Peer mentoring is defined as a process "where there is mutual involvement in encouraging and enhancing learning and development between to peers where people are of similar hierarchical status or who perceive themselves as equals" (McDougall & Beattie, 1997, p. 425). In a group mentoring setting, organizations leverage knowledge exchange among participants through group discussions. This form of mentoring is built upon a collective knowledge base, synergy and professional alliance within a "group mastermind" concept (P-Sontag, Vappie, & Wanber, 2007). Reverse mentoring is embedded in a "reciprocal and temporally stable relationship between a less experienced mentor providing specific expert knowledge and a more experienced mentee who wants to gain this knowledge" (Ziegler, 2009) that "aims at both the development of the mentors and the mentees" (Zauchner-Studnicka, 2017).

The setting of the mentoring relationships is defined by organizational intentions and goals but also the mentors available within an organization. Mentoring is set as an intra-organizational (mentor and mentee are within the organizational boundaries) or extra-organizational (mentee or mentor are outside of the organization) relationship and each may offer different benefits for the process depending on its goals and the mentors available (Godshalk & Sosik, 2007). Incentivization frameworks may help motivate mentors and mentees to be involved in the mentoring programmes, but non-incentivized programmes may similarly bring reward and recognition through the mere participation

in the programme in different contexts (Bear & Hwang, 2015; Terrion & Leonard, 2010). In terms of modality, traditional mentoring is usually facilitated within face-to-face interactions (physical) that sometimes is associated with certain digital components to form a blended structure of the process. However, online mentoring or e-mentoring more and more complements or replaces face-to-face mentoring practice and becomes widespread by opening up new ways for connecting mentors and mentees (Muller, 2009; Dorner, 2012; Káplár-Kodácsy, 2016).

2.1.4 Mentoring in teacher training (goal setting; typology; roles taken)

According to Feiman-Nemser (1990), mentoring is conceptualized as an amalgam of continuous professional development practices performed by mentees and mentors. Through the process, novices learn to identify with different roles, approaches and strategies in a safe and reflective environment. In this development, mentor teachers are supposed to be active and pro-active participants: sharing their knowledge with their mentees and colleagues; discussing what they want to change, develop or learn; and connecting new concepts and strategies to their own unique concepts by actively involving their mentees in their own teaching. In an ideal design of the professional development framework, mentors and mentees should also be able to create opportunities for inquiry and collaboration within and beyond the mentoring relationship (Hobson & Malderez, 2013; Kovács, 2015).

2.1.4.1 Goal of mentoring in teacher training

The aim of the introduction is also to enable the student to plan their individual development and learning path and to shape a future career path. Experiencing student autonomy and taking responsibility for one's own learning are also important processes that include self-regulatory learning supported in teacher education. Through this learning process, the student is able to actively shape his/her professional career after the formal and non-formal training phase, through continuous professional development. It is therefore necessary to provide novice teachers with the opportunity to systematically reflect on their own work and to view their teaching practice from a research perspective (Nixon, 1989; Copper, 1990; Belanger, 1992). This idea is in line with the theory and practice of research-based teacher education (Csapó, 2015).

Csapó (2015) draws our attention to the fact that teacher training is the most approachable part of research to teaching practice, where mentors as partners support the work of

teacher candidates and discuss teaching experiences together (p. 8). Thus, it is also an integral part of teacher training programmes to help select candidate elements that can be usefully incorporated from a professional perspective, taking into account teachers' attitudes and (pre) concepts related to teaching and learning (Hagger, 2006; Halász & Michel, 2011). An additional goal of the programmes is to help students develop a reflective practice that can be developed throughout their lifelong teaching (LL) careers. To this end, EU documents call for the introduction of student portfolios and profiling procedures that support career entry and further professional development (Caena, 2014). TT mentors' main task is to introduce the novice to the teaching profession by frequent one-on-one interactions and professional cooperation within a safe workplace environment (Haggard, Dougherty, Turban & Wilbanks, 2011; Mathur, Gehrke & Kim, 2013). By providing an ongoing opportunity for interaction, mentors can help novices survive the induction part of their career and also influence teacher retention in education. In numerous national contexts, the meta-objective of teacher mentoring is to keep novices in the profession and to avoid (early) turnover of teachers (Hobson et al., 2009).

Further, mentors are also required to develop teaching competences (Anderson and Shannon, 1988; Hobson et al., 2009, Hudson, 2013), help to define and identify the teaching lives of novice teachers in the pre-service and early career phase of teaching (Fairbanks et al., 2000; Marable and Raimondi, 2007) and give continuous mental and emotional support (Johnson et al., 2005; Mathur et al., 2013). Mentoring in TT elicits both career and psychosocial goals and objectives by enabling novices to plan their individual professional development and autonomously launch a teaching career within. Objectives of mentoring are dissolved in the complexity of teacher mentoring process and manifested in the mentoring practices and roles at various stages of the mentorship (Káplár-Kodácsy & Dorner, 2017, Káplár-Kodácsy & Dorner, 2020). If conditions are met, novices develop a more positive outlook on teaching and stay longer in the profession (Long, Hall, Conway & Murphy, 2012). Further, as Feiman-Nemser (1990) says, mentoring in TT supports a professional culture that favours collaboration and inquiry, and provides a potential mechanism for continuous development that has a positive impact on teacher retention and turnover (Hobson, Ashby, Malderez, & Tomlinson, 2009). Hence, mentoring that is based on personal-professional collegial relationships has been identified as an effective strategy for keeping novices in the profession (Feiman-Nemser, 1996; Ingersoll & Smith 2003). Additionally, such

relationships provide continuous mental and emotional support for facilitating professional growth as teachers (Johnson, Berg & Donaldson, 2005).

2.1.4.2 Models of learning to teach through mentoring

Mentoring programmes and mentors may apply various strategies, from the traditional to the alternative. In some cases, mentoring tends to be based on a guided experience where mentees learn through cognition and metacognition rather than through practical involvement (Dennen & Burner, 2008). In these cognitive mentoring processes, learning occurs through legitimate peripheral participation, a process in which novices enter on the periphery but gradually move toward full participation (Lave & Wenger, 1991, Dennen & Burner, 2008). In other mentoring mechanisms, mentees as well as mentors rely on mutual expertise and support one another from the very beginning to adopt innovative practices, skills and strategies and to develop teaching identities for immediate participation in the teaching process (Glazer & Hannafin, 2006).

Nevertheless, reflective thinking processes are integral core elements of any kind of mentoring strategies that aim to develop novices' professional, social and personal competences. Thus, reflective thinking needs to be developed during TT, regardless of the different conceptual models. These strategies stem from learning theories that interpret learning, explicitly or implicitly, as a self-regulating operation (Knowles, 1984a; Panadero, 2017). In the following sections, I provide a brief overview of learning organization strategies related to reflective practice in the context of the mentoring process.

2.1.4.3 Transformative learning (Mezirow, 1991)

Transformative learning (Mezirow, 2009) is a learning process in which the learner acquires skills that are essential for problem management and learner personality development. Transformative learning is based on critical reflections, full and voluntary participation without preconceptions, and dialogue-based discourse. During this transformative mentoring process, the learner reshapes the interpretive frameworks of learning and teaching repeatedly and becomes able to change perspectives as well. In the process of reflective meaning-making, reinterpretations of previous interpretations and perceptions often occur as an individual learning and problem-solving process. Meaning-making is mostly realized in reflective interactions, where the process is tied with understanding and practical application suggested by the interactions.

According to Bruner (1957) and Vygotsky (1967), the potential developmental space that emerges in the interaction of reflectivity, the possibility of learning, also develops at the crossroads of independent and supported performance. Development is created through interactions and appropriate feedback. Encouragement, assistance, systematization, and suggestions play a very important role in the interaction between the mentor and mentee in a mutually reflected process. These factors stimulate increased individual achievement and encourage the recognition of applicable knowledge. Meaningful interactions and reflective discourses inevitably develop all participants in the mentoring process. The emerging circumstances are characterized by mutual learning and a free flow of knowledge sharing and transfer, where the linguistic mapping and formulation of development paths and modes are an integral part of the process (Meyer & Land, 2012). During the reflective interactions of mentoring, both the mentor and the mentee reinterpret the teaching and learning process through a series of perspective changes , mutually shaping each other's ideas about learning. The peculiarity of the process lies in the fact that the formation of mutual attitudes does not take place in a lonely learning environment typical of teacher training, but in a partnership with continuous reflections (Maynard & Furlong, 1995; McIntyre, 1996; Darling-Hammond, Chung Wei, Andree, Richardson and Orphanos, 2009; Stenfors-Hayes, Hult & Dahlgren, 2011). In the process of mentoring, transformative learning can be best operated by channelling experiences gained from practice.

2.1.4.4 Instructional scaffolding (Stone, 1993)

In practice, through the method of gradual and often mutual construction (instructional and reciprocal scaffolding), both the mentor and the mentee are active participants in the learning process. For the mentee, the goal is to be able to learn from his or her experience, from the mentor in reflective discourses through shared understanding and consensual decisions. From the mentor's point of view, gradual construction is a supportive intervention tuned to the mentee's development in the actual situation and based on the mentee's reactions. The application of this situational method can take place in a number of ways, being equally influenced by the variety of cases, the mentee's personality as a learner and the mentor's role perception. In practice, this interactive strategy means a mentoring support that the mentee receives if (s)he was unable to complete a task without the mentor.

Empirical research points out that gradual construction can be successful if support is differentiated and individualized. The mentor intervenes in the learning process only as necessary and gradually withdraws from the process at the given point of time, handing the responsibility for learning over to the mentee, to develop self-regulatory learning (Van de Pol, Volman, & Beishuizen, 2010). During the introductory phase of teaching career, mentees are mostly unaware of how the developmental stages assigned to them can be achieved, what they can expect from themselves, from the students, colleagues and mentors, and are very often not aware of the focus of their teaching (Taylor & Hamdy, 2001, 1566). Therefore, gradual construction and scaffolding coupled with appropriate and frequent reflective practice may also be the primary method of mentoring support. Methodological guidelines and resources are available internationally as well as in Hungarian on how to scaffold a mentoring process (Szivák, Lénárd & Rapos, 2011; Simon, 2013; Kotschy, Sallai, & Szőke-Milinte, 2016; Kárpáti & Dorner, 2012; Mathur, Gehrke, & Kim, 2013; Gál et al., 2014; Kovács, 2015; Kovács & Dombi, 2015; Van Ginkel, Oolbekkink, Meijer, & Verloop, 2015a; Van Ginkel, Verloop, & Denessen 2015b). An element of the method can be observed throughout the teacher mentoring phase, however, successful application is often hampered by a lack of differentiation.

2.1.4.5 Problem-based learning (Barrows and Tamblyn, 1980)

Problem-based learning rooted in the reflective learning models of Piaget, Dewey, and Schön, is a learning strategy inherited from the methodology of medical education. At each stage of the learning process, the problem is identified, solutions are developed, the solution process is organized and executed, and feedback is sought and articulated (Taylor & Hamdy, 2011, p. 1567). Identifying or selecting a problem is the first element of the process, but the dynamics of the method are given by the ability to solve the problem. In the mentoring process, the mentee's learning is enhanced by examining and evaluating the solution (Miller, 1990). In an effort to solve the problem, the mentor assists the learning spiral process by encouraging the trainee's self-reflection, by meticulously and jointly examining problematic situations (Schleicher, 2011). However, the context of learning significantly influences learning outcomes. Certain independent factors such as (1) the development of the mentee's degree of self-regulatory learning, (2) the mentee's engagement and activity in learning, (3) the specifics of the mentoring context, (4) the possibility of interactivity, and (5) the mentor's intended involvement in the process influence the success of problem-based learning; thus, the results are unpredictable

(Hense, Mandl, & Grasel, 2003). Irrespective of the mandatory elements set out in the regulation or framework of the mentoring programme in different countries, the technique and intended outcome of a joint examination of a problem may vary by mentor programme and host institution, but in all cases, it is defined by the mentor's beliefs.

2.1.4.6 Collaborative learning strategies (Roschelle & Teasley, 1995)

Collaborative learning implemented in adult learning models is a learning-teaching strategy based on the cooperation and equality of the participants in the process. Through collaboration, the mentor accompanies the mentee as a critical friend, trusted colleague through becoming a teacher in its own self-regulatory learning (Campbell, McNamara, & Gilroy, 2004; Falus, 2006; Kahn & Walsh, 2006; Simon, 2011; Kovács, 2015). The mentee is actively involved in knowledge-building and role-shaping in mentoring through the opportunity of collaboration in an intensive learning process (Cuesta, Azcárate, & Cardeńoso, 2016). Collaborative interaction can blur generational differences and create reverse or reciprocal mentoring situations between the mentee and the experienced mentor, which also supports the learning (continuous professional development) of mentors (Strom, 2011). For the time being, little attention is paid to the mutual or mentor-driven developmental effects of collaboration, although it is embedded in the reflectivity of the learning situation that may emerge and create opportunities and pillars for life-long learning (LLL) (e.g. Olympia School Experiment)

2.1.4.7 Hybrid model of mentoring (Maynard & Furlong, 1993; Hargreaves & Fullan, 2000)

Conventional TT programmes worldwide are built upon two guiding models of mentoring that is integrated in the Maynard and Furlong (1993) hybrid model of teacher mentoring and the closely linked model of Hargreaves and Fullan (2000). In the hybrid model, Maynard and Furlong argue for the relevance of three commonly used mentoring models from the literature: the apprenticeship, competency and reflective practitioner model (Sorensen, 2012). Since they find each model inadequate on its own, they created a model that incorporates the benefits of each: the importance of practice, professional knowledge and competences and the relevance of continuously reflected practice (see Figure 4 for the model elements).
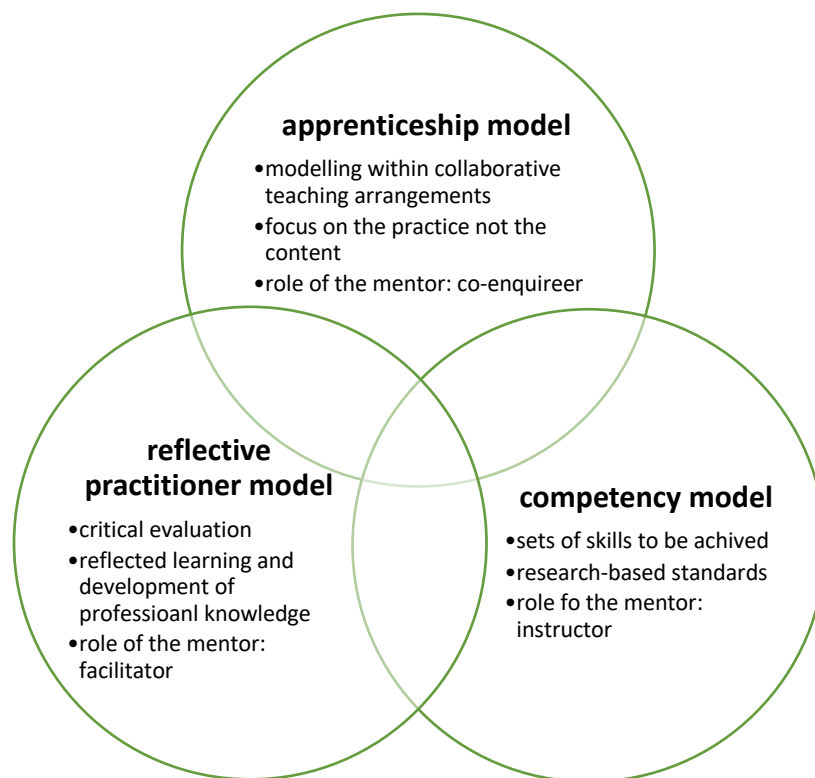
Figure 4. Hybrid model of mentoring in teacher training (Maynard & Furlong, 1993)

Hargreaves and Fullan complete this hybrid model, integrating the notion of the "change nature" (Sorensen, 2012, p. 209) of mentoring. Mentoring should be grounded as it is able to:

- "conceptualize and design mentoring programmes so that they are explicitly seen as instruments of schools reculturing"
- "address the needs of all teachers new to the district or school, not just beginning teachers"
- "recreate the profession" by recognizing the potential of mentoring. (Hargreaves and Fullan (2000, p. 54-55)

2.1.4.8 Manifestation of models in actual mentoring strategies

Mentoring in TT may occur informally but more often it is a highly structured, formal programme or institutionalized practice where novice teachers are matched with experienced teachers in a traditional one-on-one or group mentoring setup. In the traditional arrangements of teacher mentoring, an experienced and often trained member of the organization (in school staff, predominantly a lead teacher) with an expertise in a certain (disciplinary) field is supporting a less experienced novice in the mentors' own

organizational setting (in the school) by instructing and developing various (teaching) competences, attitudes and motivation. Mentoring in TT is based on a long-term relationship between the mentor and mentee (e.g. over several months), but short-term teacher mentoring cycles are also available for group mentoring or focused intensive mentoring programmes (e.g. disciplinary pedagogy modules, series of observations, short-term consultations). TT mentoring programmes show less flexibility in timing and duration given the fact that they are embedded in the teacher training curriculum or in a teacher advancement programme.

School-based mentors ideally participate in teacher training on a voluntary basis, but novices are usually required to commit to a mentoring that is a highly formalized, documented evaluative process assigned to a qualification programme. Thus, the matching process of mentors and mentees are formally coordinated on a needs basis with complementing professional profiles. Extra- and intra-organizational programmes are equally ordinated to the mentoring processes in traditionally physical interactions between the mentor and the mentee. Work and time investments of mentors are often compensated, but mentees are rarely rewarded or paid during the mentored practicum.

Potentially, poorly organized mentoring may be more harmful than beneficial to mentors and mentees. Time pressure and unmanageable workload on mentors and mentees cause a stressful climate where insecurity, nervousness and isolation are possible side effects for both parties (Maynard, 2000; Bullough, 2005; Hobson et al., 2009). On the other hand, adequate training for mentoring positions, on-site support for mentors and mentees through teacher development systems, well-elaborated mentoring strategies, targeted and thoughtful

matching of mentors and mentees facilitate innovation and good collegial relationships which result in an increased feeling of autonomy of mentees and mentors in their work (Malderez, Hobson, Tracey & Kerr, 2007, Hobson et al. 2009). These ideal conditions are pull factors in teacher retention rates. Additionally, increasing focus on the individual needs and regular reflection on practices creates space for integrating adult learning approaches in mentoring.

2.1.5 Mentor preparation

Experienced teachers with certain expertise may not necessarily be effective mentors and facilitators of adult learning processes *per se*. Evidence shows that mentors who have participated in mentor training programmes are likely to adapt effective mentoring

strategies (Crasborn et al., 2008; Hobson, 2012; Yusko & Feiman-Nemser, 2008). Adequate preparation programmes for mentors can alleviate the possible challenges of mentoring related to workload, strategies and collaboration (Hobson, 2012; Moor et al., 2005).

Training programmes may aim to involve university-based professionals and can be set in "affinity groups, facilitate the development of a shared discourse of mentoring, enhance mentors' skill development through conversations about mentoring practice and pedagogy, and help to overcome mentor isolation" (Hobson, 2012, p. 66). Bullough (2005) suggests that mentor preparation should be complete with ongoing support, opportunities for consultation, and developmental supervision of the mentoring work. Through career-wide training programmes, mentors' incumbency (Rhodes & Fletcher, 2013) can be sustained in the long term. Supporting mechanisms with distinct phases of different developmental stages, and space for mentors to play various roles in the process, may not only improve the quality of teaching learning in mentoring but also strengthen the motivation and the feeling of engagement of mentors (Strong, 2009).

The training programmes may introduce various intervention models for mentors, such as models of supervision (Gebhard, 1990), the ideal mentor (Reid & Jones, 1997), decision-making models (Freeman & Johnson, 1989), or the five-factor mentoring model (Hudson, 2007); they may recommend clear and trackable strategies to follow (e.g. instructional scaffolding, reciprocal scaffolding, cognitive apprenticeship) (Raymond, 2000; Olson & Pratt, 2000).

2.1.6 Competences of mentors in teacher training in the life wide learning framework

The European Union's guidelines for teacher training have defined certain areas of competences and knowledge content in line with the competences of adult learners expected for LLL (European Commission, 2010; European Commission, 2013). According to the recommendation of the documents, at certain stages of the teacher's career and depending on the teacher's progress, the mentor is in possession of definite areas of competence and knowledge, and time to time undergoes certain developmental reflective cycles.

The teacher knowledge and skills structure developed by education policymakers in the European Union is closely linked to the eight key competences[4] for lifelong learning identified. Although competences and cognitive content may vary to a different extent in TT systems from one Member State to another, they are mostly aligned with the key competences for teacher cognitive thinking set out in the EU document, which are: (a) disciplinary / scientific knowledge; c) general methodological knowledge, (d) curriculum knowledge, e) educational science basics (intercultural, historical, philosophical, psychological, sociological knowledge), (e) educational policy knowledge about the educational environment, institution, organization, (f) inclusive and differentiated education knowledge, (g) knowledge of new technologies / techniques, (h) developmental psychology knowledge, (i) knowledge of group formation processes, group dynamics, learning theories, motivational theories and (k) knowledge of assessment processes and methods. These key competences for professional skills help to identify the specific system of activities required to cultivate the teaching profession. These are the skills involve the ability to (1) plan, organize, execute curriculum and learning processes , (2) organize students and groups of learners, (3) monitor and evaluate learning, and (4) cooperate with colleagues, relate to collaborations with parents and social groups that are indispensable in the daily practice of the teachers (Williamson, McDiarmid & Clevenger-Bright, 2008, Caena, 2011).

The Commission has not established a unanimous EU reference framework for the teacher competences required for the teaching profession; instead, Member States develop their own teacher competence networks almost without exception (Halász, 2012). The developers of the Hungarian teacher training and teacher career model, which was transformed in 2013, formulated detailed indicators for determining the exact skills expected in each career stage adapted to the recommended competence areas. The standards of the career phases show a varying degree of complexity and integration of the areas of competence set out in the Commission Recommendation. Within the eight major competence areas, indicators for cognitive thinking and professional competence are

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[4] Key competence: 'the unity of knowledge, skills and attitudes that everyone needs to have in order to be able to complete, develop, integrate into society and be employable. These competences are based on these competences: mother tongue communication, foreign language communication, mathematics, science and technology competences, digital competence, learning to learn, interpersonal and civic competences, entrepreneurial competence and cultural competence "(Recommendation 2006/962 / EC of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning, Szép & Vámosi, 2007, pp. 104-106)

aligned. Teaching identity, pedagogical and professional development are brought to the practical level through the development of specific components of competence areas in order to support the key competences for LLL, and learning to teach (Hosskins & Fredriksson, 2008). Elements such as structured planning, organization and evaluation of pedagogical processes, development of the teacher's professional, personal and collaborative skills, as well as the development of the student's personality, managing of student groups and support of individual learning paths (Antalné, Hámori, Kimmel, Kotschy, Szőke-Milinte, & Wölfling , 2013, pp. 25-29), aim to develop the student's adult learner competences in addition to support the continuous professional development of the teacher.

The comprehensive and yet diversified definition of the competences and knowledge contents itemized and further detailed in the policy documents highlights the similarity between the key competences of adult learning and the professional expectations of the teaching career. The continuous professional development of the educator and the support of the lifelong learning processes appear as a dual goal in the development of competence areas, which in fact interprets teacher, learner and LLL competences as conceptually separated, but still in close integration. Thus, the teacher training system, as part of higher education, follows the same principles of education strategy for supporting LLL with specific goals to launch a continuous development within the process of LLL.

Based on the criteria of a good teacher (Korthagen, 2004), recommended indicators of teacher competences and empirical research in the field of mentoring, a system of competences was compiled by Gál, Singer, Simon and Szabados in 2014 in Hungary. This system reflects the main aspiration of teacher training which aims to "strengthen the learning competence of the autonomous teacher" (p. 36) by supporting responsible teacher personalities through regular reflections.

The core competences of mentors are defined in eight main areas in the Hungarian mentoring system along the desired characteristics of a "good mentor" (Molnár, Nádasi, Szivák, & Hunyadiné, 2013). These competences cover professional, social and personal skills, knowledge and attitude. For the list of competences and their detailed indicators see *Table 4*. This list serves as the baseline concept for organizing mentor trainings in Hungary, however, the system does not provide any system-wide assurance for the in-process validation of these competences.

Table 4. Matrix of mentoring competences in Hungarian TT adapted from Molnár et al., 2013

Main competences	Preparedness for counselling	Knowledge of the psychological and learning characteristics of young adults	Knowledge of the role of reflective thinking in the beginning of a teacher's career, in the stages of teacher career development, reflective thinking	Affinity to accept the sociological approach to the teaching career	Knowledge of the current system and content of teacher training	Awareness of discipline-specific and non-disciplinary knowledge in areas of modern education	Awareness of the inner organism of the school, skills and ability to participate in new tasks given	Commitment to working with teacher candidates, novice teachers
Detailed competences	o knowledge of theoretical foundations and trends of counselling o practicing counselling under supervised conditions o accepting responsibility for counselling	o taking the psychological characteristics of young adults into account o increased sensitivity to the psychological roots of problems that novices may have	o characteristics of career panic, shock o the characteristics of the stages of the pedagogical career from professional idealism to burnout o the theory of reflective thinking o integrating learnt features of teacher career development into the formation of mentoring relationships o recognizing and understanding the difficulties of career start	o the value of awareness of young adults and the value of the current (changing) situation o the sociological background of choosing, leaving and remaining in the teaching profession o consideration of the sociological characteristics of the career in mentoring o increased sensitivity of the sociological problems of novices	o the content and evaluation system of teacher education o adaptation of content knowledge and procedures learned in the disciplinary, pedagogy and psychology modules of TT in the self-development programme o creating a mentoring portfolio o support for student portfolio creation o acceptance of their own professional (subject, methodological, pedagogical, psychological) o self-development is the basis for supporting newly arrived teacher candidates and trainees	o awareness of modern methodological trends of one's own field of expertise and beyond o awareness of how methodological trends serve teaching effectiveness of students 'self-regulatory learning strategies, social development of their competences and self-awareness o readiness to plan and analyse a lesson taught in one's own field of studies and in another field, based on the independent standards of teaching o continuous efforts to integrate knowledge about teaching into one's own practice o accepting the fact that one's own discipline-specific and non-disciplinary knowledge are both necessary to provide effective mentoring support	o pedagogical, psychological and sociological knowledge of the operation of the school as an organization o the system of extracurricular activities, and the possible variants of the system of effects in the school o the symptoms and characteristics, analysis methods of the dysfunctions of the school o analysis of characteristics, conditions and consequences of teaching and learning together, readiness for analysis of alternatives o interest in, openness to alternatives	o understanding the relationship between self-development and the mentoring support o recognizing the importance of analysing one's own teaching activities and introducing self-reflection into the practice of mentoring o consider the individual characteristics of the mentee in his / her relationship system and communication o sensitivity in the actions of others to accepting alternatives o the soundness of decisions based on evidence-based research

2.1.7 Mentoring in school-university partnerships

Qualified school-based mentors are actively involved in the teacher training process (5-6 years)[5]. The most extensive type of mentoring and pedagogical support is provided when undergraduate mentees undertake their individual teaching practicum across a fullschool year. After graduation, novice teachers receive mentoring support at their new workplaces for another two years in order to become full time teachers. Whereas mentorship for teacher qualification is overseen and acknowledged by the university's teacher training programmes, the mentoring for inducting new teachers is not coordinated by the universities but by the schools. This means that university-based teacher educators are not involved in supporting their graduates when they are actually "in the field". The partnership between teacher training programmes and practicum sites is at this stage dissolved.

School-based mentor teachers in undergraduate practicum programmes are appointed by the universities. They are either individually contracted and based on a practicum site or perform mentoring as part of a co-operational agreement between the university and the practicum site. In their complex roles, mentors observe mentees' lessons on a regular basis; they help them to plan, prepare and conduct their lessons; introduce them to the relevant school- and job-related documents; help mentees to choose from the available pedagogical resources, tools and methods; and regularly assess mentees' performance.[6]

2.1.7.1 University-based teacher educators as third parties in the mentoring process

The teacher educators' (pedagogy or methodology tutor who facilitate support seminars during the teaching practice) role is as complex as that of the mentors because their position encompasses several functions. It is usually the same teacher educator who is the mentors' main professional contact to the universities, and they also guide and support mentees' teaching practice (individually or in groups), and then evaluate overall teaching performance together with the mentors. A teacher educator usually coordinates 3-25 students at a time.

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[5] Decree No. 8 of 2013 (Jan 30) of Minister of Human Resources
[6] Decree No. 326 (6 §) of the Government

2.1.7.2 Structure of SUPs

Teacher training and mentoring in SUPs necessitate equal sharing of responsibilities where "each partner plays a complementary and particular role" (McLaughlin & Black-Hawkins, 2007, p. 338). However, even in this non-hierarchical conception of partnership, motivation, power, resources, knowledge base, mutuality and responsibility appear in diverse proportion (Ball, 2007). The form of relation is dependent on the quality and quantity of the participation: 1) in the *service* form of partnership, either partner serves the other's demands; 2) in the *complementary* form, partners work in parallel and the engagement in each other's agenda is limited; and 3) in the *collaborative* form, partners are involved in a common adapted concept and agenda, where the in-process and final outcomes are negotiated (McLaughlin & Black-Hawkins, 2007).

2.1.7.3 Aims and elements of mentorship-based School-University Partnerships (SUPs) in Hungary

Four major activities for school-based mentors and university-based teacher educators frame SUPs in the Hungarian context: (1) appointment and contract of mentors; (2) doing the mentoring; (3) regular monitoring of the mentored practicum by teacher educators (e.g.: in-person lesson observations, student reports, informal mentoring reports, in-class university seminars for sharing experience); and (4) shared evaluation and assessment of the practicum after the mentee's final teaching exam. In mentor training, a "consulting relationship" (Burgess, 1994) is formed between the school-based mentors and the universities represented by the teacher educator.

Mentors are presented as key linkages between schools and universities, and often constitute the only linkage of individually established personal and professional networks (Csapó, 2015). However, similar to international contexts, the nature and quality of these partnership co-operations is idiosyncratic, that is, shaped by the varying practices of individuals, the actual school and the university. Therefore, the degree of personal and professional engagement in the process becomes even more important (Villers & Mackisack, 2011).

2.1.8 The Hungarian specificities of the context of teacher mentoring

Several structural changes have been introduced in TT in Hungary since 2006. Although in 2006 the Bologna system of TT[7] was introduced, since 2013 a new, undivided five-plus-one-year master's programme has been offered to secondary school teachers to replace the "old Bologna system".

As the new mentoring system of the teaching practicum was officially introduced in 2013, the first cohort of pre-service teachers conducted their long practicum according to the new regulation in 2018/19. A year-long mentored TT practicum is integrated in the last year of the university programme. ELTE TT Centre provides a sample schedule of the induction year for the mentored practicum[8] (Figure 5).

- Getting to know each other: 0-2 hours
- Preparation of individual plans, identification of the element of individual development: 0–1 hour
- Preparation, teaching of subjects, consultations: 9–14 hours (min. 2 hours per subject per week, max. 10 hours per week of the two subjects, gathering experience in student groups of different ages)
- Observation: extracurricular activities: 3–7 hours
- Head teacher, leisure, youth protection, etc. extracurricular activities: 2-4 hours
- Collaboration with family, local communities, teacher community, support organizations, etc .: 2-3 hours

Total: 23.5 hours per week

Figure 5. Sample timeframe of the complex teaching practicum in the new system

Pre-service secondary school teachers complete this mentored practicum on the university's practicum sites or under the supervision of individually contracted mentors of the university. In the current TT model, each mentee has two majors. When student teachers are doing their practice of both majors in the same semester/year, they are supported by a school-based mentor teacher and by a school-based consultant ("konzulens") mentor teacher specialized in the other major. A consultant ("konzulens") mentor teacher is needed if the main mentor teacher's major does not match the student teacher's two majors. The consultant's task is to support the teaching of the other subject in cooperation with the main mentor teacher (Government Decree 8/2013. (30. I).

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[7] Teacher training in the Bologna Process initiated a two-cycle higher education training for prospective secondary school teachers consisting of bachelor's and master's studies divided.
[8] Presentation source: http://tkk.elte.hu/wp-content/uploads/2019/08/TKK_hosszu_gyak_2019_08_27_28.pdf

In addition to the induction phase of the teaching practicum, a crucial component of teachers' continuous professional development in Hungary is the two-year mentored induction phase of the postgraduate years. Graduates of TT programmes qualify as full-time in-service teachers only after this mentored induction. Therefore, in the Hungarian TT system, novice teachers are understood as pre-service student teachers and young in-service teachers with a maximum of two years' teaching experience after graduation. For a detailed layout of the structure of the Hungarian TT system see Figure 6.
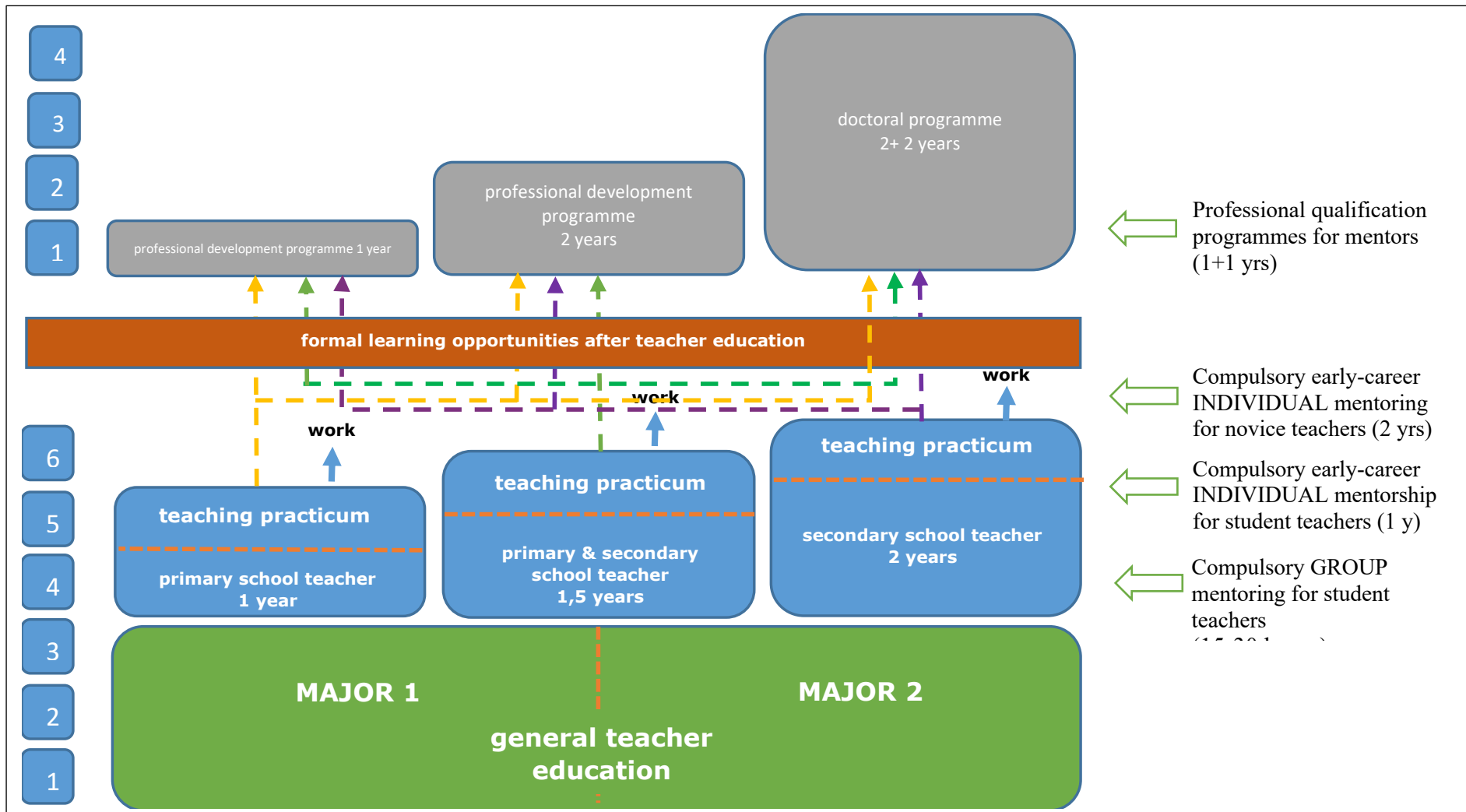
Figure 6. Schematic layout of the Hungarian teacher training standards

Hungarian pre-service teachers are directed to their first on-site practicum by their university. The introductory phase of mentoring encompasses working in a mentored subject-specific group and a comprehensive individual practicum. At the time of this empirical data collection in the research[9], two parallel (the old and new) systems were operating. In the old system, the subject-specific practicum means 60 contact hours with the mentor appointed by the university that includes at least 15 classes taught in the school. In this group mentoring phase, a group of students from the same domain observes, prepares, teaches and reflects on the teaching sessions while their mentor has the opportunity to reflect on their individual activity and performance. It is important to note that group mentoring is rarely realized in a real group setting in the partnering or "non-practice" schools[10]. School-based mentors are usually assigned to 1-3 student teachers in this phase so as to reduce the workload of the mentor, or limit the organizational and administrative burden on the school leadership. The comprehensive individual practice is a longer process: in the older, phasing-out system, pre-service teachers spend 10 weeks in the schools (one semester) with observing and teaching classes (at least 3-5 classes per week) and conducting teaching-related activities. The individual teaching practice includes at least 30 lessons taught under a certified mentor's supervision. According to the current new legislation of teacher education in Hungary, pre-service teachers spend the last year (two semesters, 17 weeks, 400 hours) of their university studies in schools with observing and teaching classes and completing teaching-related activities under a certified mentor's supervision. In this individual practicum, mentees work in focused one-on-one collaborations with their mentors, which includes observation, preparation, teaching, and reflection in a cyclical manner.

In the third and last phase of this mentorship system, novice teachers who graduate from the programme are supported by a senior teacher at their workplace for two years in order to launch a successful teaching career and achieve the national standard after the second year of their career. As opposed to the pre-service career phase, mentors of in-service novice teachers are appointed by the school where the novice teacher is based permanently.

Along with the structural changes in TT, the network that supports novice teachers has undergone changes (Di Blasio *et al.*, 2013; Fáyné, 2011). The role of the lead teacher who

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[9] Spring, 2017- June 2019

[10] Partnering schools are individually contracted with teacher training institutions through their school-based mentors while a practice school is legally assigned to a university with teacher training commitments.

used to scaffold the short practicum in the "old" system has been rethought (Káplár-Kodácsy & Dorner, 2017). It is now reconceptualized as a mentor teacher and conditioned by the completion of a two-year professional qualification programme offered by higher educational institutions. Currently, in Hungary, there are 21 such programmes that are run, with one exception, by universities simultaneously to the TT programmes. The certification programmes are accredited and show variety in structure and content. However, these programmes generally aim to develop leadership competences, provide modules on adult learning strategies and professional support, mentoring strategies, reflective practice and fundamentals of human resource counselling. Mentor teachers are certified if they demonstrate expertise in providing support for novice teachers who have to manage classroom and organizational changes and who need to integrate in a new educational context. In addition, certified mentor teachers have to be able to provide help in order to prevent novices from professional burn-out.

As highlighted in the documents guiding Hungarian mentors' work, the main goal of mentoring in TT is to help novices to develop teaching skills as well as to become autonomous and reflective practitioners through frequent interactions with an experienced teacher. In doing so, mentors also aim to model reflective practices. This process should rely on synergies between research and on mentoring in TT (Csapó, 2015; Gál *et al.*, 2014; Kotschy, 2011). Hungarian mentors are supported in these activities by a mentor training programme that enables them to develop their own strategies and reflective practices. Ideally, reflective mentors can support their mentees and their own continuous professional development (Donnelly & Watkins, 2011; Korthagen, 2004; Schön, 1983) and manage change processes on micro and meso levels (Darling-Hammond & McLaughlin, 1995; Fullan, 1993).

Regarding the connections between the Hungarian teacher education system and the European directives, it can be said that the expected and acquired competences and knowledge contents in all cases serve to develop the candidates' reflective and self-reflective thinking and consequently their student autonomy. The pursuit of continuous professional development therefore makes the novices who commute between formal, non-formal or informal learning the most "adult". Active participants in the development of this professional endeavour are teacher trainees, higher education teacher educators, and public education mentors. The mentoring competence network compiled by Gál, Singer, Simon and Szabados in 2014 reflects the same aspiration that Korthagen (2004) indiacated for describing the criteria of a good teacher: the role of the mentor in working

together "strengthening the learning competence of the autonomous teacher" (p. 36), supporting responsible teacher personalities through regular reflections.

2.1.8.1 Focus of the Hungarian mentoring system

In the Hungarian context, reflective practice is expected to be integrated with every phase of the mentoring process. Mentors are encouraged to reflect on novices by considering the following aspects. They focus on their mentees' personal (emerging adult identity) and professional (teacher identity) development. Reflecting on their collaborative work and professional development plan is key to this development. Mentees' successful integration in the teacher community and in the school context, as well as their participation in institutional extracurricular activities are pivotal to reflective practice. Finally, reflecting on the systematic observation and diary of the mentors'/colleagues'/ peers' classes, including perspectives on mentors' leadership skills is critically important in a successful mentoring process (Simon, 2013; Kotschy, Sallai & Szőke-Milinte, 2016). Additionally, frequent reflection on mentors' own pedagogical practices is a recommendation towards mentors. In their professional certification training, they are prepared for giving in-depth reflections on mentees' performance. The training programmes also introduce various kinds of intervention models, such as models of supervision (Gebhard, 1990); the ideal mentor (Reid & Jones, 1997); decision-making models (Freeman & Johnson, 2001); five-factor mentoring model (Hudson, 2007), and recommend clear and trackable strategies to follow (e.g. instructional scaffolding, reciprocal scaffolding, cognitive apprenticeship) (Dennen & Brunner, 2008).

Hungarian mentoring guidelines, grounded in national and international research and issued by the teacher educator institutions, recommend applicable models, strategies and necessary elements of mentoring. However, researchers concerned with mentees' experiences of the mentoring process found that positive outcomes are often missing, due to lack of adaptive and differentiated reflective strategies that support autonomy in teaching and responsibility for their own learning of teaching (e.g., Mathur, Gehrke & Kim, 2013; Gál, Singer, Simon & Szabados, 2014; Kovács, 2015; Kovács & Dombi, 2015; Van Ginkel, Oolbekkink Marchand, Meijer & Verloop, 2015a; Van Ginkel, Verloop & Denessen 2015b). In particular, an integrated perspective on adult learning is missing in mentors' reflective practice. Its potential for personal and professional development in building a teaching career is often ignored, despite the fact that SRL and autonomy (in learning and teaching) are core concepts in initial teacher education

(Timperley, 2008; Kramarski & Michalsky, 2009; Gaál, 2015). Nevertheless, mentors and mentees who have developed skills of self-reflection in learning and teaching are able to observe, reflect on and think about their own learning progression or regression while becoming increasingly responsible for their own learning (Holec 1981; Zimmerman & Moylan, 2009; Benson, 2011; Panadero, 2017).

2.2 REFLECTIVE PRACTICE AS A KEY COMPONENT IN MENTORING TEACHERS

Benefits of mentoring relationships are mainly rooted in the open reflective space of the process (Allen, 2007; Darwin, 2000; Fairbanks, Friedman, & Kahn 2000; Mullen 2012; Clutterbuck, 2014; Majzikné & Fischer, 2020). As Hobson (2017) claims, by liberating the reflective space, programmes may maximize the benefits on the individual and the institutional level. In this section, the notion of reflexivity, reflective space and circles of thinking are discussed through various concepts that all relate to the baseline theory of Donald Schön (1983).

2.2.1 Reflective thinking (Dewey, 1966) and reflective practice (Schön, 1983)

The epoch-making idea of reflective thinking comes from Dewey (1966). Emphasizing the importance of regular reflective practice, Dewey was the first to shed light on the fact that situational interactions best serve the individual development of the learner. A developmental approach that takes individual paths and abilities into account has four distinct liberating consequences during individual development: (1) individual cognitive enlightenment frees from the weight of ignorance; (2) individual responsibility frees from dependence on power; (3) the development of an individual approach frees from the compulsion of forced views; and (4) the ability of individual development frees from the failure of incompetence (Bagnall, 2001, p. 36). This approach to supporting individual development highlights factors that articulate the main goals of lifelong learning. Reflective thinking, individual development, and lifelong learning include intellectual development (usually through the knowledge of a discipline), learning skills (applied social and political systematization skills), and individual frameworks and beliefs (usually through passive acculturation added to self-regulatory processes) and through experiential learning experiences (Hager, 2011, p. 14).

John Dewey defined reflective thinking as a complex and structured process based on intellectual and emotional competences that needs serious time commitments (Dewey et al., 1951). Reflective thinking is always meaning-making, systematic, situational and

requires certain assessment skills towards others and the self (ibid.). Schön (1983) took one step forward, and defined problematic or unique cases as triggering effects of the reflective process. Accordingly, reflective thinking develops to be reflective practice of analytical and critical thinking (Szivák, 2010; Schön, 1983). In Schön's concept, reflective practice is realized in two distinctive notions responding to problematic situations, problem framing, problem solving, and the priority of practical knowledge over abstract theory (ibid.): reflection-in-action and reflection-on-action. Any kind of professional activity can be interpreted as a learning process and useful reflection can be made either during or after the learning process. In order to develop the learning experience, reflection could be made during the activity to modify the next step; or, the teaching and learning process is reflected with appropriate analytical and assessing approach after the activity. Reflection-in-action is similar to quasi-experiments that require the immediate reinterpretation of the changing situation (Schön, 1983, p. 68). Retrospective reflection-on-action gives the mind space and time for asking and answering questions or contemplating on what has been done and why it has been done, opens up the situation for new perspectives and forms metaphors or finding further examples to follow in an unfamiliar situation (Schön, 1983, p. 138). In Schön's conception, incidents are examined within a framework based on earlier experiences by which the situation does not need complete understating (Usher, Bryant & Johnston, 1997).

The two types of reflection, as interpreted by Schön (1983), allow us to intervene in the teaching process in order to learn for ourselves and others, to modify the next step or to examine the learning and teaching process after the activity with an appropriate analytical, evaluative approach, thus facilitating the best learning process creation. The cyclical nature of reflection allows experiential learning, consideration of perceptions following the experience of a particular experience, drawing conclusions, and testing the concepts and preconceptions thus formed (Kolb, 1984; Gibbs, 1988; Johns, 2000). An appropriate reflective practice is a differentiated multilevel assessment system (Falus, 2006) that could be developed and supported by the mentor teacher.

Based on Schön's conception, Korthagen suggests that reflective practice determines both the successful and the less successful teaching practice (Korthagen, 2004). However, there is a conceptual clash of methods, since teachers are usually not informed about the object of reflection for their effective practice (p. 78). Based on Rogers' (1961) and Maslow's (1954) theory, Korthagen developed a theoretical model for framing the

question 'what is a good teacher?' and 'what should be reflected in teachers' work and identity. His 'onion model' helps teachers to consciously form a 'good' teaching identity, to structure self-reflections and to guide mentors in conducting reflections in a structured way (Kimmel, 2006). According to Taggart and Wilson (1998), reflective practice could be developed to professional, dialectic or creative level by dedicating considerable time and effort.

2.2.2 Reflective thinking and practice in mentoring novice teachers

Reflective thinking and behaviour in teaching practice actually begins when a teacher candidate begins to practice his or her profession, compares what is learned in a formal setting with what is experienced during the practicum, and seeks to integrate prior learning into his or her teaching practice. This can also mean a difficulty for the novice, especially if the expectations and ideas about teaching in prior knowledge are not in line with the recent experience. This may also result in a career-start failure. The mentor supporting the mentee is an active facilitator of this reflective process, as (s)he provides an opportunity for joint reflection on observations, experiences, and doubts (Lofthouse & Thomas, 2015). The tacit knowledge that can be acquired in teaching practice followed by continuous reflective circles thus becomes part of the teacher's personality and synthesizes theoretical and experiential knowledge. At the start of the career, one of the main goals of the mentor-mentee collaboration is to gain a best possible reflective practice fit in the context and to the mentee's teaching personality. Best practices of reflectivity also enable teachers to correct poorly acquired or inherently bad teaching habits (Collins, 1998). Real mentoring support is given when the mentor has already acquired and has been practicing the skills and competences necessary for the advanced process of getting and giving reflections. Ideally, experienced teachers frequently reflect on their own professional practice, teaching identity, views and mission (Korthagen, 2004) so as to become able to assist novices in their learning process (Szivák, 1998; Stéger, 2001; Lesznyák, 2005).

Career initiation and mentoring provide opportunity for reflectivity in alternating stages of formal, non-formal, and informal learning (Coombs, Prosser, & Ahmed, 1973) in continuous but different ways. During school practicum, the reflections formally expected (e.g. reflection career diary), realized during non-formal learning (e.g. reflective discourses) and related to informal learning (e.g. student feedback, processing of experiences of accompanying activities) are developed in parallel. The introduction of

routine reflective practices into the practicum phase of teacher training, in any setting or form, should serve a main single purpose: the mentee learns to value and use verified information (Boshier, 1998) in a network that is not hierarchical but based on a collaborative learning environment with the equality of participants.

2.2.2.1 Reflective circle of mentoring

A mentor has specific responsibilities at the various stages of this reflective learning cycle of mentees, which includes, for example, the cyclical routine of exchanging ideas and reflections on the teaching experience, observation and analysis, conceptualization, and experimentation (Coombs, Prosser, & Ahmed, 1973). Ideally, reflection on one's actions is integrated in each cycle with the aim to support deep learning.

The cyclical process is a self-generating activity and works best in a collaborative system of novice teachers, mentors, teacher educators and programme directors (Cameron & Grant, 2017). Mentees as well as mentors need support from external professionals (e.g. teacher educators, senior teachers, colleagues involved in the professional development of the mentee) and should collaborate in a partnership that supports the development of the mentee in the introductory phase. Reflections of each participant should focus on the development of the mentee, however, the process is even more actively supported by the constant self-reflections of those involved (Wildman, Magliaro, Nile, & Niles, 1992; Reid & Jones, 1997; Jones, Reid & Bevins, 2010; Koc, 2011). Novice teachers are unquestionably in the centre of a reflective cycle of giving and receiving reflections on their own work, however, mentors and other participants involved are encouraged not only to constantly reflect on the mentees' performance but also be self-reflective to maintain dynamics and the continuous professional development themselves (Figure 7). This is a challenging endeavour and needs considerable effort from the mentor.
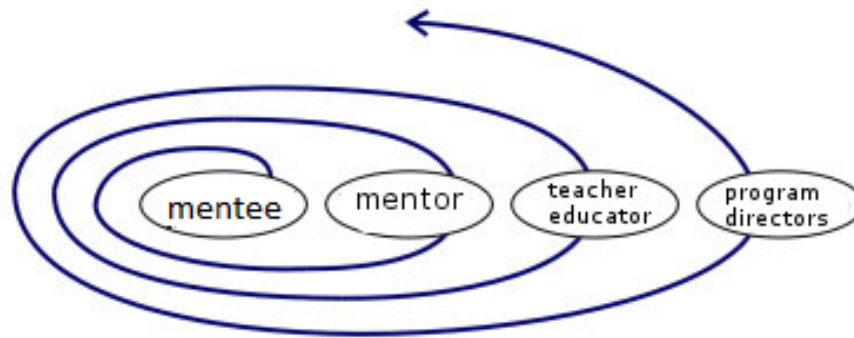
Figure 7. The spiral of guided reflective teaching practice in mentoring novice teachers

This model of reflective practice in mentoring suggests a continuous and programmed process of observation, monitoring, reflection, planning and cooperation of the participants building a system that is able to connect them all in a cyclical routine. For supporting the mentoring process, various contents and methods for reflective mentoring dialogues are suggested in the Hungarian context: creating, following, assessing and recreating personal development plan that are supported by frequent and structured reflective sessions in person, written or virtually (Szivák et al., 2011; Simon, 2013; Kotschy et al., 2016). Forms and schemes for observation and planning are provided and some methodological ideas are included in the resources as well.

However, this kind of constant and systematic reflective practice evidently requires serious time dedication that often manifests itself in reconstructing and replanning of routines. Finding balance in mentoring and teaching duties is correlated with managing a good work-life balance in each participant's case that has an influence on the quality and extent of collaboration within the cycle (Hobson et al., 2009). Effective mentoring and useful reflections are realized where mentors and novices are provided with extra time for releasing and timetabling of reflective conference sessions (Bullough, 2005). Efficacy and professionalism are often measured in the time that a mentor can and would dedicate to his or her mentee; availability for formal and informal discussion is one of the most desired characteristics of an ideal mentor according to mentees (Reid & Jones, 1999; Johnson et al., 2005; Cain, 2009; Van Ginkel et al., 2015; Lejonberg, Elstad & Christophersen, 2015). Informal discussions in released or non-contact time are recognized as equally essential factors for mentors and beginners in order to result in

higher effectiveness. In other words, providing sufficient time for implementation, completion and management of the mentoring process (Arends & Rigazio-DiGilio, 2000) is crucial.

2.2.2.2 Tools of reflection in mentoring

Mentors and mentees in different contexts are invariably required to report on the progress within pre-designed frameworks; however, these often lack the individualized and relationship-based aspects of mentoring. In the Hungarian context, reflective practice is expected to be integrated in every phase and layer of the mentoring process within the framework of diagnostic, formative and summative assessments. Mentors are required to reflect on novices' (1) personal (adult identity) and (2) professional (teacher identity) development, (3) collaborative working plan, (4) professional development plan, (5) integration into the teacher community and to the school context; (6) systematic observation and diary of the mentors'/colleagues'/ peers' classes; (7) leadership skills; (8) activity and participation in institutional extracurricular activities (Szivák et al,, 2011; Simon, 2013; Major, Szabó, & Antalné, 2016; Kotschy et al., 2016).

Open and relevant reflections can result in increased motivation and fruitful conversations. Maintaining a reflective written diary is a strategy to elicit reflections in an individualized manner and yet it is often not the most suitable one (Crozier & Cassel, 2015; Monrouxe, 2009). The tension in the transitional period of becoming a teacher (from a student teacher) rarely becomes visible in written records; from these accounts, we know almost nothing about mentors' own states of mind. Furthermore, in Hungary, mentorship is understood as a developmental cooperation between the parties involved (including school-based mentors and mentees and university-based teacher educators); however, the static and formal documentations (hundreds of these per semester) give limited possibility for authentic reflections on the school-based mentoring process. Mentees are required to submit written accounts of at least 30% of their lessons, while mentors are requested to provide formative evaluation at the end of the practicum (also known as school placement) in a written format. Earlier studies (Crozier & Cassel, 2015; Markham & Couldry, 2007; Monrouxe, 2009) and mentees of this dissertation study also question the suitability, relevance and usefulness of these writing reflections due to the volume of paperwork and the over-formalized content of such documents. Finding the time and the best approach to accomplish this is often challenging for both mentors and mentees as constant and systematic reflective practice requires serious time dedication

that often necessitates reconstructing and recalibrating routines. Balancing mentoring and teaching duties is similar to managing good work-life balance, which has an influence on the quality and extent of collaboration within the cycle (Hobson et al., 2009). Effective mentoring and useful reflections are thus realized when mentors and novices are provided with extra time for timetabling reflective pre-and post-lesson conference sessions (Bullough, 2005).

2.3   MENTORED PRACTICUM AS AN ADULT LEARNING PROCESS

In the practice of mentoring, learning processes are implemented using different learning strategies and as explained in Section 2.2, great emphasis is placed on the role of reflective practice in supporting knowledge sharing and developmental interactions. Several studies show that a reflectively mentored practicum primarily shows the characteristics of adult learning processes and mentees are perceived as adults (as independent motivated learners) (e.g.: Hobson et al., 2009, 2013; Hudson, 2013; Clarke, Triggs & Nielsen, 2014). Also, teacher mentoring strategies, interpreted in the conceptual framework of adult learning, contain elements that fundamentally define effective mentoring and fill the learning models with knowledge content.

A US-wide study of the process of mentoring programmes in TT (Swiney & DeBolt, 2000) indexed a number of findings that aimed to increase learning effectiveness through attaching more importance to adult learner attributes. As a concluding remark, the study shows that the correlations between adult learners' characteristics of teacher candidates and the effectiveness of the mentoring process do not receive sufficient attention during the career launch period. Mentors, mentor programme directors (higher education professionals), and mentees pay less attention to the view that effective teacher development can be achieved by considering adult learning characteristics, most notably reflective cycles.

The follow-up reviews (2016) of teacher induction programmes in 50 Member States found that most states already regulate the facilitation of mentees' adult learning and the introduction of adult learning strategies into practice for quality mentoring, and Member States aim to support the adult learner by developing reflective practice (Goldrick, 2016). Further international and domestic empirical research also highlights that supporting a teacher candidate's adult learning processes in different learning models and strategies has a positive effect on the professional development of the novice teacher (Parsons & Stephenson, 2005; Walkington, 2005; Sempowicz & Hudson, 2011; Di Blasio, Paku &

Marton, 2013; Gál et al., 2014; Majzikné & Fischer, 2017). In the next section, a more detailed account of the theory behind adult learning is presented, to see how and to what extent the mentored practicum can be considered as an adult learning process, and how it can be supported to make it sustainable.

2.3.1 Mentoring as adult learning: roles and processes

According to empirical findings in andragogy and beyond, novice teachers appreciate being treated as professionals and being offered the opportunity to collaborate with a more experienced teacher in a partnering relationship (Cochran-Smith, 2004; Cameron, 2017) in order (1) to learn how to integrate/assimilate into the community of teachers, (2) to find individual paths for professional development and (3) to meet the expectation of surviving the reality shock of the initial period of teaching (Gaede, 1978; Veenman, 1984). As Cameron puts it (2014), mentoring "is a process involving the principles of adult learning and situated learning and relies on both the trainee teacher's orientation to learning and the mentor's greater knowledge and experience to facilitate the process" (p. 61). Collaboration of mentors and mentees in creating an adult learning context and supporting novices' self-regulated learning (SRL) processes positively impact, sustain and even accelerate the continuous professional development of the mentee (Parsons & Stephenson, 2005; Sempowicz & Hudson, 2011; Silver, 2016). Increasing focus on the individual needs and regular reflections on practices create space for integrating adult learning approaches into mentorship, put individual distinctions of the adult learner to the front and help mentors and mentees work in a mutually fruitful relationship.

2.3.1.1 Mentee as an adult learner

When we try to define reflective mentoring as an adult learning process, we have to take a closer look at certain characteristics of the learner. To understand and facilitate any kind of learning processes, a learner-centred approach should be taken, to create a clear understanding of the objectives, mechanisms and embeddedness of the process.

There are various characteristics that imply and frame adulthood in learning and those characteristics are usually interdependent. Merriam and Brocket (2007) argue for avoiding narrow or over-specified scope of the term 'adulthood' in education. They propose when learning is planned for adults, the age, social roles and self-perception of the learner should be considered in its complexity (p. 8). They also suggest that what makes a learner 'adult' is the difference between contextual positions of a child and an

adult in a life span (Merriam & Bierema, 2013). There are three main dimensions that highlight these differences. Children need care in life and when learning; also, learning is considered to be a child's main 'job' compared to that of adults, who often work and study in parallel. Another important dimension is that a development of an adult learner is based in life experiences. As Lindeman puts it (1926), "the resource of highest value in adult education is the learner's experience" (p. 6) and experience becomes "the adult learner's living textbook" (p. 7). Life experiences serve as fundamentals for adult learners (Knowles, 1984b) and define who they are in the learning process. As mentored teaching is integrated in experiential learning phases, mentees are expected to use their reflection in and on the teaching experience they encounter. Using reflected experiences clearly distinguishes adults from children as learners (Kidd, 1973). Merriam and Bierema (2013) states the third dimension that makes an adult learner different from the child is the position that they adopt in the developmentally different life cycles. Adults mainly develop in their social positions (e.g. as a worker, as a leader, as a parent) and related tasks (e.g. engagement in relationships, establishing intimacy), and less (or not at all) in their biological entity.

In this dissertation study, the group of novice teachers involved are either in the last phase of their studies or processing an early career in the teaching profession, with limited work experience in teaching but often building on work experience from elsewhere. They are in a transitional period of their life and learning: they are supervised in teaching but also expected to take individual responsibility for their work and are on the point of developing their full social role as teachers.

2.3.1.2   Novice teachers as 'emerging adults'

Students in higher education and novice teachers in the profession experience a transitional period between childhood and the phase of career development. This phase is considered a distinct demographic life period called 'emerging adulthood' (Arnett, 2000). The period is characterized by a wide scope of possibilities, lack of constraints in role requirements, exploratory quality of living and the combination of independence from and relatedness to various role models and life agents. This complex life phase often results in semi-autonomous life management situations (Goldscheider & Goldscheider, 1994) that cause much tension and frustration in young adults. Instability of individualistic qualities of a character (Arnett, 2000), namely, to accept responsibility for their decisions and make independent decisions clash with the inability to become

financially independent (Arnett, 2011). Most university students take on part-time jobs during their higher education studies that are not directly linked to their future career and student teachers make their way to their qualification usually without being financially compensated.

The dramatic changes in the life paths of young people can be attributed primarily to the significant social changes that have taken place over the last few decades. The economic conditions of young people have become increasingly difficult in the last couple of decades (Shulman, Feldman, Blatt, Cohen, & Mahler 2005). Becoming an adult today is a much more protracted process than in previous decades; young people face a number of new challenges, and complete separation from parents is longer and more complex than half a century ago (Settersten & Ray, 2020).

Recent studies conclude that there is an increase in the number of young adults who experience some difficulty during the process of becoming an adult and many reflect on this period by feeling lost (Shulman, Blatt, & Feldman, 2006). Expectations are set high, emerging adults have to select from a lot of opportunities, and the fear of missing out is a constant concern for many young people. There are a lot of opportunities given, but no clear route to success is guaranteed in either life track. Paradoxically, emerging adulthood is both an age of opportunity and an age of uncertain vision (Shulman, Vasalampi, Barr, Livne, Nurmi, & Pratt 2014).

2.3.1.3   The mentor as adult educator

The educators' roles have been changing continuously; that is, educators are responsible for managing and individualizing knowledge, instead of transferring it (Kraiciné, 2010). The concept of knowledge management in teaching underlines the importance of change management and knowledge sharing. This concept has a great influence on teacher education and the roles of the educator within. Thus, mentors, as managers of adult learning processes should guide their mentees in applying and deepening knowledge as well as reflecting on different components that can shape their teacher identity and role concepts. However, fulfilment of these two kinds of responsibilities is often hindered by an additional responsibility of providing subject-related content knowledge for mentees, which should have normally been acquired at an earlier stage of their education (Johnson et al., 2005).

Supporting adult learning as well as supporting mentees in their early teaching career is predefined by the well-being, professional and personal adequacy of mentors as adult

educators (Merriam & Bierema, 2013, p. 251). Achievements and learning outcomes of mentees are strongly affected by the mentor's work. A "good" mentor supports mentees' continuous professional development, and the mentor is a model for lifelong learning with developed self-reflective practices (Gál et al., 2014). The mentor reflects on individual differences in learning and on his or her own self-reflective practice to gain and sustain self-awareness in teaching and mentoring (Korthagen, 2004; Szivák, 2010; Hunya, 2014). As an adult educator, the mentor effectively supports mentees by using diverse skills consciously in multidimensional methods and mentoring strategies (Fairbanks, Friedman & Kahn, 2000; Stenfors-Hayes, Hult, & Dahlgren, 2011; Mathur et al., 2013). These strategies are successful if (1) mentees are encouraged to make decisions by elaborated reflections on their work, (2) reflections are mentee-centred, and (3) initiated and sustained by professional discourses to develop mentees' pre-, post- and lateral thinking skills (Bullough, 2005; Hobson, 2009; Simon, 2013; Gál et al., 2014; Lofthouse & Thomas, 2015; Kovács, 2015). Following these guiding principles of managing adult learning in mentoring, the mentor has to provide the mentee with strategies for managing expected and unexpected conflicts in teaching and learning, and for reflecting on these situations that helps mentees turn from individual meaning making to joint construction of meaning (Schön, 1983).

2.3.2 Domains of adult learning

One of the main objectives of the mentoring process in TT is to enable novices to plan their individual professional development and autonomously launch a teaching career. Student autonomy and responsibility for one's own learning career can be reached by improving SRL abilities (Van de Pol, Volman & Beishuizen, 2010; Cuesta, Azcárate & Cardeńoso, 2016; Káplár-Kodácsy & Dorner, 2017). SRL however is irrelevant without constant reflective and self-reflective practices and motivation as tools for continuous development (Nixon, 1989; Copper, 1990; Belanger, 1992). The routine of reflective practice helps novices to value and apply experiences in an adult learning context that is based on a partnering knowledge management of learning in the mentoring relationship (Boshier, 1998).

2.3.2.1 Reflective practice[11]

Reflective practice is embedded in various practices of adult learning and rooted in models that interpret learning as a self-regulative process (Knowles, 1984a; Winne & Hadwin, 2008). Key to this self-regulation is the learner's autonomy. In the literature, the adult learner is best defined according to personal and situational variables and according to the various levels of ability for being self-regulated in learning. On a high level of SRL abilities, the learner is able to interpret new knowledge in a constructive manner and at an individual pace, supported and followed by the continuous reflective practice of the mentor and self-reflective confirmation of the mentee (Gynnild, Holstad & Myrhaug, 2008; Mullen, 2011). If novices' reflective practice is consciously improved and supported by a mentor within this conceptual framework, mentees might be able to develop an autonomous teacher identity in the induction phase (Taylor & Hamdy, 2013: 156).

In an adult learning context, mentor and mentee gradually construct an ideal learning environment together by constantly reflecting on learning processes and constraints. This learning environment is shaped and challenged by the professional needs and experiences of both parties.

2.3.2.2 Reflective practice and self-regulated learning

Research to determine the most important characteristics of an adult learner has examined the learner's physical, intellectual, and personal maturity during learning processes (Levinson, 1978; Paterson, 1979; Merriam, 1984; Knowles, 1984b). Approaches with different aspects concluded that the conceptual definition of an adult learner is actually determined by personal and situational variables. However, as a general finding, one of the defining features of an adult learner is the development of different degrees of self-regulatory learning processes. Thus, in SRL, the learner is able to interpret new knowledge in a constructive manner at an individual pace, while expecting continuous external and self-reflective reinforcement or motivation to reach the stage of autonomous learning (Kálmán, 2008; Panadero, 2017; Winnie 2011). Tough claims SRL as a concept adapted to an "active, energetic, free, and aware [learner who] chooses his goals,

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[11] For more elaborated account of the importance reflective thinking and practice, see Section 2.2.

direction, and behaviour; he is not always pushed and pulled by his environment and by unconscious inner forces" (Tough 1979, p. 45). Pintrich (2000) defines the process of SRL as an attempt of the learner "to monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features in the environment" (p. 453).

Self-regulated learning models address a large spectrum of research areas from emotion regulation through meta-cognition to collaborative learning models (Panadero, 2017). Researchers can therefore use the most fitting model to utilize the research goals and the one that is accommodating the different educational phases best (Dignath & Büttner, 2008). In this current dissertation study, Zimmerman's widely known Cyclical Phases Model (Zimmerman, 2000) is integrated into a complex adult learning process model for three reasons: (1) it is generally applicable for various learning situations and stages; (2) it has its roots in socio-cognitive learning theory of Bandura and Rosenthal; and (3) is developed with the intention of exploring how individual learners acquire knowledge and become experts in a given field – for instance when learning to teach.

The Cyclical Phases Model (visualized in Figure 8) shows an interrelation of metacognitive and motivational processes in learning. Zimmerman defines three phases for self-regulated learning processes: forethought, performance and self-reflection. Each phase consists of two sub-phases that further elaborate the cyclical model of SRL. In the *forethought* phase, learners set goals, plan how to reach them to be able to analyse the task they encounter. Several motivational beliefs also affect this initiation phase of self-regulation and stimulate the process by considering self-efficacy, outcomes, interests and goals of a given learning strategy. In the next step, learners perform and carry out the task with parallel control and observation of the progress they achieve. In the *performance* phase, strategies for self-control and self-observation help learners to keep them motivated and engaged. In the *self-reflection* or assessment phase, learners ponder and scale how they have performed in the task. Attributions generated are influential on how learners design or redesign task execution later in their learning processes (Panadero, 2017).

Phase Structure and Subprocesses of Self-regulation

Cyclical self-regulatory phases		
Forethought	Performance/volitional control	Self-reflection
Task analysis Goal setting Strategic planning	Self-control Self-instruction Imagery Attention focusing Task strategies	Self-judgement Self-evaluation Causal attribution
Self-motivation beliefs Self-efficacy Outcome expectations Intrinsic interest/value Goal orientation	Self-observation Self-recording Self-experimentation	Self-reaction Self-satisfaction/affect Adaptive defensive

Figure 8. Cyclical Phases Model adapted from Zimmerman (2000)

Researchers suggest a number of implications for promoting SRL in teaching. As a major implication, it is stated that pre- and in-service teachers need to be adequately trained to be able to implement SRL among students (Moos & Ringdal, 2012; Ewijk, Dickhäuser & Büttner, 2013; Panadero, 2017). Thus, teacher trainers (educators and mentor teachers equally) need to be prepared to adopt facilitation strategies and to "expertize themselves as learners" (Panadero, 2017, p. 23) as this will impact novices' knowledge and pedagogical skills significantly (Moos & Ringdal, 2012).

2.3.3 Supporting self-regulated learning

Pursuit of professional autonomy as well as becoming a self-regulated learner are clear signs of an adult learner. The two notions are strongly interrelated, and novices clearly need support from their mentor to develop as an autonomous, self-regulated learner in a

school context (Knowles, Holton & Swanson, 2014; Oates, 2020). The mentor, as a qualified adult educator should consider and reflect on individual differences by choosing the most suitable mentoring strategy that helps novices (1) to take responsibility for and reflect on the content and organizational process of one's own teaching, (2) to help their own students to effectively manage their own learning process; (3) to support their students "in taking responsibility for their own learning process." (Thavenius, 1999: 160) However, national and international research has shown that novices reflect differently on mentoring strategies that encourage and support self-regulation and autonomy: some feel liberated, some feel surprised and there are novices who are scared of being granted more professional autonomy by their mentor (Malderez, Hobson, Tracey, & Kerr, 2007; Gál et al., 2014). Thus, self-regulation in teaching and learning always needs to be supported in adaptive ways (Harrison, Lowson, & Wortley, 2005; Malderez, Hobson, Tracey, & Kerr, 2007).

Adaptivity of strategies in adult learning depends on various contextual and situational factors that are categorized as (1) socio-cognitive and biological characteristics of an adult learner; (2) former and current learning strategies and prior learning experience; (3) former and current teaching and mentoring strategies experienced; (4) former and current teacher role models encountered; and the (5) quality and quantity of reflections received when learning to teach (Little, 1995; Littlewood, 1996). The complex alignment of these factors in the mentored practicum needs to be considered when mentors reflect and select mentoring strategies to support self-regulated learning and autonomy in teaching. Motivation of novices to stay in the teaching profession is very often influenced by experience of these strategies and adaptation of their learning (Fried, 2001).

2.3.4 Reflective practice and motivation

Motivation and reflection are critical elements of any theoretical models explaining adult learning. The approach to adult development that supports individual development sees the combination of reflective practice and motivation as a primary catalyst in achieving a set of learning goals. In other words, motivation for learning and reflective practice mutually nurture each other in a learning process. Early behaviourist research has shown (Maslow, 1954; Peters, 1966) that the desire to learn is directly proportional to the magnitude of the expected success, which, of course, also varies with the time and energy invested. One possible impediment to and cause for poor motivation in adult learning is the general low expectation of success, resulting in poor motivation to learn. Maslow's

theory of needs (1954) does not give a complete account of the drives that influence the balance between hopes and expectations in motivation, as the value of success can be perceived in different ways. It may depend on time commitment and effort invested in learning. Expectancy valence factors of success (Weiner, 1992) influence the adult learner's engagement in and dedication to learning over the long term.

Ryan and Deci (2000) in their Self-Determination Theory suggest a clear distinction between intrinsic and extrinsic motivation. The theory highlights three main factors to consider for sustaining and reinforcing intrinsic motivation phases in learning; these are (1) autonomy and (2) competence and (3) the feeling of relatedness to the content, actors and the learning process itself. These factors affect how far and to what extent a learner can reach a higher level of intrinsic motivation in any learning situation (Reeve, 2002).

The so-called Chain-of-Response model (Cross, 1981) integrates three similar factors of intrinsic motivation for self-regulation (see Figure 9 for graphic visualization). These are self-perception (A), concepts about and attitudes to learning and teaching (B), and the value of considering goals and expectations in a learning process (C). These factors are affected by external limitations such as critical life events and difficult transitions (D), inability to select from various opportunities, or having limited information about the goals, processes and intentions. These barriers to achieve learning goals can block the "chain" at any point and cause limitation in the participation (G) in a response action, however, conscious reflective cycles of the participant may mitigate the negative impact of these barriers.
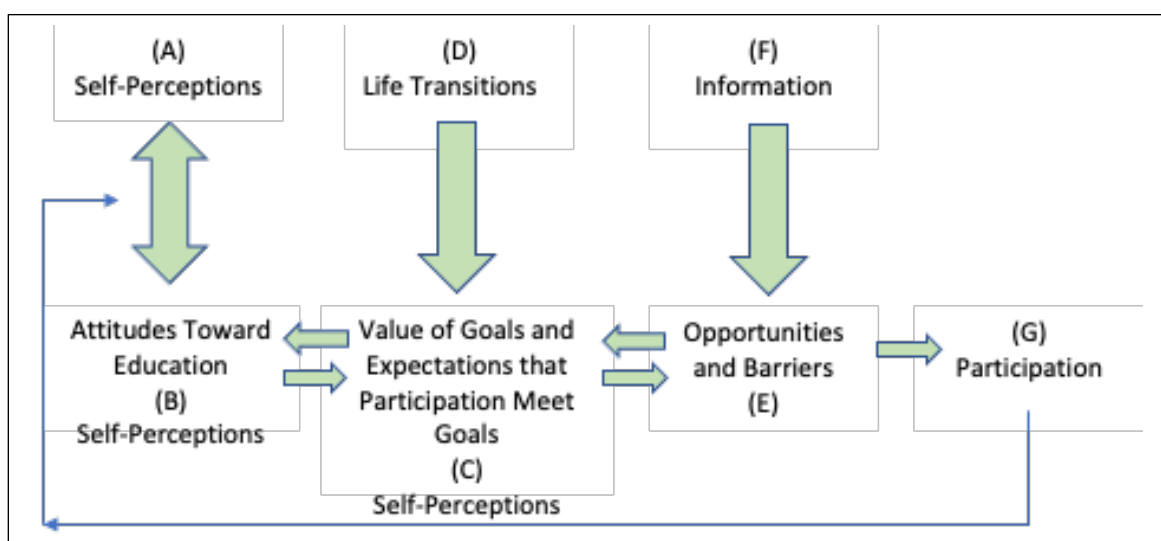
Figure 9. Conceptual model of Chain-of-Response model adapted from Cross (1981)

Merriam and Caffarella (1991, p. 237) completed Cross's seemingly linear depiction of motivational learning processes with the note that it is "also a reciprocal model in that participation in adult education (G) can affect how one feels about education (B) and oneself as a learner (A)" (p. 237). The model also serves as a guiding concept for motivation in mentoring process as it is built on the core element of reflections in mentored teaching. Mutual and ongoing reflections stimulate motivational processes and keep the chain dynamic in the interaction of mentees and mentors.

2.3.5 Comprehensive concept of adult learning

Domains and the roles of stakeholders in adult learning are integrated in several complex process concepts and related models in the literature (Brockett & Hiemstra, 1991; Hiemstra, 2003). The Chain-of-Response model of adult learning is completed with a conceptual framework that Cross aimed to design in order to present the distinctions between two classes of variables related to characteristics of adults and children in learning. These variables are grouped in the categories of personal characteristics (physiological/aging, sociocultural/life phases, and psychological/developmental stages) or situational characteristics (part-time learning/full-time learning and voluntary learning/compulsory learning) (1981). Cross captures these variables in a dynamic continuum of dichotomous relationships that are largely reflected by the original Chain-of-Response model.

Knowles *et al* (Knowles, Holton, & Swanson, 2014) defined six principles that need to be explored before launching any adult learning process. The pre-considerations focus on the learners' needs and prior experience of learning as well as on motivation for and orientation to learning. Self-concept of learning is analysed in parallel with the degree of readiness of the adult learner to participate in, develop agency for and manage their own learning.

Further expansion of Knowles and colleagues' (2012) concepts of adult learning identify principles that guide teachers in planning and evaluating adult learning processes. Kaufman (2003) compiled a list of seven basic premises for consideration (see Figure 10). The list aims to support teachers and mentors in medical education to plan, assess, and reflect on the learning process that is embedded in a workplace environment of training medical students in their profession.

1. The learner should be an active contributor to the educational process
2. Learning should closely relate to understanding and solving real life problems (role of experience)
3. Learners' current knowledge and experience are critical in new learning situations and need to be taken into account (knowledge validation)
4. Learners should be given the opportunity and support to use self-direction in their learning (self-regulated learning)
5. Learners should be given opportunities and support for practice, accompanied by self-assessment and constructive feedback from teachers and peers
6. Learners should be given opportunities to reflect on their practice; this involves analyzing and assessing their own performance and developing new perspectives and options (self-reflection)
7. Use of role models by medical educators has a major impact on learners. As people often teach the way they were taught, medical educators should model these educational principles with their students and junior doctors. This will help the next generation of teachers and learners to become more effective and should lead to better care for patients (role modelling)

Figure 10. Seven principles to guide teaching practice
adapted from Kaufman (2003, p. 11)

There are a number of different ways explaining the process, the roles and strategies applied in adult learning. Concepts and models highlight different segments and elements and focus on diverse aspects of what is happening when an adult is learning and what needs to be done to appropriately facilitate adult learning (Merriam & Brockett, 2007). However, none of them is able to fully map out these processes.

2.3.5.1 Mentoring and the multi-level model of adult learning processes (Taylor & Hamdy, 2013)

Taylor and Hamdy (2013) developed a constructivist multi-level model to integrate and give as a complex view on adult learning as possible, to capture the knowledge construction that happens in the learning process of medical students. The model is built on three main domains of learning: knowledge, skills and attitudes (Bloom, 1956; Miller, 1990); and integrates the elements of reflective learning models as well as instrumental,

humanistic, transformative, social learning and motivational theories (Taylor & Hamdy, 2013, p. 1562-63) to enrich the fundamentals of the model.

Kolb's experiential learning model and Knowles' principles of andragogy (2012) are also integral parts of the multi-level model and completed with the concept of guided discovery in learning, also known as the Johari window of learning (Luft & Ingham, 1955).

Taylor and Hamdy's model defines five stages of adult learning that can be applied to the process of learning to teach (see Figure 11 for visualization of the model and elaboration of the learning phases). The model pre-conceptualizes already existing knowledge of the learner that is challenged in the *dissonance phase* by some kind of information gap, or clash of theory and practice that needs to be fixed. The challenge either comes from within the learner or appears as an external drive for the task to be completed. The learner's engagement in fixing the dissonance depends on the resources and the motivation of the learner related to the task, the stage of development in learning and the preferred learning style. The dissonance phase is reflected upon by the learner, and the facilitator of the learning, and ends in a *refinement phase* of learning where solutions and possible explanations are sought in an active interaction with the task and possible strategies for resolution. In the *organization phase*, the collection of ideas and possible solutions are reviewed and reflected upon again, and a route to the possible outcome is structured. The *feedback phase* is the articulation of the comprehensive reflection-in-action, and results in testing the concepts with the facilitator of the learning and peers. This phase either stimulates or slows down the process as the learner makes decisions about whether completion of the task is possible with the new information, or not. The *consolidation phase* is the last phase of the reflective learning cycle and makes space for reflection on the knowledge gained and on the learning process itself.

Phase	Dissonance	Refinement	Organization	Feedback	Consolidation
Learner's role	identify prior (baseline) knowledge, skills and attitudes	Think of many possible explanations or solutions to the case or problem	Test and re-test the hypothesis	Articulate the knowledge, skills or attitudes developed	Reflection in the light of prior knowledge
	Recognize what is unknown	Work out which are the most likely resources to refine the possibilities	Organize the information into a ''story'' that makes sense to the learner	Provide feedback to peers and staff	Reflection on the learning process
	Recognize personal development and learning needs	Actively participate in the activity and experiences		Accept, and if appropriate act upon feedback received from others	Evaluate personal responsibility for the learning
	Participate in planning personal learning objectives and relevant experiences	Refine the information into a hypothesis			Development of know-ledge, skills and attitudes
Teacher's role	Provide the context in which the student can learn.	Ensure the relevant learning experiences are available –at the appropriate level for the learner	Provide advance organizers for the learners – structures upon which they can continue to build.	Reflection on the learning experience (in action and on action) Provide feedback to the learner, formally or informally.	Provide opportunities for the learner to rehearse and apply their new knowledge
	Increase extrinsic motivation through appropriate tasks		Encourage reflection inaction	Accept, and if appropriate act upon feedback received from the learner	Encourage reflection on action.
	Help learner to recognize or promote internal motivation factors				
	Explore the learner's prior knowledge and experiences				
	Help student to identify his/her learning needs and the relevance of each				

Figure 11. Model of adult learning adapted from Taylor and Hamdy, 2013, p. 1566

The model also reflects how novices learn in the mentoring process, how their task completion is reflected and observed as an element of professional practice. In this process, novices use their prior knowledge and develop new concepts of teaching, experiment with their own abilities in order to consolidate them with their existing knowledge about teaching (Taylor & Hamdy, 2013; Knowles et al, 2005). The various teacher mentoring programmes encourage mentors to help their mentees face multi-faceted problems, develop into capable, confident teachers and improve agency for their mentees' own continuous professional development. Mentors assign various tasks to their mentees by considering the different levels of development, resources, motivation and learning styles of their mentee. For minimizing the tension that the dissonance phase can cause, a mentor should always carefully consider factors that can refine the learning (Taylor & Hamdy, 2013).

The mentor has to (1) plan for the dissonance phase; (2) consider how the learner can be encouraged and how they can articulate their prior knowledge; consider (3) learning styles and their implications, (4) the stage of development of the learner; (4) the learners' motivation and (5) and the available resources to complete a task and finally, (6) fit the task to the learners' needs and to the given process (Taylor & Hamdy, 2013, p. 1568). In the meanwhile, mentees try to resolve dissonance of their observations, feedback, reflections and performance by refining the learning process to their own needs. The guided discovery of this process, however, directly impacts on and influences others outside of this restricted learning mechanism (e.g. the students of the mentee), which means the novice has to take increasing responsibility and make independent decisions in the process.

2.4   SUMMARY AND IMPLICATIONS

Chapter 2 presented the background of the dissertation research on mentoring in TT and how the process integrates reflective thinking and practice, and elements of adult learning to create a comprehensive concept. First, an overview of the research-based definitions, and roles were discussed to understand the notion of mentoring. General benefits, goals and typology of mentoring processes were introduced and later narrowed down to mentoring in TT to present the specificities of the system. Models of learning to teach were discussed in order to understand the importance of mentoring and to give a sense of the complexity of the profession. The presentation of domains was necessary to see why teacher training institutions and their relation to school-based mentors define the

developmental process of mentoring. Second, the literature on reflective thinking and practice was examined to further ground the relevance of reflexivity in mentoring for teaching. Theoretical models and concepts were presented to synthetize literature and introduce reflective practice as the core domain of adult learning. Finally, the concept, approaches and characteristics of adult learning were identified in order to find and define roles of the mentor and the mentee in the adult learning process. Domains of adult learning were discussed though the main perspective of reflection.

Significant issues identified in the literature contributed to the design of this study : (a) the importance of using a systematic approach to explore how mentoring is understood and structured; (b) a need for an empirical study on how different stakeholders in the mentoring process conceptualize mentoring and mentors, and how these concepts relate and correlate; (c) different ways of reflective practice that pervade and sustain the developmental process of mentoring; (d) a lack of synthesis and connectedness of the different perspectives in mentoring; and (e) a gap in the literature on comprehensive views of the process to mentor novice teachers in the reflective space of mentoring.

Thus, this dissertation study was designed to elucidate mentor teachers' views on and practices of mentoring novice teachers as adult learners in pre- and in-service teacher training, to generate new and open questions and themes for future research in order to facilitate the progress of the mentoring profession.

Chapter 3 Research Paradigm and Design

This chapter describes the research paradigm and design adopted by this study to achieve the aim of exploring mentor teachers', their mentees', mentor training programme directors' and teacher educators' beliefs about mentoring and strategies and models adopted in mentoring, as stated in Section 2.1. First, the research paradigm adopted for this study will be discussed (Section 3.1), which is followed by the presentation and the discussion of the appropriateness of the qualitatively driven mixed-method design applied (Section 3.2). Research methodologies for the individual studies comprising this qualitatively driven mixed-method investigation will be discussed subsequently, in Chapter 4 for the Pilot Study and Chapter 5 for the Main Study.

3.1   RESEARCH PARADIGM

Thomas Kuhn developed the philosophical concept of the "paradigm" in science through a historical study of scientific thinking. The term has become definitively anchored in scientific thinking: it is accepted as a network of beliefs that provides a more or less precise capture of the basic attitudes of a given discipline, the research mechanisms considered legitimate in a context, the research methodologies, and the framework of former scientific discourse.

In evidence-based social science, the discussion of specific methodological directions has been largely based on insights into the pre-Kuhn directions of the philosophy of science over the past three decades. The approach of Guba and Lincoln (1994) and the also widely applicable interpretation of Creswell (Creswell & Poth, 2018) equally emphasize the importance of the philosophical background of any social research. This is reassured by the fact that in the concepts explaining methodological decisions for research, paradigms are also typified on the basis of ontological and epistemological consequences (see Lincoln & Guba's approach to synthetize basic beliefs and paradigms in Table 5). In this typology, critiques of the classical and neopositivist image of science appear. Although Popper's theory of falsification launched a divergence from positivism, the theory cannot be regarded as a break from the inductive method and the science-realistic position of mapping objective reality. On the contrary, that pragmatist tradition of American philosophy has already been much more represented in the paradigm of qualitative methodology. In fact, it is primarily the divergence from the principles of pre-existential

correspondence (William James, John Dewey) that offers epistemological arguments for such a conception of qualitative research.

Although the justification of my choice, which is explained in more detail in Section 3.2, is also linked to the pragmatist trend, and the mixed method is interpreted within the pragmatist tradition, its distinction from constructivist currents is an important observation. As Crabtree and Miller put it: "Pluralism, not relativism, is stressed, with focus on the circular dynamic tension of subject and object" (1999, p. 10). The relationship to reality as an ontological dimension is also depicted as a determinant in Guba and Lincoln's model and used as a standard in social science methodology (1994)

Table 5. Basic beliefs (metaphysics) of alternative inquiry paradigms
adapted from Guba & Lincoln, 1994, p. 109.

	Positivism	**Post-positivism**	**Critical Theory**	**Constructivism**
Ontology	naïve realism – "real" reality but apprehensible	critical realism – "real" reality but only imperfectly and probabilistically apprehensible	historical realism – virtual realism shaped by social, political, cultural, economic, ethnic and gender values, crystallized over time	relativism – local and specific constructed realities
Epistemology	dualist/objectivist; findings true	modified dualist/objectivist; critical tradition/community; findings probably true	transactional/subjectivist; value-mediated findings	transactional/subjectivist; created findings
Methodology	experimental/manipulative; verification of hypotheses; chiefly methods	modified experimental/ manipulative; critical multiplism; falsification of hypotheses; may include qualitative methods	dialogic/dialectical	hermeneutical/dialectical

In another approach, paradigms can also be divided into scientific, interpretive, and critical categories (Scotland, 2012). In the scientific paradigm, the existence and objectivity of reality is the ground point, the exploration of which leads to clear results, primarily by using quantifiable methods. The interpretative paradigm is philosophically based on relativism, that is evidence-based research, but in general, cognition that dominates in the definition and construction of the object. It applies methodological solutions such as "case studies (in-depth study of events or processes over a prolonged

period), phenomenology (the study of direct experience without allowing the interference of existing preconceptions), hermeneutics (deriving hidden meaning from language), and ethnography (the study of cultural groups over a prolonged period)" (Scotland 2012, p. 12). In the case of the critical paradigm, reality is not given, nor is it entirely subjective, but the product of a certain kind of interaction between language and the outside world. Therefore, reflection on language in research is also essential for critical perception.

Due to the multi-layered nature of ontology and epistemology, research paradigms might be redistributed in less rigid categories. Thus, research practices apply rather fluid and mixed solutions, and presented in the wake of Mertens (2010).

Table 6. Basic assumptions associated with major paradigms in social research. Based on Creswell & Plano Clark (2007), Lincoln & Guba (1994), Mertens (2010) adapted from Bereczki, 2019

	Postpositivism	**Constructivism**	**Transformativism**	**Pragmatism**
Ontology (Nature of reality)	Singular reality knowable within a level of probability	Multiple, socially constructed realities	Political realities	Singular and/or multiple realities
Epistemology (Nature of knowledge)	Objective, stable and generalizable	Transactional, subjectivist	Critical subjectivity in participatory transaction	Practicability
Axiology (Role of values)	Value-free, neutral	Value-bound, value-laden	Negotiated	Multiple stances
Methodology	Quantitative methods (primarily); deductive, interventionist, decontextualized	Qualitative methods (primarily); inductive, hermeneutical, dialectical, contextual	Qualitative, quantitative and mixed methods, participatory, contextual with focus on historical factors related to oppression	Qualitative and/or quantitative; multiple stances

As can be seen in Table 6, the fundamental question is the new definition of reality (Guba and Lincoln 2005) and the definition of the relationship between the subject and object of cognition: "What is the nature of knowledge and the relationship between the knower and the would-be known?" (Mertens, 2015, p. 10) Asking for values is preconditioned, as it goes beyond the value-free requirement of classical positivism.

Positivism, as the dominant research paradigm in traditional and quantitative research today, provides a clear answer to these questions: the outside world exists objectively,

and though active cognition one can explore it using appropriate methods. The task of the research is to offer a general description and laws based on experimentation and measurement (Creswell, 2014) as knowledge perpetually grows, expands, and more fully embraces reality. The new trends of "post-positivism" do not differ significantly from this view either, as it takes its approach largely from the natural sciences. In contrast, constructivist methodologies view the Dasein ("existence") of the world around us as it is constructed by participants and observers. Thus, the forms of cognition are of limited validity and the scientific research process is value-bound. Therefore, research using methods of multiple research elements is much more suitable for exploring contexts and presenting various contingencies. (Mertens, 2010)

This is further radicalized by the transformative perspective, which brings the political aspects directly into the mainstream of the study. Political aspects are considered to be the most definitive principles of values and interests, not only in relation to the subject of the research but also in relation to the research itself (Creswell & Plano Clark, 2007). Distance is therefore understood as completely degradable and action research is given a prominent role among the methodologies (Mertens 2010) in a transformative perspective. In comparison, the pragmatist paradigm is the latest development in methodological innovations. This, following the philosophical tradition mentioned above, does not consider any concrete and limiting conception of the reality concept of philosophy to be fixed; it is putting aside the ontological and epistemological debate about what and how the social world can be seen and understood (Johnson & Onwuegbuzie, 2004). Instead, pragmatists pose the question of how a solution works in a specific research process (Patton, 2002). They do not make difference between quantitative and qualitative approaches on a theoretical basis, but assign the choice of methodology, or its joint application, to each specific research question (Morgan, 2007).

3.1.1 Pragmatism

The focus of the pragmatic paradigm is always the research question that enquiries about various segments of the reality and applies various strategies to capture them (Johnson & Onweugbuzie, 2004). Studies framed in the pragmatic paradigm adopt methodological pluralism as this current dissertation project, also apply methods that fit best with the set objectives of the research.

This current research aims to obtain answers to the research questions by exploring and observing the world around us and applying various instruments as research tools to

measure approximate realities (ibid.). Knowledge in this experiment is generated from the elements of reality and constructive interpretations of human thinking.

As a qualified mentor, the researcher also values the relative proximity of the pragmatic research design that allows the researcher to avoid keeping distance from the research object and later the results, but rather use the outcome of the research in order to bring about positive consequences (Mertens, 2010; Tashakkori & Teddlie, 1998, p. 30).

Nonetheless, the pragmatist approach tries to acquire eclecticism and pluralism in methodology and apply both qualitative and quantitative methods (Morgan, 1997). Pragmatists argue that observation, experience and experiments are equally applicable approaches to understand people in various realities (Creswell, 2014; Johnson & Onwuegbuzie, 2004). Details of the design and its appropriateness for the research question are discussed in the following Section.

3.2   RESEARCH DESIGN: QUALITATIVELY DRIVEN MIXED METHODS RESEARCH

Pragmatist researchers often use mixed methods designs in their inquiry since the combination of different research strategies allows them to obtain a more complex picture of human behaviour and experience (Ivankova, Creswell, & Stick 2006; Morse, 2015). A mixed methods design has been defined as a series of related qualitative and/or quantitative studies finding answers to the same collection of research questions, which are ruling the overall aim of the research (Morse & Niehaus, 2009). Mixed methods are used to manifest the strengths of, and to compensate for, the limitations of quantitative and qualitative methods. Usually there exists three general reasons for using mixed methods in social research (Hesse-Biber, Rodriguez, & Frost, 2015; Pluye & Hong, 2014): (1) qualitative methods for interpreting quantitative results; (2) quantitative methods are generalizing qualitative findings; (3) both methods are complementary needed to better understand a complex or new phenomenon and numerically measure its magnitude, trends, causes, and effects (Pluye & Hong, 2014, p. 30)

In the mixed methods design of a research project, qualitative and quantitative studies aim to present findings that are interpretable within the context of the various components, but also the study elements are relatively complete in their own right (Morse & Niehaus, 2009). This current mixed methods project presents the results of the applied methods that inform the emerging conceptual scheme, as the main research questions are addressed (Morse, 2003).

3.2.1 Qualitatively driven mixed methods research design

The design of a mixed methods research can either be simultaneously nested (a design consisting of the concurrent mixing of qualitative and quantitative research elements, or separate studies within the same research), or sequentially arranged, as the objective of the research requires (Morse & Niehaus, 2009).

In simultaneous designs, the various methods applied are used concurrently: one method forms the basis of the emerging theoretical scheme, while the second is planned to elicit information that the first method cannot achieve. In sequential mixed methods designs, the base study is conducted first while the second method is planned to resolve any problems and issues uncovered by the first; or to provide a logical extension to its findings (Hesse-Biber, Rodriguez, & Frost, 2015). In addition, research implementing mixed methods design may be either quantitatively or qualitatively driven.

Sequential mixed methods designs are of three main different types: sequential exploratory, sequential explanatory and convergent designs (Pluye & Hong, 2013). In sequential exploratory mixed methods design, the qualitative research approach is followed by quantitative data completion, where qualitative findings inform the quantitative data collection and analysis for integrative purposes. Quantitative results are used to confirm and generalize the qualitative findings. Sequential explanatory mixed methods design applies the research methods in the opposite way: the quantitative method is followed by a qualitative approach, and results from the quantitative study informs the qualitative design and analysis. This type of mixed methods is mobilizing the qualitative findings to interpret the quantitative results sequentially collected at an earlier stage of the research protocol. The third type of mixed methods approach is the convergent design, which is also the most commonly used in social and health sciences (Bryman, 2008). Quantitative and qualitative methods aim to complete and form an integrated data collection procedure in the data collection and analysis phase of the research. In a qualitatively driven sequential design, one study block is built on the next with the qualitative component taking a dominant concept orientation role (Hesse-Biber, Rodriguez, & Frost, 2015).

The most evident dimension that defines a qualitatively driven mixed methods project is a commitment to privileging a qualitative approach that predominantly contributes to the core of the overall mixed-method research project with the quantitative method taking on a secondary role in the mixed methods design (Hesse-Biber, Rodriguez, & Frost, 2015).

Hesse-Biber and colleagues presents fifteen possible reasons for choosing qualitatively driven mixed methods research design that are summarized in Table 7. In qualitatively driven mixed methods research, the aim of the secondary quantitative or secondary qualitative method is to ask and answer a sub-question or set of sub-questions that complete the elaboration or clarification process of the overall qualitatively driven research question(s). The focus of the research thus is qualitatively processed, and the quantitative or qualitative component is depicted in a supplementary role. The secondary component in this research design can stand on its own as a separate study (see Morse, 2003, 2010; Morse & Niehaus, 2009), however, for convergence reasons, quantitative or additional qualitative data is aimed to be interpreted in a close overall understanding of the qualitative data.

Table 7. Most common reasons for choosing qualitatively driven mixed methods approach, based on Hesse-Biber, Rodriguez, & Frost, 2015, p. 7-9

	Reason	**Explanation**	**Reasons applied in the current dissertation**
1	To obtain a representative qualitative sample for the purpose of enhancing qualitative findings (quantitative-qualitative)	Conducting a quantitative demographic survey on a random sample of the researcher's target population first, followed by a qualitative study, enables the researcher to select a qualitative subsample from this population that is representative of the target population.	
2	To enhance the generalizability of a qualitative study (quantitative-qualitative)	The researcher uses findings from the quantitative study to select a qualitative sample that is reflective of the wider population in order to more readily generalize from in-depth research findings. The researcher samples directly from the quantitative sample—in this way both studies are directly linked.	
3	To cast a wider net (quantitative-qualitative)	By casting a wider net, the researcher can identify a specific population of interest that may be hard to locate (purposive sampling).	
4	To assist in defining a population of interest (quantitative-qualitative)	Based on specific research findings gather from their quantitative survey, researchers can locate a sub-sample of interest. The focus of qualitative inquiry is sparked directly from the survey findings.	
5	To provide options for enhancing the validity and reliability of qualitative findings (quantitative -qualitative)	By linking the qualitative with the quantitative at the data gathering stage (i.e., the researcher draws a qualitative sample directly from the quantitative sample first collected), the researcher is provided with the possibility of assessing the validity and reliability of the qualitative findings.	
6	To conduct a concurrent study with the quantitative	This research design holds the potential to assist the researcher in developing a more robust understanding of the qualitative results	

	embedded/nested in the qualitative (quantitative-qualitative)	by integrating quantitative findings from a set of closed-ended questions (quantitative) embedded in the qualitative.	
7	For serendipitous use of quantitative findings in case of outliers (quantitative-qualitative)	A quantitative study may reveal the presence of a subpopulation of "outliers" in the initial quantitative study, which provides an opportunity to expand knowledge regarding the overall research problem and generates new problem questions that require exploration in a qualitative approach follow-up research project.	
8	For purposeful use of quantitative findings (quantitative-qualitative)	In this case, the qualitatively driven researcher deliberately uses a quantitative component as a way to potentially generate new qualitative research questions. Mixed methods can assist researchers in acquiring specific topical issues and concerns they wish to explore. Here, the quantitative component serves to initiate or spark new hypotheses or research questions that researchers can pursue in-depth.	
9	For serendipitous use of juxtaposing quantitative and qualitative findings (quantitative-qualitative)	An originally parallel mixed methods design (one quantitative and one qualitative study conducted simultaneously) is expanded to include a follow-up qualitative study that can potentially explore disparate findings between the qualitative and quantitative findings with the aim of generating new questions that can be explored qualitatively, thereby permitting a more complex understanding of a research problem.	
10	For qualitative theory testing (qualitative -quantitative)	Following up with a quantitative study is done in order to test the validity of qualitative findings on a wider population. The researcher conducts a qualitative study first, followed by a quantitative study in order to "test out" the theoretical ideas generated from the qualitative study. In this case, researchers are interested in ascertaining whether their theoretical ideas and findings are generalized to a larger population.	**X**
11	To obtain a more comprehensive understanding of a phenomenon from differing perspectives (qualitative-qualitative)	The researcher uses a qualitative core component and supplements this by gathering secondary qualitative datasets regarding particular aspects of the phenomenon from the differing perspectives of people who are involved with the same experience. The findings from the auxiliary qualitative component cannot be understood outside of the context of the core qualitative component.	**X**
12	To develop a more rounded understanding/theoretical framework (qualitative-qualitative)	This is achieved through comparing and contrasting two independent datasets. The researcher starts with a qualitative component whereby through the analysis process issues specific to each independent group are identified. The researcher then develops secondary qual components to address and further explore these issues, proceeding to compare and contrast them.	**X**
13	To explore changes in participants sooner (qualitative-qualitative)	Changes can be explored after participants experience a certain phenomenon without having to wait for a long time while the experience takes place. The researcher would use a before and after design with different participants who share a	

14	For serendipitous use of qualitative findings (qualitative-qualitative)	A qualitative-qualitative design may not always be the intention of the researcher at the start of the project but may be implemented iteratively to complete a project when unexpected findings leave an important point unanswered in relation to the main research question.	
15	To gain insight into the multiple layers of the experience of a phenomenon (qualitative-qualitative)	Researchers use several qualitative methods, and they all may play an equal role, or one may play a greater role than the other. This would depend on the research question, the reason for their inclusion, and the stage at which they are included in the project.	X

3.2.2 Design of the current study

The present dissertation adopted a qualitatively driven mixed methods approach within the sequential exploratory research design. The overall aim of the research was to explore the different aspects of concepts and strategies related to mentoring about and experience within reflected adult learning processes from the various aspects of the stakeholders. In the research design, the sequential nature of the studies helped generate themes and research questions for the following and future research on teacher training, mentoring, mentoring for reflective practice and adult learning processes that these practices are embedded in. Thus, two main research questions were set at the beginning of the research process as the locus of the thinking. These overarching research questions guiding this study were the following:

(1) What are the different ways the process of mentoring and the roles within are conceptualized by different stakeholders in the process of teacher training?

(2) How do mentor teachers translate their concepts into practical mentoring strategies they use to support mentees' adult learning?

The further research questions and assumptions of the sub-studies are defined by the findings of the preceding sub-studies and create a sequence of the design as a result (cf. Figure 1).

3.2.2.1 Impetus of decision

The mechanism of mentoring novice teachers in education involve multiple perspectives and stakeholders. Given the complexity of the system, this study is designed as a mixed methods research, which allowed a more thorough and comprehensive investigation of

the phenomena. The conceptual drive of exploring and mapping out the qualitatively different perspectives of mentoring in TT determined the nature of the approach taken. Since the purpose of the project was predominantly not to test a theory or a set of hypotheses, a qualitatively driven mixed methods approach was selected within a sequential exploratory design as most fitting and appropriate. From 15 reasons for designing qualitatively driven mixed methods research (Hesse-Biber, Rodriguez, & Frost, 2015) several reasons established the choice for prioritizing qualitative findings to lead the design (see Table 7). The comprehensive network of stakeholders in the mentoring process, however, has defined the main reason for qualitative drive for this research at a very early stage of the design, namely, to gain insight into the multiple layers of the experience of a phenomenon (no. 15 in Table 7) in order to obtain a more comprehensive understanding of a phenomenon from differing perspectives through which a more rounded understanding/theoretical framework can be developed for mentoring in TT.

The design was understood as a sequential protocol: first, three qualitative research studies (including the pilot study) were conducted to determine the concepts of teacher mentoring and the stakeholders' experience within, followed by a concurrent survey design in the quantitative tradition. Figure 12 and Table 8 provide a graphic overview of the qualitatively driven mixed methods research design applied in the present dissertation, including the phases, procedure and products of the individual research components. As Figure 12 shows, to implement the selected design four interdependent sub-studies were conducted. The summary of the research elements are presented in Section 3.2.3., however, methodology, findings, discussions, and conclusions of these studies will be presented in more details in Chapter 4 and Chapter 5, while the overall conclusions and implications of the mixed methods investigation presented in this dissertation will be presented in Chapter 6.
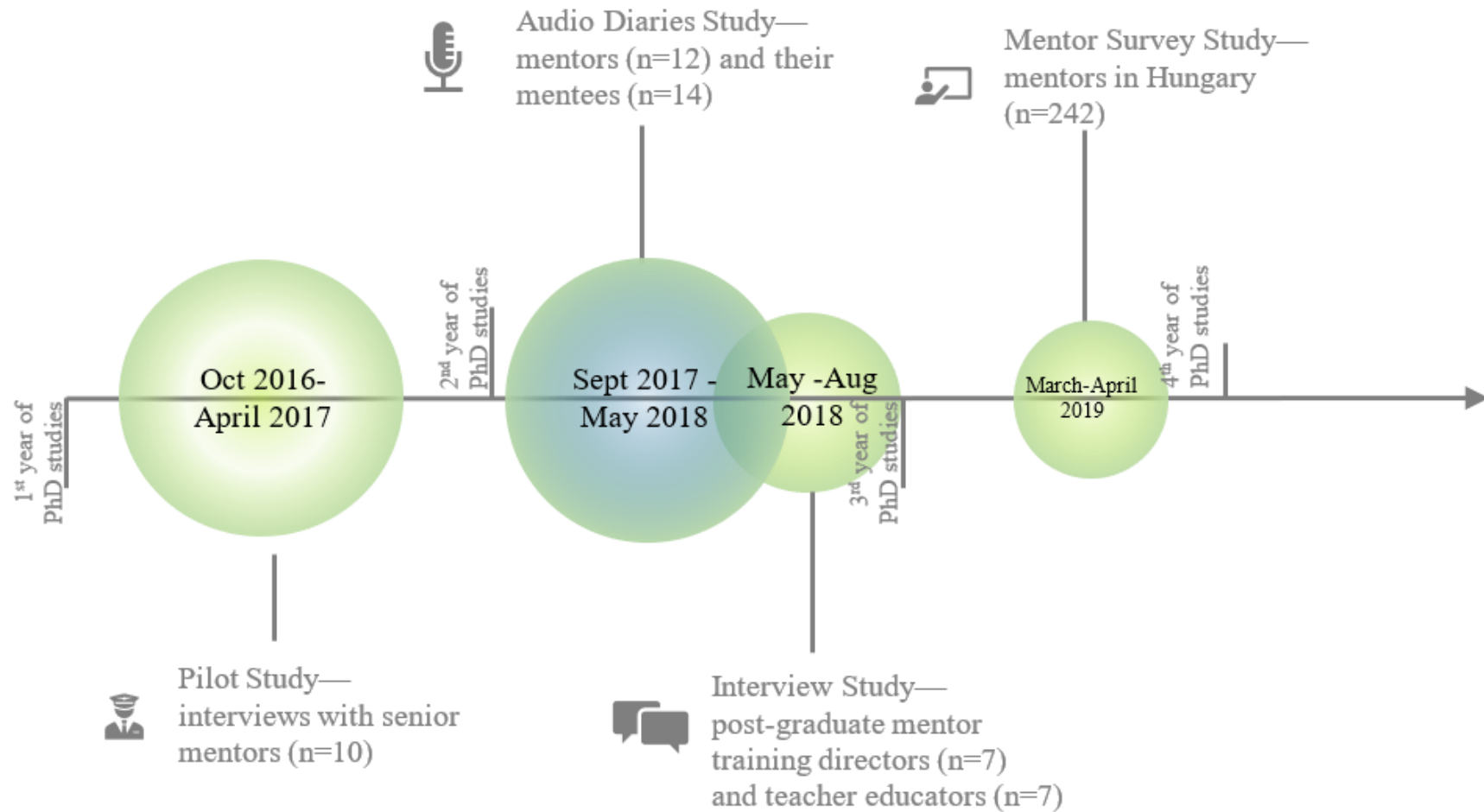
Figure 12. Visual model for mixed methods sequential exploratory design procedures: timeline and research framework

Table 8. Visual model for mixed methods sequential exploratory design procedures: research framework

RESEARCH SEQUENCE	PILOT STUDY			AUDIO DIARIES STUDY		INTERVIEW STUDY			MENTOR SURVEY		
PHASE	qualitative data collection	qualitative data analysis	connecting two qualitative phases	qualitative data collections	qualitative data analysis	qualitative data collection	qualitative data analysis	connecting qualitative and qualitative phases	quantitative data collection	quantitative data analysis	integration of qualitative and quantitative findings and results
PROCEDURE	individual in-depth semi-structured interviews	phenomenographic analysis approach; manual analysis	purposefully selecting participants based on responses	individual and cross-connected audio diaries; pre- and post-diary interviews	cross-thematic analysis; within-case and across-case theme development;	individual in-depth semi-structured interviews	thematic network analysis of audio diaries and semi-structured interviews	section-wide selection of participants; developing questionnaire	cross-sectional web-based survey, Qualtrics survey	data screening descriptive. correlational and experimental analysis; frequencies SPSS	interpretation and explanation of the qualitative and quantitative findings and results
PRODUCT	text data (interview transcripts)	thematic collection of emerging themes and categories	protocol for audio diaries study	text data (audio diary logs and interview transcripts)	similar and different themes and categories; thematic matrix for the survey design	text data (interview transcripts)	network of related themes; completed thematic matrix for the survey design	recruitment protocol; questionnaire design	numeric data	Descriptive statistics, missing data, correlations, complex variables and their correlations	discussion; implications; future research
ETHICAL PERMISSION	No. 2017/43			No. 2017/235					No. 2018/199		

3.2.3 Short summary of triangulating the evidence within the qualitatively driven mixed methods study (October 2017- June 2019)

Quantitative and qualitative evidence were combined in a mixed-method synthesis to understand how the complexity of actions and the participants involved would impact on the interventions in specific contexts. The intention was to explore the complexity of this intervention of mentoring and teacher training. The complete spectrum of stakeholders was involved, to present as broad and diverse picture of the mentoring system as possible in a given period of time.

The following section gives a short summary of the research elements as it was scheduled at an early stage of this project. The elements of the methodology are discussed in a chronological order: (1) to clarify the design, (2) to present the conducted elements and the work in progress, and (3) to outline how these elements are built on one another.

In the *Pilot Study*, findings from a research project on experienced mentor teachers' conceptualizations and strategies (from partnering or "non-practice" schools) of mentoring novice teachers for reflective practice is outlined. Following the result of the pilot research, the decision was taken to keep the original plan of putting this research into a triangle (Cohen & Manion, 2000) of a mixed method approach (Creswell, 1997).

In an *Audio Diaries Study*, experienced mentor teachers' (n=12) from partnering or "non-practice" schools and their mentees' (n=14) work was followed and monitored during a semester-long mentoring process. Between the structured introductory and closing interviews, mentors and their mentees reflected on their work and development in three phases (initial, mid-term and end-term) during the mentoring process. They individually recorded three audio diary entries with the help of prompt questions sent by the researcher (Monrouxe, 2009).

Oriented by the Audio Diaries Study, an *Interview Study* was designed to collect and analyse feedback and reflections of mentor training programme directors'/TT unit leaders (n=7) and teacher educators (n=7) who have close contact with the mentors during the practicum. Mentor training programme directors and teacher educators are from seven different universities across Hungary.

In a cross-sectional *Mentor Survey*, quantitative data is gained from active and experienced mentor teachers (active in pre-service or early-career teacher mentoring in partnering or practice schools) in various locations across Hungary (n=242) at a given point in time, and the data were analysed with descriptive statistics.

3.2.3.1 Collecting additional evidence: a failed implementation

Beyond the triangulation of the evidence, two other approaches were attempted to strengthen the findings and provide wider validity to this research following the preliminary research process. However, these protocols either need further evidence to remain congruent with the elements of the Main Study (*survey study of school students taught by the mentees*) or failed to be completed due to the low participation rate in the closing phase of the data collection (*focus group interviews with groups of mentees*).

Student Survey Study

This study aimed to capture the change in the general views of students taught by the mentees during the novices' teaching practice. As was found in the literature, mentoring is supposed to have a strong developmental impact on the mentees' teaching (e.g. Wang, 2001; Mathur, Gehrke & Kim, 2013). Therefore, it was expected that school students also perceive some kind of development or positive change in the mentees' teaching and the level of satisfaction with teaching and learning processes may show increase at least segmentally (cf. van der Sijde & Welko, 1993; Cooper, 2000). Thus, the impact of mentoring on the teaching was monitored in the school students' satisfaction with the teaching practice of the mentee.

The study collected two sets of panel data at two points of the teaching practice (n^1=233, n^2=219) about (1) the general satisfaction of students related to the mentees' teaching and about (2) students' perceptions on the relation between the mentor and the mentee. Data collection took place after the first and the last lesson taught by novice teachers between (September 2018-June 2019)

Although the general picture of satisfaction showed decrease in several components, views on mentee teachers and their classes do not depict a unified picture in the pre- and post-measurements. There were diffuse outcomes in certain major components of general satisfaction with different novice teachers.

Decision to omit the presentation and discussion of the results in this dissertation was due to several possible limitations that arose when interpreting the data. Discrepancy and incongruency of the data found in the student survey study requires further investigation that would have involved more expansive quantitative and qualitative data collection.

Focus group interviews with groups of mentees

In the focus group interview process (Marshall & Rossman, 2006), three groups of student teachers were supposed to be involved. Group of students were invited through their university tutors (university-based methodology expert who facilitates regular seminar to support student teachers in their practice) to respond to mirroring questions of the mentor teacher survey (Siniscalco & Auriat, 2005). The outcome of the student survey also aimed to guide the focus group protocol and orient the thinking in the critical incidents of the preceding qualitative studies (Prosser & Trigwell, 1999). The objective of the pre- and post-practicum focus group interviews was to understand how mentees conceptualize mentorship and the role of mentors within it. One group of students attended on the arranged focus group interview at the beginning of the practicum (n=12) but only a small number of students (n=4) participated in the post-practicum interview from the same group of students. The reason for the lack of interest might be that the students were overwhelmed by the teaching practicum and their studies concurrently. Thus, the evidence collected is not analysed in this dissertation, but offers a possible future perspective for this research to complete, with further evidence.

Chapter 4 Pilot Study[12]

4.1 INTRODUCTION

This study is the exploratory first stage of the main dissertation, which investigates mentoring practices embedded in Hungarian institutional practices. In this small-scale study, the gap between recommended and actual practice was investigated by exploring (a) how mentors conceptualize mentoring processes and their role within those and (b) what kind of reflective practices mentors apply and how these relate to the adult learning processes they support. We assumed a certain degree of interconnectedness within the conceptualization of their own professional (teacher and mentor) identity and how this conceptualization may be affected by external conditions of mentorship within the Hungarian context. To kickstart the design process, semi-structured interviews (n = 10) were conducted with highly qualified, senior mentor teachers from various Hungarian institutions (regular, "non-practice" primary and secondary schools).

4.2 RESEARCH DESIGN AND RESEARCH AIMS

The pilot study was conducted with the aim of exploring the qualitatively different ways in which mentor teachers (n=10) conceive of mentoring for reflective practice, and also how they translate this into actual mentoring strategies, to orient the Main Study. Senior mentor teachers, who were certified mentors at Hungarian primary and secondary schools, were interviewed. The transcripts were analysed using a phenomenographic approach. The research questions explored (a) how mentors conceptualize mentoring processes and their role within those and (b) what kind of reflective practices mentors apply and how these relate to the adult learning processes they support.

4.3 METHODS

In this pilot research design, phenomenography (Marton & Booth, 1997) was used as an effective approach to discover the variation in how mentors experience and understand the mentoring process. Phenomenography is widely used in qualitative studies of

teachers' or students' conceptions (e.g. Trigwell, Prosser & Taylor, 1994; Loughland, Reid & Petocz, 2002; Roberts, 2003; Åkerlind, 2008; Paakari, Tynjala & Kannas, 2011). It also provides a framework for identifying and mapping different ways mentor teachers understand the mentoring process and their roles within it. Second-order perspectives were adopted, recording participants' understanding with descriptions that are relational, experiential, content-oriented and qualitative (Marton, 1986, p. 33). Respondents' concepts or ideas were not intended to be described, but the aim was to characterize how different phenomena (i.e. role concepts, reflective practice, adult learning, self-regulated learning) appeared to the mentors. There were no re-described categories applied by the researcher; rather, it was intended to explore how these different and complex concepts relate to each other in an interpretative way. Therefore, the phenomenographic unit of description (Marton & Pong, 2005) was a mentor's conception that often appeared under different labels, such as experience, understanding, view, apprehension (Marton & Booth, 1997). In the outcomes, the categories of descriptions were organized into thematic clusters that could show the relations between the respondents' conceptions.

4.3.1   Data collection and instrument: Semi-structured interviews

The interviews were organized around a set of predetermined open-ended questions and were completed with other questions emerging from the dialogue between the mentor teacher and the interviewer, to try and elicit information about the conceptions and practices of mentors (Johnson, 2001; DiCicco-Bloom & Crabtree, 2006)[13]. These questions were guided by already existing theoretical constructs in the field. Main themes and key theoretical constructs of the interviews are provided in Table 1. Each interview question was clearly connected to the objective of the research and the ordering within the protocol suggests a deliberate progression of in-depth exploration of the concepts (Galletta, 2013, p.45) and followed a parallel matrix in the questioning phase. The duration of each interview was about 2 hours, generating up to 20 hours of interview material.

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[13] Interview protocol attached in Appendix 1.

Table 9. Interview themes and references used

Interview themes	Key theoretical constructs
General concepts of learning and teaching through mentoring	Jones, Reid & Bevins, 1997; Wang, 2001; Van Ginkel, Verloop, & Denessen, 2015b
Mentoring practice and strategies: ups and downs; best practices	Hudson, 2007; Hobson, Ashby, Malderez, & Tomlinson, 2009; Marable, M. A., & Raimondi, S. L., 2007
Roles and duties in mentoring	Fairbanks, Friedman & Kahn, 2000; Bullough, 2005; Hobson, Ashby, Malderez, & Tomlinson, 2009
Reflective practice in pre- and post-lesson conferences	Korthagen, 2004; Parsons, M. & Stephenson, M., 2006; Cameron & Grant, 2017;

The method of semi-structured interviews was deliberately chosen for collecting data in this research due to the flexibility of the technique that can result in rich data collection in small scale studies similar to this present study (Drever, 1995). In this framework, interviews are understood as an "agenda shaped by the operationalization of the research questions, but retaining an open-ended, and flexible nature" (Alexiadou; 2001, p. 52). Semi-structured interviews are also often used in investigating teacher (self-) perceptions and exploring implicit meanings of mentor teacher narratives (Pathak & Intratat, 2012). This research tool was found to be a good fit for our purpose, as it allowed us to explore mentors' lived experience in relation to the theory of reflective practice while it highlighted the complexity of mentors' narratives (Galletta, 2013, p. 9).

Interviews were conducted with highly qualified, mentor teachers from various Hungarian institutions (primary and secondary schools). These mentor teachers are experienced mentors (years of experience range from 3 to 20), and all hold teacher mentor certification or an equivalent. They regularly support pre-service and/or in-service teachers in their early career phase.

The interviewees (n = 10) were from eight different regular Hungarian institutions (four from rural and six from urban settings) in a gender composition that mirrors the Hungarian teacher community (7 women, 3 men) of five different subject domains: elementary education (n=1), secondary literature and linguistics (n=3), foreign languages (n=4), physical education (n=1), and science (n=1).

4.3.2 Data analysis: Phenomenographic approach

The interview material was analysed in eight stages (see Figure 13 for the visualization of the approach). While (a) becoming familiar with the interview data, the researcher (b) reflected on the content of the interviews and (c) compared the first findings and reflections. After having an overall reflection on the data, the data was reviewed and (d) to find more specific details, differences and similarities and compared the results again. In the next phase, results gained from the first and second stage reflection were (f) condensed in order to be able to (g) interpret the result and (h) put the results in categories directed by the predefined research questions. Followed by the categorization of the results, (i) empirical findings were articulated in the theoretical context.
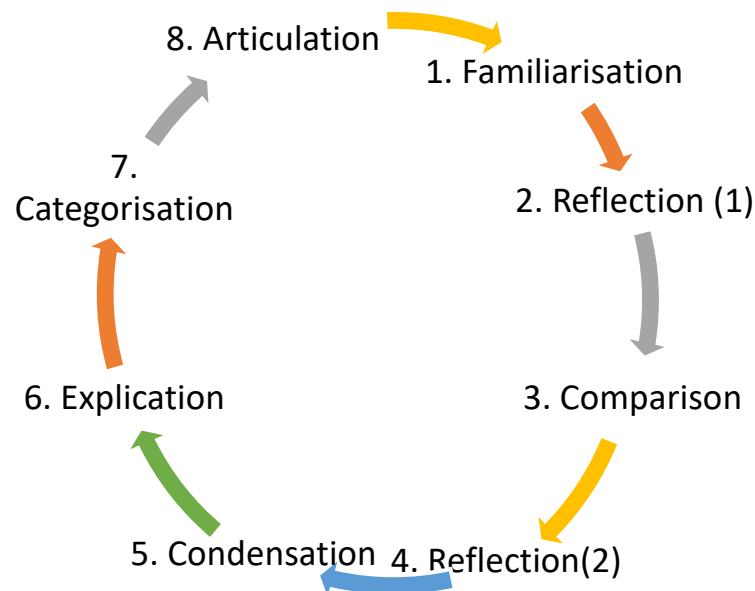
Figure 13. Phenomenographic cycle of analysis
based on Marton and Booth, 1997

4.3.3 Validity and credibility of the Pilot Study

In this pilot study, phenomenographic research traditions were followed, namely, an iterative analysis embedded in the notion of "focusing on one aspect of the object and seeking its dimensions of variation while holding other aspects frozen" (Marton & Booth, 1997, p.133). This analysis gave priority to the interviewees' utterances and aimed to mitigate the effects of preconceptions through suspending and defocusing researcher biases (Creswell & Miller, 2000). Cross-examination was used to debate possible alternative interpretations of the data, which was resolved through extensive discussion

between the primary researcher and an external researcher (cf. Lameras, Levy, Paraskakis, & Webber, 2012). This discussion resulted in the refinement and stabilisation of categories.

The research underwent institutional ethical review. The ethical clearance for the study was given by Eötvös Loránd University, Budapest, Hungary, on 16 February 2017 (no. 2017/43). By signing the informed consent form, participants were provided anonymity, confidentiality in accordance with the European GDPR regulations. English translations of the extracts are provided by the researchers in this study. The technique of back translation of a third party was used to ensure the valid interpretation of the quotations (Temple & Young, 2004).

4.4 RESULTS

4.4.1 Notions of Mentoring and Role Concepts

In the first phase, three qualitatively different categories of description were identified in the data. These relate to the first research question about mentors' notions of mentoring and their role concepts. These categories are not organized hierarchically; but were interpreted on a spectrum rather than in a hierarchy of ideas, with a focus on the variation in the degree of integrating notions of reflective practice.

It was found that mentors' narratives often contained implicit information about their conceptualization of mentoring and their role in this process. In particular, they tended to highlight conceptual elements in their own practice and connect the concepts with certain strategies which they applied. Hence, how mentors conceptualized mentoring oscillated between two categories, describing the poles of the spectrum of conceptualizations. At one end, mentoring was conceptualized as a form of professional engagement that focuses on educating the future generation of teachers, hence, the one-directional flow of their activities as mentors. At the other, 'mentoring for teaching' is articulated as an opportunity for cross-fertilization; a reflective process through which mentor teachers, too, get inspiration for their own work. Similarly, qualitatively different notions of their role concepts were identified, ranging from the role of a senior expert who provides a compulsory part of schoolwork for their mentees, to the role of an educator who prepares the mentee for the profession and motivates through his/her commitment. Three categories of mentoring roles emerged: mentors as ideal-typical role models, mentors as

professionals limited by their predefined roles, and mentors as reflective experts. Quotes are provided in Table 10.

Table 10. Notions of mentoring and role concepts

Notions of mentoring		
Support and responsibility for novices	"I wish I had similar support in my early career, I would have had so much less trouble and struggle in my own teaching. The possible outcome of some teaching situations is very difficult to predict by a novice teacher… But an experienced teacher, who has seen a lot, can help and protect the mentee from failures." (Mentor 6) "I know it is also my responsibility to make the teaching career attractive to my mentees. I try to do my best to keep them in the profession." (Mentor 2)	
Mentoring for teaching	Educating the future generation of teachers	"There are certain practices they [the mentees] don't know… because they never saw them or nobody taught them. So sometimes I have to tell them what to do or how to do it. I'm here to offer my experience." (Mentor 3)
	Opportunity for cross-fertilization	"I don't feel ashamed of using the techniques I saw in the mentees' classes. Their methodological knowledge is fresh and exciting to me. I learn a lot from them." (Mentor 6) "I'm not sure if they [the mentees] or I [the mentor] learn more in the process. I also learn a lot about my students. When I observe them teaching, I start to look at my students and my teaching from a very different perspective." (Mentor 8)
Role concepts		
Mentors conceptualized as "the ideal mentor"	"I learnt to apply efficient reflexivity in the [mentorship] training, I should be able to give clear guidance." (Mentor 2) "Look. I've been in the teaching business for almost 30 years. A mentor has to have a steady subject knowledge, and I don't want to brag, but I know my subject inside and out." (Mentor 3) "I try to be their partner in teaching and learning. And I know I have a huge responsibility in their decision [about staying in the profession]." (Mentor 10) "… [mentoring novices] is considered to be a prestige in the teaching community. The colleagues know you work for the university." (Mentor 4)	
Mentors conceptualized as "the intersection of ideal-typical behaviours"	"to be honest, at this moment I can't do my best in mentoring" (Mentor 9) "I know my mentee would need more attention, but…" (Mentor 1 & Mentor 4).	
Mentors conceptualized as "experts with a flexible and open approach towards mentees' expectations"	"I don't have any typical strategies. My work as a mentor is absolutely flexible. My current mentee is very independent, for example. I don't have to check every step she takes. I let her go on her way. I don't want to bother her. In other cases, I feel the need for stronger guidance, so I request detailed lesson plans and explanation. It all depends on the novice's competences." (Mentor 8)	

The first category conceptualizes the role of a mentor through idealized and predefined notions: mentors referred to characteristics of mentorship that they have learned, heard or gained by observing others. Their self-definition was framed in the context of an 'ideal mentor' whose competences and behaviour they 'knew' from their previous training and/or identified in other mentors' practices. These ideal-typical features thus constituted the 'ideal mentor' and represented a role model with whom mentors would wish to identify. This conceptualization, however, also suggests that instead of a self-inquiry, mentors referred to exemplary practices and thus left their professional identity unexamined. In doing so, they avoided self-reflection.

In the second category of description, mentors recognized the limitations of ideal-typical mentor behaviours. They reflected on the ideal working concepts and the discrepancy between expected and actual mentoring practices. In some cases, this conceptual clash resulted in frustration rooted in their inability to be 'ideal' or, in other cases, it triggered an honest declaration of the insufficient circumstances or abilities to meet predefined expectations. On a spectrum that describes varying notions of reflective practice, this latter category reveals a more cohesive conceptualization in which mentors are reflective of the gap between ideal and actual practices. They also explore and utilize mechanisms to balance this discrepancy, which necessitates criticality and inquiry into one's own principles and behaviours.

The third distinct, cohesive conceptual category emphasizes a flexible and open approach towards mentees' expectations and describes mentors as experts who are aware of numerous mentoring practices and are selective in applying those. Accordingly, competent professional behaviour is characterized by mentoring strategies that are driven by mentees' needs and adjusted to the actual context. Mentoring is thus perceived as a kind of professional and personal support for the mentee in the introductory period of their career in which the actual practices and the style of mentoring are situated. Hence, this conceptualization is strongly associated with the mentees' competences. Their pedagogical and disciplinary knowledge fundamentally define mentoring processes. In this conception, mentors do not have prior knowledge of their mentees' competences, therefore their role concepts transform and their procedures are often adjusted. This conceptual change of the mentoring role is embedded in sustained and ongoing reflective and self-reflective practices, and moves together with the overall concept of mentoring goals and the understanding of the support system. Mentors' situational concept of

mentoring however evoked different and often unclear mentor qualities and job requirements.

4.4.2   Strategies of Reflective Practice for Supporting Adult Learning

As for the second research question, three different non-static categories of description were identified, which represent strategies for supporting adult learning in mentors' reflective practice. These were: forming and reforming the mentoring relationship with mentees; scaffolding mentees' self-regulated learning; and providing integrated support for mentees' autonomy in planning, teaching and assessing their work.

It was found that forming and reforming the mentoring relationship with mentees are critically important practices in mentoring that may integrate aspects of adult learning. Accordingly, four different procedures became visible to us: (a) the mentor launches the process with highly authoritative practices in order to develop the novice's competences and this gradually develops into a mutually reflective relationship. In the case of opposite dynamics, (b) the mentor opens the process in a partnering relationship and due to certain circumstances (lack of preparation, professional clashes concerning pedagogical practices, personal conflicts etc.) switches to rather authoritative practices (such as requesting, checking and evaluating detailed lesson plans before each class, not allowing the mentee to teach in certain classrooms, interrupting mentee's lessons by error-corrections etc.). In more balanced practical constellations, (c) the mentor keeps up a partnership in learning and gives a significant degree of autonomy in teaching to the mentee, either driven by his/her conceptual grounding or by good experience associated with a particular practice in the past; or (d) the mentor insists on a respectful but hierarchical relationship where teacher and student roles are set because of the belief that this is the best practice for accelerating mentees' learning. These practices reveal varying degrees of reflectivity and embeddedness in adult learning. A more integrated approach to reflective practice is mirrored in procedures which aim to develop mutually beneficial relationships and mentees' growing autonomy in teaching. Practices that imply hierarchical relationships and unchangeable mentor behaviours suggest lack of a sustained inquiry into one's actions and a disregard of mentees' potential to develop autonomy in teaching.

It was also found that facilitating mentees' self-regulated learning is another prominent strategy. Mentors shared the view that mentees acting as self-regulated learners was a precondition for being autonomous and responsible in teaching. Mentors typically used

adult learning strategies with their mentees in order to prepare them for the start of their teaching career; gain more information about the mentees' prior knowledge; or problematize the conflict between the theory of the 'ideal mentor' and what is realized in one's practice. The overarching goal of all this, as reported, is to develop mentees' responsibility for their own learning during the practicum. Further, mentors referred to concrete practices to develop their mentees' skills of self-regulated learning. These practices are as follows: observing and evaluating peers' and other teachers' classes for gathering ideas and good practices; personalizing course book materials to individual needs and teaching styles; designing and redesigning lesson plans; writing and discussing self-reflections on their own classes; setting exact goals for teaching and learning processes; forming questions about their own teaching; or teaching whole classes without the mentor being present. Quotes are provided in Table 11.

Table 11. Strategies of reflective practice for supporting adult learning

Forming and reforming the mentoring relationship with mentees	(1) "I usually keep the distance at the beginning so as to have the chance to develop a partnering relationship by the end." (Mentor 9) (2) "I was very collegial. I wanted to give him the space to organize his life in the practicum, but I'm afraid after some time, he lost the control and I had to be rather bossy to keep the schedule." (Mentor 10) (3) "…I was also a novice once […] I know how important mutual trust is between colleagues form the very first day of the career […] I want to be remembered as their first colleague in teaching." (Mentor 8) (4) "Ok. I'm not their friend nor their teacher. But I always tell them their mistakes, first because of the students [in the school], second, because they will soon teach alone." (Mentor 3)
Scaffolding mentees' self-regulated learning	"My main task is to get them prepared for teaching… I mean alone. First, they have to become able to consider the different aspects of their teaching before they know what they can do on their own. They learn from their own little mistakes to find their own solutions." (Mentor 9) "I let her teach alone sometimes. She has to learn how to do it alone. We review her lesson plan and talk about her expectations, views, goals. Then I let her go to her class alone. I let her experience something real to learn from. But of course, it's not for everyone. Sometimes I have mentees who are not prepared to see their possible mistakes. It is too much responsibility for them, and I can't take the risk of leaving them alone in the classroom." (Mentor 5) "…after showing them how I do it usually, I let them decide if they want to do something similar or they want to get on a different track. We talk about their plans step by step. I usually let them try out their ideas even if I think that can't be completely successful. First, because they should get to know how they can be responsible for their own work, second, because sometimes failure is the best teacher." (Mentor 7)

Providing integrated support for mentees' autonomy in planning, teaching and assessing their work	"I do not ask for lesson plans usually. I don't have to review it." (Mentor 6) "I always ask about the critical points, for example, timing or work form" (Mentor 6) "I need to see a written sketch of the ideas to see if the plan is viable" (Mentor 4) "We look for the possible pitfalls in the lesson plan together." (Mentor 1) "I check the lesson plan before the classroom and give my remarks and corrections ideas." (Mentor 3 & Mentor 7) "I can't imagine a situation when I should humiliate a mentee by interrupting." (Mentor 8) "I draw their attention to problematic students with my eyes, for example." (Mentor 2) "I have to interrupt if she is totally wrong about something. For example, the passive voice. That's critical." (Mentor 10)

Providing integrated support for mentees' autonomy in planning, teaching and assessing their work is the third critically important strategy that was identified. Concrete practices were highlighted in the interviews and grouped into three main phases: the planning, teaching, and feedback phases. These reflect varying levels of integrated support for mentees' autonomy in teaching. Practices that suggest a collegial and constructive relationship encompass several steps or a combination of those in the *planning phase*. Mentors do not require their mentees to submit a lesson plan in advance; they ask for a verbal summary of the lesson plan; mentees summarize the plan verbally by answering the mentor's questions; or mentees submit an outline of the lesson and the main concerns are discussed together with the mentor. As reported by mentors, mentees were encouraged to take responsibility for their sessions, and they received opportunities to jointly reflect on their ideas with their mentors. However, those practices that integrated less support for mentees' autonomy in teaching lacked reflective inquiry and were relevant to varying degrees. These practices were described as follows: a complete written lesson plan is required, which the mentee presents verbally or in email; the lesson plan is submitted in advance and the mentor and the mentee talk through the plan step by step with a corrective approach; or the lesson plan is submitted and only the mentor comments on the content either verbally or in writing.

Regarding the *teaching phase* when mentees conduct an actual lesson, mentors' mentioned three ways to approach mentees' developing autonomy in teaching: no actions in class by the mentor; non-verbal actions in class by the mentor; verbal and non-verbal actions in class if a mentee makes a mistake that the mentor considers completely

misleading. However, the last approach was the least favoured by the mentors conceptually and according to their verbal account, rarely applied.

A comparable pattern of actions was revealed about the *feedback phase*. Here again, strategies vary in terms of how mentors conceive of developing mentees' autonomy in teaching and how they interpret and use adult learning strategies in their practice. These strategies imply a concept of mentoring that integrates notions of reflective practice sporadically and result in evaluating the teaching performance, i.e. judgementoring or dispositionism (Hobson & Malderez, 2013; Van Ginkel, Van Drie, & Verloop, 2018) or evoke no reflexivity at all. Accordingly, strategies in which the mentor underlines positives and negatives of the lesson; asks for general emotional feedback (e.g. "Did you enjoy the class?"); asks the mentee to underline positives and negatives of the lesson; and asks for general cognitive feedback (e.g.: "What was the objective of the class? Did you achieve it?") reflect a less integrated approach. However, when the mentor recalls certain (positive and negative) events in the class and asks for explanation (e.g.: "Why did you call that student to answer your questions so often?"); asks for plans and further consequences derived from the lesson (e.g.: "How are you going to use this in your next lesson?"); and asks for complex and comparative analysis of the mentees' class, he/she aims to rely on a more critical approach to teaching (e.g.: situational, behavioural, instructional aspects considered in the feedback).

Finally, mentors in their narratives about their reflective practice expressed their strong commitment to encouraging mentees' autonomy in teaching, but the actual practices they described revealed varying notions of it. Additionally, in some cases, the language they used to refer to their mentees ("child", "boy", "girl", "student") implied contradictory dynamics. In particular, they described practices of developing self-regulation and mentees' autonomy in teaching, such as the examples above, whereas consequently addressed their mentees as their juniors with whom they do not necessarily form a collegial partnership.

4.5 DISCUSSION

4.5.1 Ideal and real mentoring practices

Similar to the findings of Reid and Jones (1997) related to mentors' role concepts, mentors in this pilot study tried to balance the contradiction between their conceptualization of mentoring and their actual practices. They did this either by

appearing or performing to be ideal in order to keep up a spotless image or by maintaining a respectable position in the teaching community and making the teaching career desirable for novice teachers, as Bullough and Draper (2004) also found. Further, it is understood that their actual practices and the language they used to reflect on those revealed a contradiction. Namely, mentors' narratives, although aiming to demonstrate a commitment to developing mentees' autonomy in teaching and an application of adult learning strategies in their reflective practice, more often encompassed features of the apprenticeship model. Hence, narratives reflected a dynamic where knowledge was transferred from expert to novice in a one-directional, formalized relationship with strictly defined roles (Paradise & Rogoff, 2009).

This contradiction, between being aware of the need to support mentees' autonomy in teaching by using adult learning strategies and the lack of this approach in actual practice, raises the issue of authenticity concerning mentors' role concepts and their verbalization of mentor behaviours. In other words, there is a clearly identifiable gap between how mentors conceptualize their work, grounded in the ideal-theoretical notions of mentoring and how they are able to accomplish this vis-à-vis factors, such as willingness and/or opportunities to develop as reflective practitioners. Therefore, mentors' *authenticity*, that is, being genuine and self-aware of one's professional identity in teaching and mentoring (cf. Kreber, 2013) is inhibited by this discrepancy. This may prevent them from becoming critically reflective of their own practice, even if examples of self-awareness occurred in their narratives. Further, this tension between the "ideal" and the "real" becomes even more evident if mentors' authentic behaviour is placed in a context that has high and too often idealistic expectations towards being a 'good' mentor. External expectations of colleagues, university representatives, students, and even mentees may discourage mentors from pursuing authenticity in their work as reflective practitioners. Hence, *performativity*, understood as inauthentic behaviour of teachers necessitated by pressures of external educational (policy) context (Ball, 2003) may take priority over authenticity. The frustration triggered by performative practices expected from mentors, such as internalized external assessment agenda (Clegg, 2008) is often associated with time pressure. In this pilot study, too, mentors' inauthentic behaviour was associated with time pressure rooted in the external context. This constant feeling of incompletion may have hindered mentors' authentic reflective practice (encompassing also providing support and sufficient time for mentees' growing autonomy in teaching) and put a constraint on the mentor-mentee relationships. Development of mentees' autonomy in teaching and their

professional identity was thus constrained by insufficient time, as also confirmed by Korthagen (2004).

4.5.2 Reflective practice

The Pilot Study confirmed that mentors also shared the notion that deep learning comes through discussion, and that this is achieved by raising the dialectical reflective level of their mentees (Taggart & Wilson, 1998), which enables novice teachers to evaluate and reflect on their professional work. As was found, reflection on action rather than reflection in action (Schön, 1983) is integrated with the consolidation phase of mentoring with the purpose of performing at least some of the practices that constitute authentic self-inquiry into one's teaching. Interestingly, however, explicit corrections were referred to as effective mentoring strategies for scaffolding mentees' advancement as autonomous teachers, as opposed to formative assessment that may support mentees' autonomy in teaching. Through self-assessment and self-inquiry, mentees may become more autonomous in their teaching and be better equipped to identify critical issues in their own practice (Sempowicz & Hudson, 2011). However, explicit corrections may be associated with the conception that describes the mentor as a senior expert and mentoring as a one-directional process. Reflective practice, instead of being embedded in cross-fertilization and a mutual learning process, was thus, with our small sample, characterized by fragmentation rather than an overarching flow of collaboration among mentors, mentees, students, school and university staff. In other words, fragmented episodes of learning on how to teach characterized mentees' development, which does not provide for an ongoing and integrated process of internalization and reflection that is supposed to be supported by and modelled through mentors' authentic reflective practice.

In this pilot study, mentors' self-reported reflective strategies that are, to a certain extent, aligned to mentees' adult learning processes seem to be dependent on students' actual, often *ad hoc* needs and curricular obligations, and thus are hardly reconciled to the complexity of the authentic teaching self. These strategies exist in distinct forms, associated with either teaching students or mentoring adult learners. Hence, mentees' autonomy in teaching and in learning to teach is supported, but only as far as it is perceived by the mentor as a positive influence on the pupils' learning process. This major contradiction is found in terms of mentors' conceptualizations; namely, there is an identifiable need for authentic and autonomous teachers who should be the ultimate 'outcome' of the mentoring process, but this is seemingly constrained by lack of clear

adult learning strategies that facilitate mentees' self-regulation and autonomy in teaching and a supportive (institutional and legislative) context that allows for the time that is needed for such a transformative learning process.

4.6 CONCLUSIONS AND PRACTICAL IMPLICATIONS

The pilot results showed that a real and proactive collaboration between different parties of teacher education (teacher educators, programme directors, school administrators, colleagues, mentors and mentees) could enhance the quality of the practicum by reducing stress, isolation and discrepancy between theory and practice throughout the mentoring phase. The low level of coherence may, however, result in roles that mentors have to take individually instead of sharing the responsibility of assessment, gatekeeping to the teaching career, and being the only link to the profession (Hobson et al., 2009; Hobson et al, 2013). By developing and extending the collaboration, for example, by sharing reflections on the mentees' as well as the mentors' work, making information more available about practice and strategies in general, or mentees' development in particular, mentors could create an open space for a triadic partnering relationship (Cameron, 2017) between the different actors, which could help facilitate mentees' adult learning processes. In addition, in a strong school-university partnership for pre-service teaching practicum, a mutually informative diagnostic discussion should be established about mentees' background, progress, engagement and motivation in learning to teach (cf. Eliott, Stemler, Sternberg, Grigorenko, & Hoffman 2011). Mentorship programmes created and maintained with this understanding could enhance professional development of teachers at their respective career stages and may create research communities for knowledge building (Handscomb, Gu, & Varley, 2014; Halász, 2016).

4.7 LIMITATIONS AND IMPLICATIONS FOR THE MAIN STUDY

It is acknowledged that this study is, even in the Hungarian context, small-scale; and findings do not lend themselves to generalization. Nevertheless, these initial findings could serve as a reference point for the Main Study that may inform teacher educators, mentor training programme designers, programme directors, and mentors to plan, develop and apply mentoring strategies that provide more comprehensive support for mentees as emerging adult learners in their early career phase.

4.7.1 Implications for the Main Study

The Pilot Study was developed to orient the researcher's thinking to critically analyse the planned elements of the main research design. The Pilot Study represented a fundamental phase as it explored the feasibility of the approach and the conceptual framework of the dissertation research. The findings of the Pilot Study helped scaffold and select the methods, the feasibility of the recruitment, the procedures taken and the content of the protocols.

The Pilot Study was also understood as an initial stage of exploring the relevance of designing a mixed methods research as the understood complexity of the notion of mentoring desire a multi-perspective study. The Pilot Study also provided more focused objectives within the interventions.

Chapter 5 The Main Study

5.1 INTRODUCTION

In the pilot study, the main scope of the dissertation research was identified. By capturing the conceptualizations of mentor teachers and strategies of mentoring, information gaps, clashes between theory and practice and possible research routes and implementation strategies were identified. Based on the findings, further research questions were created that sequentially oriented the research design of the Main Study.

Following the pilot research, it was decided to retain the original research plan as a triangle (Cohen & Manion, 2000) with a mixed method approach (Creswell, 1997), in order the investigate multiple perspectives of relevant stakeholders and find mirroring and confronting concepts, in order to give space for future development. Thus, in this sequential mixed methods research study, the synthesis of two qualitative studies established further prospects and orientation to set the objectives for the quantitative research phase.

First, the findings of the *Audio Diaries Study* are presented, where mentor teachers' (n=12) and their mentees' (n=14) work was followed and monitored during a semester-long mentoring process. Between the structured introductory and closing interviews, mentors and their mentees reflected on their work and development in three phases (initial, mid-term and end-term) during the mentoring process. They individually recorded three audio diary entries with the help of prompt questions sent by the researchers (Monrouxe, 2009).

Oriented by the Audio Diaries Study, an *Interview Study* was designed to collect and analyse feedback and reflections of mentor training directors (n=7) and teacher educators (n=7) who have close contact with the mentors during the practicum.

Based on the qualitative findings, the results of the *Mentor Survey Study* are presented from cross-sectional research. Quantitative data is gained from active mentor teachers in various locations of Hungary (n=242) at a given point of time in the academic year (April 2019) in order to receive quantifiable information about the scope of this dissertation study from a greater sample of mentors. This quantitative study aims to reflect on the findings of the qualitative sub-studies by a survey of 45 questions in a convivence sampling of active mentor teachers.

5.2   A<small>UDIO</small> D<small>IARIES</small> S<small>TUDY</small>[14]

The aim of this first phase of the Main Study was to create a qualitative baseline for the main research and explore how mentors' and mentees' self-concepts and related reflective practices in mentored teacher training are supported by using audio diaries within the framework of Dialogical Self Theory (Hermans, 2001), used for structuring the findings of reflective processes (more about DST in Section 5.2.2). The study also explored a specific qualitative methodology, the use of audio diary in self-reflective activities in the context of teacher training in Hungary and explored how the method could be used in the wider context of teacher training. When analysing the data, the thematic analysis approach was used to employ a relatively high level of interpretation.

The method of qualitative audio diary approach has a long record in medical and social sciences of collecting qualitative accounts but is less known in TT. Audio diaries are considered useful for encouraging sense-making, initiating change processes and for researchers to get a better understanding of otherwise hidden processes in a qualitative way (Monrouxe, 2009).

The following research questions guided our enquiry:

(1a) What are the differences and similarities in how mentor teachers and their mentees perceive reflective practice and roles within their society of mind, in their meta-position?

(1b) How is the mentoring intervention interpreted from different dialogical aspects of mentor teachers and their mentees?

(2) What are the benefits and difficulties of using audio diaries for reflective practice from the participants' perspectives?

5.2.1   Methods

A specific qualitative methodology was utilized to explore the research aims, the use of audio diary in self-reflective activities (Crozier & Cassel, 2015; Monrouxe, 2009). Analytical and technical issues were explored to offer an alternative method for supporting the continuous professional development of teachers and mentors. The data collection tool was carefully selected in order to provide space for authentic narratives in the research. The method was specifically chosen to record participants' authentic

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[14]This section is based on Káplár-Kodácsy, K. and Dorner, H. (2020), "The use of audio diaries to support reflective mentoring practice in Hungarian teacher training", *International Journal of Mentoring and Coaching in Education*, Vol. 9 No. 3, pp. 257-277. https://doi.org/10.1108/IJMCE-05-2019-0061

responses and reflections over a period of time in the educational field (Buchanan, 1991), based on results from sociological and medical research (Monrouxe, 2009; Worth, 2009). The research project received ethical approval from the Research Ethics Committee of the Eötvös Loránd University (Hungary) on 2 October 2017 (no. 2017/235). By signing the informed consent form, participants were provided anonymity and confidentiality in accordance with the European GDPR regulations.

Mentors from regular, "non-practice" secondary schools (n=12) were selected from geographically diverse locations in Hungary. The sample involved mentor teachers from the Pilot Study who were actively mentoring mentees in the time of the Audio Diaries Study (n=7); additionally, the researcher used her own network to invite more mentors to this current study. Considering the dedication and time commitment required from the participants, chain referral sampling was used in the first round of selecting mentors (Berg, 2004). As mentors and mentees need to maintain a written reflective diary during the practicum, alternative forms of recording reflections were hardly known to them. For this reason, a detailed description of methods, processes and research goals was included in the recruitment email. Mentor–mentee dyads were recruited to participate, so once mentors volunteered, mentors were asked to check the participation with their mentees. When a positive reply from both parties was received, mentees were officially contacted for participation. It was ensured that both mentors and their mentees participated on a voluntary basis. According to their report, none had recorded audio or video diaries/reflections prior to this research.

Participants' gender balance met the average in the Hungarian teacher community: 1 male and 11 female mentor teachers with an average of 19 years' teaching experience. 14 mentees were also involved (10 mentors with one mentee each and 2 mentors with two mentees each). Their work was followed during a semester-long mentoring process. The individual mentors and their mentees were understood to be both individual research participants and constituting mini cases. In this paper, mentors and their mentees are referred to with numerical identifiers.

5.2.1.1 Audio diary approach[15]

A strategy for reflection was provided, which was also presented as the research tool. For a deep exploration of the different positions in the external and internal dialogues, audio

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[15] Research protocol is attached in Appendix 2

diaries were used rather than video diaries. Video recordings may enable multiple interpretation of thoughts through images (Noyes, 2004). Nevertheless, in this study, the audio diary approach was used for three reasons (Jones et al., 2015; Muir, 2008): (1) to avoid participants' frustration that may be caused by the presence of the camera and the visualization of the self; (2) to lessen time and space constraints, by encouraging audio recordings through mobile technologies; and (3) to boost data provision by limiting the technical and mental block of audio recording.

The key advantage of the technique is the relative freedom of the participants (Pocock et al., 2009) "to express experiences and emotions that were relevant at a particular time" (Jones et al., 2015, p. 396) and to access participants' worldviews and multiple layers of their identity constructions (Muir, 2008). By minimizing "researcher influence over participants' responses" (Crozier & Cassel, 2015, p. 399), as compared to direct interactions with the researchers, it was intended to capture phenomena that might not otherwise be accessible, such as sensitive personal experiences. Mentors' and mentees' constructions of their experiences were viewed as self-regulated performances realized in the audio diaries (Latham, 2003) with the cooperative intervention of the researcher. It was assumed that participants' identity constructions would gradually emerge from dialogues of the self, and the frame of reference would sit mainly with the respondents (Cashmore et al., 2010; Hislop et al., 2005) oriented by topics recommended by the researchers.

The value of the method thus arises from the process of recording the audio diary logs as a direct representation of thoughts. As Crozier and Cassel (2015) argue, the audio diary is "an immediate response to environmental stimuli and retrospective verbal reporting … that can operate between access to the environmental stimuli and retrieval accuracy" (p. 400). In the planning phase of the process, participants generate ideas and organize them along with the goal that has been set. By completing (or deviating from) the plan, they translate these plans into verbal representations in the form of audio diary logs. If participants avoid reviewing the recordings, audio diary entries may present unique and less filtered accounts compared to a piece of writing (Williamson et al., 2015). Nevertheless, researchers may also encounter some participants who rehearse their recordings or read out pre-written notes due to anxiety or unfamiliarity with the approach, which may impede authenticity (Crozier & Cassel, 2015).

While Jones et al. (2015) doubt the purely "empowering" nature of audio(-visual) methods and critique the inflated authenticity of the diary logs in various research

projects, they also acknowledge the added value of such creative research methods in the continual process of reviewing and discussing matters in the diary entries. They value the usefulness of such data if the collection is adequately supported by the researcher and if the data are not presented by the researcher as solely the participant's own production of knowledge.

5.2.1.2 Semi-structured interviews approach

Pini (2001) and Jones et al. (2015) urge the complementary use of more traditional methods with audio diaries to enable triangulation and maximise trustworthiness of data. Therefore, to initiate, conclude and clarify the process of using audio diaries, individual pre- and post-diary interviews framed the process of recording audio diaries. Semi-structured interviews (Drever, 1995) were used to orient, operationalize, investigate and clarify the implicit meanings in the audio diaries (Pathak & Intratat, 2012). One-to-one interviews were conducted; that is, the researcher interviewed individual participants about their professional journey plot, past experiences, expectations and hopes relating to both the mentoring process and audio diary project. In the one-to-one post-diary interviews, the researcher asked for clarification of the audio diaries (if needed), a summary of the mentoring process and general reflections on the audio diary project and experience. Audio diaries are considered actual manifestations of reflection-on-action (where action is understood as the mentorship itself). Pre- and post-diary interviews constitute more general reflections on action during the mentoring process (cf. Schön, 1983). As a result, the researcher collected at a minimum of 90 minutes of audio material per participant, more than 36 hours of audio material in total.

5.2.1.3 Procedure and timeline

Based on the above notions, a strict research protocol was developed, applying a step-by-step design framework in order to lessen participants' anxiety. Sufficient space was given for individual flexibility in terms of the focus, length and language of the diary logs and the circumstances the audio diaries were recorded in. (For the complete research flow diagram, see Figure 14.)

	Start of the mentorship programme	First lesson taught by the mentee	Middle of the mentorship programme	Last lesson taught by the mentee	1-2 weeks after the mentoring programme
	Pre-diary interview	**Audio diary 1**	**Audio diary 2**	**Audio diary 3**	**Post-diary interview**
Mentor 1 Mentee 1/I Mentee 1/II. Mentor 2 Mentee 2 Mentor 3 Mentee 3	General information, journey plot, expectations and hopes of the project	Experience in teaching/mentoring; Ups and downs, needs; Things that have been learned and need to be learned; Dilemmas, difficulties; Reflections on post-lesson conferences; Relationship with students, mentee, mentor; School atmosphere			Debriefing, general overview, reflection on the audio diary experience

Figure 14. Flow diagram of the research design

Participants were instructed to reflect on their work and development in three phases (audio diary 1–3 referring to initial, mid-term and end-term recordings) during the mentoring process that varied between three to five months in length. Mentors and mentees individually recorded their audio diary entries in Hungarian after the mentees' first, mid-practicum, and last taught lessons, closely following a post-teaching debriefing with their mentors (preferably on the same day).

Participants created their audio diary entries with their personal handheld devices and sent the recordings to the researchers by email. The reflective process was supported by general questions sent in advance by the researcher. These were of two categories: (1) "There-and-then" type prompts (reflecting on observed/taught lesson and on the mentor–mentee debriefings after the class) and (2) "Here-and-now" type prompts (reflecting on the current state of mind within the mentoring process). In each phase of the practicum, prompt questions were selected by the researcher from a list compiled on the basis of the recordings previously sent by the participants. Throughout the mentored practicum, prompt questions were identical for mentors and mentees but were adjusted according to the respective phases of the mentoring process. By doing so, the researcher was able to gain access to the week-to-week interactions of mentors and their mentees. Prompts and notifications for recording the audio diaries were sent by the researcher on the due date by email.

The duration of a recording per person varied from 3:50 to 22:15 minutes and showed a large variation even in individual cases. English translations of the Hungarian extracts

were provided by the researcher. The technique of back translation of a third party was used to ensure validity of translation (Temple & Young, 2004).

5.2.1.4   Data analysis: Comparative thematic network analysis

When analysing the data, a thematic analysis approach was used (Fereday and Muir-Cochrane, 2006) to undertake a relatively high level of interpretation. Through thematic analysis, main patterns and themes were identified, analysed and reported in their complexity by a six-phase guide (Braun & Clarke, 2006). The phases included: (1) becoming familiar with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining themes and (6) writing up. Phases 1, 2 and 3 were undertaken by two independent analysts/coders (authors 1 and 2), while the differences in coding between the two coders were resolved in phase 4 and 5 for interrater reliability reasons. The analysts/coders synthesized their findings after phase 6. For a visual representation of the process see Figure 15.
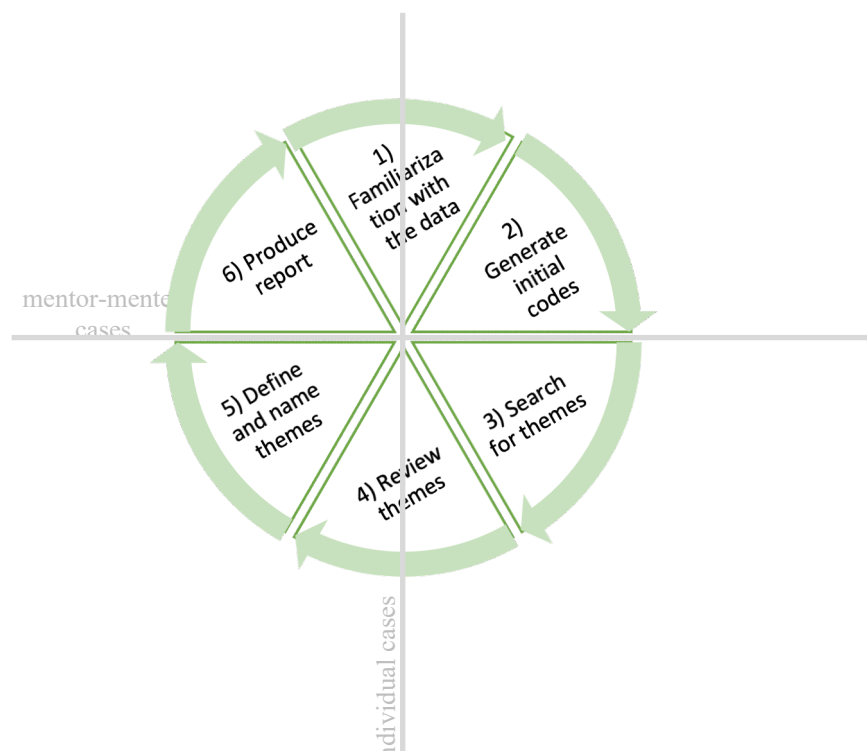
Figure 15. Six step approach to thematic analysis
adapted from Braun and Clark, 2006

Due to the complexity of the data, the analysis was not linear, and the researchers moved forward and back between the themes. The analysis went beyond the semantic level of the audio materials and focused on identifying and examining ideas and concepts within

the data. The analysis was two-dimensional: horizontal as well as vertical. The vertical analysis was conducted to gain more information on the individual level by looking at each participant separately, and then to contrast and compare horizontally the emerging patterns within the data generated by the individual cases – that is, the data of the mentor–mentee pairs.

Finally, through a process that can be described as a constructionist and descriptive qualitative thematic analysis (Vaismoradi *et al*, 2013), the context was emphasized and the manifest and latent concepts were integrated into three central thematic foci: (1) stability of positions (within the society of mind and meta-positions); (2) consonance of selves (interpreted from different dialogical aspects); and (3) benefits of verbalization (from the participant perspective).

5.2.2 Approach to the data analysis framework of reflective practice: Dialogical Self Theory

Dialogical Self Theory (DST) provided the theoretical framework for our study, as it enabled a meaningful analysis of mentors' and mentees' actions and reactions to various critical incidents during their work. In DST, the concept of "self" refers to the internal mind of a person that interconnects with the surrounding society (at micro and meso levels). This internal mind engages in internal dialogues by reflecting on internal and external dynamics, hence notions such as self-conflict, self-criticism, self-agreement and self-consultancy. The multiple positions of the extended internal self are interpreted in various relationships and create the "society of mind" (Hermans, 2013, p. 251). In the society of mind, internal dialogues emerge from tensions, conflicts and oppositions. In these relationships, the self is positioned and repositioned in various ways and communicated in different "I-positions" (Hermans, 2001, p. 248). Conscious self-positionings enable an individual to engage in mental processes that push the internal and extended self to gradually transform into an individual who is reflective (able to criticize, agree, consult etc.) in a relationship (Hermans, 2001). In this conception, the different independent positions are related by a continuous "I" and brought into communication with each other via dialogical activities (Hermans & Hermans-Konopka, 2010). Furthermore, "meta-positions" (Meijers & Hermans, 2018, p. 18) in dialogues enable the self to move into specialized positions and to take a "helicopter-view" (p. 16). This position permits a certain distance from one or more internal and external positions. It provides an overarching perspective which allows one to consider different positions

simultaneously, including their relevant linkages inside and outside the relationship with the self. Since meta-position reflects the ability to observe positions from a broader perspective, it may also develop significant parts of the dialogical self (Hermans, 2014). When I-positions and meta-positions within the self are in conflict, the "third position" acts as an integrative construction, a mitigating bridge between conflicting perspectives (Hermans & Hermans-Konopka, 2010, p. 191). In order to create a third position, a certain degree of self-awareness is required (Meijers & Hermans, 2018, p. 11). Self-awareness is often available through strong figures in society, who are usually also an extended domain of the self. These figures occupy the "promoter position" (Hermans 2013, p. 86) in the dialogical self, to produce and organize a diverse range of more specialized but qualitatively different positions in the course of the development of the self. Some promoter positions are often held by a supporting parent, a dedicated friend, an influential teacher or a mentor (Meijers & Hermans, 2018).

5.2.2.1 Dialogical Self Theory in teacher mentorship

Mentoring in TT usually starts with "the honeymoon effect" that means a very quick improvement and positive wave of experiences, but within a short time this effect drops precipitously (Miljus, Campbell, Dunnette, Lawler & Weick, 1971). Mentees start struggling with problems commonly called as "reality shock" (Veenman, 1984; Szivák, 1999), a discovered gap between theory and practice. In this problematic state of mind, novices tend to complain about the lack and discrepancy of personal and professional autonomy in the new situation (Szivák, 1999, p. 5).

Novice teachers take up new roles and try to unify different voices in the early phase of their careers. During the mentoring experience, mentors function as guides and a special authority, and mentees start to compare and contrast their own beliefs to those of their mentors. This may create an internal tension when conflicting messages come from two or more promoter positions (Stewart, 2017). When novices become active educators, internal and new external selves meet each other, cooperate or may even clash. However, they may be reconciled with a third position (Hermans, 2013). In a possible positioning of the mentee's "I", (Figure 16), new I-positions of the internal self start interacting with the roles and positions of other parties which, as a result, enter the mentee's external self and expand the space for the dialogical self.
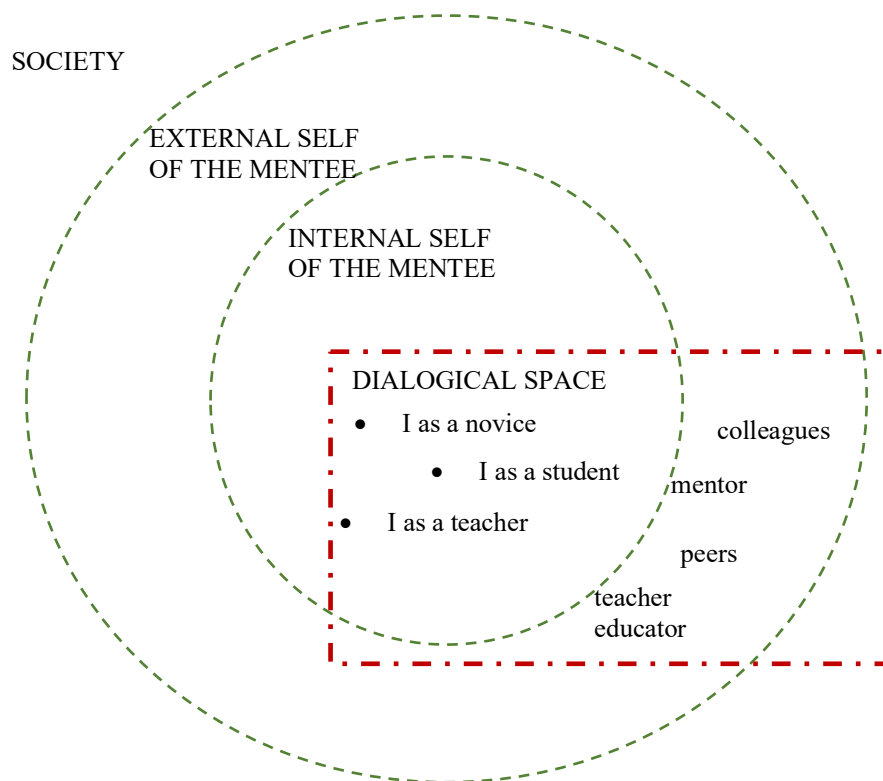
Figure 16. Possible positionings of the mentee's 'I'
(based on Hermans, 2014, p. 141)

In this dissertation, core concepts of DST helped to analyse mentors' and mentees' identity positionings, such as I-positions, third positions, meta-positions and promoter positions, based on the reflective accounts of their interactions. In the case of mentees, the analysis focused on the process of initial career identity individualizations, while mentors' identity positioning in the mentor–mentee relationships was rather considered as a reflection of a more advanced personal career identity development.

5.2.3   Results

Regarding differences and similarities in how mentors and mentees perceived reflective practice (part of the first research question), multi-level meta-position reflections emerged from the data that were comparable at a given point in time. We found five different I-positions that suggested mentors and mentees perceived these as shared themes of the emerging incidents in mentoring: mentees' I-position (1) in classroom management, (2) in the student–teacher relationship, (3) while using different teaching strategies, (4) in the teaching community and (5) in mentors' and mentees' relational I-positions (see Table 12).

5.2.3.1 Mirroring and confronting positions

These five topics were mirrored in mentors' and mentees' dialogues about their selves while experiencing "two different sides" of the mentoring process. The recordings also revealed that these dimensions were frequently reflected upon in the in-person post-lesson debriefings, and participants showed a high level of self-reflexivity when discussing them. In incidents encompassing these I-positions, we claim, mentors and mentees had a shared understanding of the issue at hand – that is, the past, present and future dimensions of the issue. For example, the trigger for, the actual conduct of and the possible impact of a pedagogical intervention or classroom management action (see Mentee 9/I and Mentor 9 in Table 12). Further, through their shared understandings and by contrasting their meta-positions, they created third positions.

Table 12. Mirroring contents dissolved in third positions

	Mentee	Mentor
Themes 1, 2, 3	"I was dissatisfied with my teaching today. I was in panic to be honest and felt **I just couldn't manage the students and the lesson** [theme 1]. **I lost the students' attention and couldn't get it back** [theme 2] **with the group task either** [theme 3]. I felt awful. But my mentor was very understanding and [s/he] said it's ok to feel like this on the first lesson. Practice makes perfect, [s/he] said and [s/he] was telling me the story of [her/his] first lesson". (Mentee 9/I, 1st audio diary)	"[S/he] was very excited. [S/he] prepared the lesson carefully and **planned various work forms and strategies to be used in the classroom** [theme 3]. And there [**s/he**] **found the students in the classroom which confused [her/him]** [theme 1]. I saw **[s/he] couldn't wait the lesson to be finished** [theme 1]. [S/he] was completely disappointed after the lesson. I tried to tell [her/him] it's ok to feel bad after the lesson. **It's all new to [her/him] and to the students as well** [theme 2]. [S/he] should take it easy and be more relaxed next time. Routine will help to improve [her/his] presence in the classroom and **students will appreciate [her/his] endeavour** [theme 2]". (Mentor 9, 1st audio diary)
Theme 4	"**I didn't feel very comfortable in the staff room** on the first two weeks and I told this to my mentor the other day, so [s/he] invited me for a lunch with the colleagues in the canteen and since then **we have started to have short talks with the colleagues**. Today I told [her/him] how much I appreciated this invitation". (Mentee 7, 2nd audio diary)	"I felt sorry I hadn't seen [her/him] **feeling isolated among the colleagues earlier**. I know my colleagues and I know they are lovely, so I decided to make a rather informal meeting between my mentee and a bunch of teachers in the canteen". (Mentor 7, 2nd audio diary)
Theme 5	"[S/he] is a [mother/father] like figure. [**S/he**] **tries to protect me and take a good care of me**. I don't mind it; it makes me feel safe and guided". (Mentee 1/II, 1st audio diary)	"**I'm a [parenting] mentor**. This is part of my personality that I can't help, but I try to make a use of it when teaching and mentoring". (Mentor 1, 1st audio diary)

However, those aspects of the mentoring process on which mentor(s) and mentee(s) reflected only vaguely or did not reflect mutually in their audio diaries involved a certain level of mispositioning and tension. The three main recurring areas were (1) mentors' and mentees' I-positions as emotional constructs, (2) mentees' I-positions in their career advancement as future teachers and (3) mentors' and mentees' I-positions as professionals in mentoring.

Participants' evaluative or judgemental accounts of the mentoring process often revealed minor and/or major conflicting ideas in these areas in the mentor–mentee relationship (Table 2). Based on participants' accounts, these positionings also rarely became explicit in the post-lesson debriefings or in other professional discussions between mentor and mentee. These positionings were either considered "too sensitive" or "rather personal to talk about" in person (see well-being: lack of shared discussion on the impact of events in private life and professionalism: implicit misunderstandings and lack of knowledge about the mentee's professional development in Table 13).

As one of the mentors summarized in her last audio diary entry, the relationship often lacked trust, which might have enabled the two participants to explicitly confront each other in certain situations. On the contrary, her mentee expressed his satisfaction about his own work and felt ready for the teaching career at the end of his practicum, even though he had been struggling with lack of self-confidence during the whole process, as his diary entries show. In the post-diary interview, he felt satisfied and showed enthusiasm for a future teaching career (see developing career in Table 13).

Mentees' verbal reflections on their own performance, including their expressed I-positions, were in balance with the reflections they made on their mentors' work, teaching and mentoring strategies, personality, and practices. Mentors, however, concentrated on their mentees' performance and very rarely gave information about their own work or development. This confirms mentees' dependent positions to a temporal authority or promoter in this situation. Mentors reflected on the different incidents from a distanced meta-position and promoted the process from a helicopter view. This often resulted in a natural desire for a third position within the relationship which, in reality, they lacked (see Mentor 3: "I guess" and Mentor 12: "I don't really know" in Table 13).

Table 13. Confronting verbalization of positions

	Mentee	Mentor
Well-being	No mention of new parenthood in the first two audio diaries. "I feel really exhausted to be honest. Let's see what I can talk about here [*in the audio diary*]". (Mentee 1/I, 3rd audio diary)	"I know he is a young [parent]. [Her/his] child was born not long ago, but [s/he] tries to do his best in the teaching. [S/he] looks really tired, and [s/he] seems less prepared for the lessons. [S/he] **tries to survive, I guess**". (Mentor 1, 2nd audio diary)
Developing career	"I felt my mentor supported me through the whole practicum. It wasn't easy at all, but **I think it ended up as a success story**. I'm full of ideas now and ready to use them in my teaching. It has been tiring but I think my teaching improved a lot. … I want to stay on this track". (Mentee 3, 3rd audio diary)	"I'm not going to tell [her/him] he is not ready for teaching alone, because that would cause trouble for both of us. [S/he] didn't work hard enough. I tried to explain this to [her/him] in many ways, and I thought he understood it, but the same problems came up again and again. **I'm not the one who will block [her/his] career now**. [S/he] gets on well with the students, but they clearly see [her/his] deficiencies in teaching too. [S/he] seems alright though. Tired, but happy … I wish [s/he] could understand the goal". (Mentor 3, 3rd audio diary)
Professionalism	"I think I did my best during the practicum. So, I don't really understand the negative comments in the end of the process. Haven't received any negative feedback after my lessons, so **the comment on my stagnant progress has struck me**. I want to understand it". (Mentee 12, 3rd audio diary)	"[S/he] was ok, basically. I tried to make [her/him] understand how [s/he] can change perspective and develop, but **[s/he] didn't necessarily take the message**. [S/he] is too shy and restrained to be a teacher. I'm not sure [s/he] will enjoy a teaching career … **I don't really know what [s/he] thinks about this**". (Mentor 12, 3rd audio diary)"

5.2.3.2 Stability of I-positions

As for the question of how the mentoring intervention was interpreted from different dialogical aspects, it was found that mentees' I-positions were often seen as much more dependent on mentors' I-positions than vice versa. Consequently, mentees' self-concepts were rather flexible but also more vulnerable during the practicum and varied on qualitatively different dimensions of the relationship (cf. Young et al., 2005). Mentees' I-position stability in each case was strongly interdependent and was affected by (1) the mentor's adaptivity to the mentoring situation, (2) engagement in the process, (3) investment in the critical incidents, (4) emotional availability and (5) the quality of reflexivity in or after the post-lesson debriefings in person (see Figure 17). For example, a less engaged and emotionally less available mentor "oriented" the mentee towards a

negative engagement and availability spectrum, whereas a highly reflective mentor with adaptive strategies was likely to positively affect the mentee's attitude and approaches.

Adaptivity		
adaptive	⟵⟶	non-adaptive
Engagement		
engaged	⟵⟶	disengaged
Investment		
invested	⟵⟶	negligent
Emotional availability		
available	⟵⟶	distant
Reflexivity		
appreciative	⟵⟶	judgmental

Figure 17. Dimensions of mentoring practice

Mentors' individual preferences in the dimensions of mentoring were rather similar across the data set and remarkably stable over time, while mentees were moving on a broad spectrum of reflection concerning the mentoring they received. The stability of the mentoring positions and the development of the mentoring relationship strongly affected mentees' internal and external I-positions. The external and internal self diffused in a changing positioning of the society of mind related to the dependency factor. In other words, a rather judgemental mentee found the way to be more appreciative and more self-reflective if the mentor modelled the role of a reflective practitioner (see the reflective change of I-positions of Mentee 2 in Table 14). Or, in other cases, a rather open and emotionally available mentee tended to conform to a rather distant availability and non-adaptive behaviour in a critical incident if the mentor was hardly accessible emotionally and was non-adaptive (see the negative engagement of I-positions of Mentee 6 in Table 14).

Table 14. Process of mentees' self-repositionings

	Mentee 2	Mentee 6
Process of self-repositioning	"Well, I'm not sure [my mentor] will be a real model for me. I saw two of [her/his] classes already, and I don't really know at this moment how I will fit into this philosophy. [S/he] seems very open and supportive. We were talking about [her/his] classes, but of course, I didn't mention my doubts about [her/his] teaching. [S/he] said [s/he] knows [s/he] is not a perfect teacher, and nobody is. [S/he] was developing, [s/he] said. Oh, yeah, [s/he] is right. I don't know. At least I will know what I want to do different." (pre-diary interview)	"I think this is going to be an exciting few weeks ahead. I already met my mentor and some colleagues in the school, and they all seem very friendly and helpful. I'm open to the new challenge, I think, I also want to test my abilities. I'm full of questions though." (pre-diary interview)
	"We get on well. Nothing special, but [my mentor] seems to understand my goals in teaching. [S/he] didn't reject my new initiatives in the classroom." (1st diary)	"My mentor is very busy, very difficult to get [her/him] for a longer discussion and when we sit down for the meeting [s/he] is reserved and diplomatic. I know [s/he] has other mentees and there's the teaching and administrative side as well, but would be good to get more open discussion and detailed feedback on my work. Yes. I didn't ask [her/him] either for more. I could do that, but I didn't." (2nd diary)
	"This was our last meeting and [my mentor] was as supportive as [s/he] was during the whole teaching. I learnt million things through the practice and [her/his] questions helped me to focus more, review and develop my plans and teaching. I remember [her/him] saying there is no perfect teacher. I'm not perfect at all, and not a teacher yet. But at least I know which direction I'm heading to." (3rd diary)	"Ok, it's over now. I did it on my way. As I did during the whole practicum. My mentor helped me a lot with suggestions and ideas, but I learnt how to be independent in the preparation. I used the digital technology in the last class because I wanted to show off for the committee, but to be honest, it was the first occasion for a long. I saw how much extra organization it needed for my mentor, so I didn't ask for the equipment. [S/he] hasn't encouraged me using it and I could make without it." (3rd diary)

5.2.3.3 Consonance of selves: implicit and explicit tension within the mind

As an unexpected finding concerning mentors' roles within their society of mind in their meta-positions (research question 1b), it was recognized that self-awareness was often limited or was missing in the reflections. The low level of critical self-awareness became explicit in the mentors' recordings in particular, which suggested incompleteness and inauthenticity in some monologues. The scripted monologue (read out by the mentor) put constraints on the free flow of ideas and resulted in less spontaneity, less self-corrections, slips of the tongue or less emotional expression. These suggested self-restraint or self-censoring in the reflections about the mentoring process. Hence, the length of entries is assumed as an indication of insufficient time spent on "task" and pre-designed notes. In

line with Crozier and Cassel (2015), our findings also confirmed that a reduced or lack of authenticity was especially apparent when a mentor's diary was constrained by an inadequate timeframe or was based on pre-designed notes.

Further, mentors rarely or never mentioned issues concerning their internal professional identity or mentoring practice. However, when they talked about these, they compared and contrasted their practices with the ideal practices and expectations of colleagues, university representatives, students and mentees. Therefore, the internal I-positions of mentors' professional selves were largely defined by external I-positions, and the dialogues between the domains resulted in a certain level of discrepancy in the ideal–theoretical and practical concepts of mentoring and roles in mentorship. This tension manifested in verbal hesitations in the diaries (see verbal hesitations in Table 4). Mentors' meta-positions rarely resulted in forming a third position about the I-positions but rather stayed in the meta-positions of expected and real positions. The researchers, being the audience to the diaries, created an additional "promoter position" (beyond the usual parties in mentoring) for one of the mentors, who conceptualized reflective practice in the audio diaries as a performance. In her case, the conflict between meta-positions of expected and real positions had an additional authority, that of the researcher (see meta-position of expected and real positions in Table 15).

Table 15. Mentors' verbal hesitations and meta-positions

	Mentor
Verbal hesitations	"if I can be honest" (Mentor 9, 1st audio diary) "maybe I should have mentioned this to [her/him]" (Mentor 9, 1st audio diary) "I know it's not how the ideal would be" (Mentor 8, 2nd audio diary) "might not have been the perfect reaction" (Mentor 2, 2nd audio diary) "well, I don't know … maybe [s/he] was right" (Mentor 3, 3rd audio diary)
Meta-position of expected and real positions	"In the first case, I took notes to myself, because I wanted to be structured to avoid unprofessionalism. But I didn't have time for this on the second occasion and I spoke much longer. I'm sorry if I was wasting your time. I hope you could use that one". (Mentor 4, post-diary interview) "If I think it over now, [my mentee and I] might have been on the same opinion. I don't how [the researcher] felt about it". (Mentor 10, post-diary interview)

As opposed to mentors, mentees felt less frustrated about the form, content or structure of the diary (see pre-diary interview extracts of mentees in Table 16), and they found reassurance in their mentors' promoter position (see pre- and post-diary interview extracts of Mentee 9/II and Mentee 10 in Table 16). The self-defining tension that was supposed to be higher in the case of mentees (that is, conflicting views on internal and external I-

positions) was often smoothed out in the open verbalizations of the diary. Mentees' inauthentic behaviour in the diaries was much less apparent than in the mentors' case. Tensions of I-positions created dialogues within the self (see in-diary extract of Mentee 2 and post-diary extract of Mentee 4 in Table 16), which had been caused by the dynamically changing process of beginning a teaching career. Nevertheless, this was, in general, understood and recognized as an organic part of the practicum (see a selection of mentors' reflections on mentees' changing performance, mind-set and strategies in Table 16). The career phase was considered a positioning and repositioning of selves by the mentees and was acknowledged as crucial for personal progress.

Table 16. Acknowledging mentees' change process

	Mentee	Mentor
Pre-diary interview	"I expect to change during the process as a teacher". (Mentee 12) "I suppose I will see many aspects of teaching different while doing it". (Mentee 4) "I want to learn as much as I can from my mentor". (Mentee 9/II)	"I try to do my best to support and help finding [her/his] teaching character. I'm sure there will be visible changes". (Mentor 6)
In-diary	"Now I see the complexity of teaching more clearly. I have to think and talk more about my teaching to understand what I'm doing". (Mentee 2, 3rd audio diary)	"I see [him/her] developing and changing when choosing the best way to act and react in different situations. [S/he] managed to walk on his own way". (Mentor 2, 2nd audio diary)
Post-diary interview	"I still want to be a teacher. Maybe more than before. I gained a new source for motivation: to be a rebel in the education. I didn't let the routine of teaching get my enthusiasm away, but it helped to find myself in the system". (Mentee 4) "I could reflect on my mentor's reflections that I've taken as a double support in the process [together with my mentor's support]. My mentor's comments often got full meaning in my recordings". (Mentee 10)	"[S/he] wanted to put everything in class at the beginning. Many strategies, many methods, too many tasks. It was not viable. And [s/he] understood it. It caused [her/him] frustration and dissatisfaction … I tried to find the way out and help [her/him] find the balance. And it worked". (Mentor 5)

The language mentees used in their recordings reflected an approach characterized by a less concentrated effort to perform well in a mandatory task compared to other aspects of TT. Instead, their communication suggested that this process of recording reflections had been a free-time or off-loading activity. For example, mentees very often referred to their concrete state of mind (e.g. how tired they were) or used cues, such as yawns, sighs, laughter and so on.

5.2.3.4 Benefits of verbalizing thoughts

Participants' unstructured verbal monologues in the audio diaries self-constructed the personal experience, and the entries served as a performance of the mind directed by the participant. This was realized on two levels of the audio recordings. On the one hand, it contextualized the diary entry as a self-research activity that had special importance in the mentoring process (see Mentor 5 in Table 17). On the other hand, the dynamics of the free flow of thoughts formed a creative endeavour where new ideas or even conceptual changes were triggered (see reflections of Mentors 3, 9 and 11 on the benefits in Table 17). Further, recording reflections often responded to alleviating psychological discomfort between the internal and external I-positions of the self. It also helped mentees and mentors to find comfort in a balanced state of society of mind by applying a meta-position (see reflections of Mentee 1/I, 11 on the benefits in Table 17).

As for the benefits and difficulties of using audio diaries, in the post-diary interviews, mentors as well as mentees agreed that the use of audio diaries was a useful approach for reflecting on the mentoring incidents, highlighting some of the constraints. As found, difficulties of the audio diary process originated in the shortage of time that generally characterized the mentoring process (see reflections of Mentor 7 and Mentees 3 and 7 on the difficulties in Table 17). Mentor 10 also expressed concerns about the relatively unfamiliar method of the process (see reflections on difficulties in Table 17); however, this mentor did not request further (technical) help and always submitted her/his diaries on time.

Although mentors were less self-reflective in their audio diaries compared to mentees, they underlined the need and meaningfulness of time dedicated to reflections on their own work. They also acknowledged the various levels of self-awareness raised in their professional development due to the recordings (see reflections of Mentor 11 and 8 on the benefits in Table 17). They were especially keen on receiving feedback on their work based on the diary logs, as they found their work rarely reflected upon from an external perspective – that is, specialists or researchers from the field (see reflections of Mentor 11 on the benefits in Table 17).

Both mentors and mentees considered the audio diary a possible alternative form of reflective practice that could be introduced as an option for mentors or teachers in general who struggle to find alternatives to recording non-written reflections of their or others'

work due to time and workload constraints (see reflections of Mentor 9, Mentee 9/II and 10 on the benefits in Table 17).

For some participants, listening to the self-recorded diaries served as archives; that is, they helped to rethink past situations in the practicum and remember details concerning the practicum (see Mentor 8 in Table 17). In some cases, participants interpreted audio diary entries themselves and used them as an authentic tool for retrospective self-reflection within the process (see Mentor 11 in Table 17).

Table 17. Mentors' verbalizing thought in different meta-positions

	Benefits	Difficulties
Mentors	"I wanted to contribute to the exploration of a field that I myself find very important. I felt like a researcher sometimes. **Researching myself, my work, my mentee**." (Mentor 5, pre-diary interview). "This is a very different approach. **I see its benefits in my teaching as well**." (Mentor 3, 3rd audio diary) "It **made me think about my own mentoring practice in a more structured way**, I usually don't have time and possibility for." (Mentor 9, post-diary interview) "Of course, I reflect on my practice while I go home or have a little bit of spare time. What I should do different, what would make the teaching better. But **the diaries lift this thinking to a higher level**. Would be interesting and useful to receive feedback on my work based on the content of the diary" (Mentor 11, post-diary interview) "I think a lot about my work as a mentor. Of course, not as systematically as I did in the [audio diary] project. At the end of the practicum, when I had to write a reflective assessment of my mentee, well… **it helped a lot when I replayed my recordings**. Some details helped me to elaborate on the document. I was glad to see how talkative I became in the last round." (Mentor 8, post diary interview)	"… need **time** and the appropriate **place** to record." (Mentor 7, 2nd audio diary) "it's an **unusual and unfamiliar** way of collecting thoughts to me." (Mentor 10, pre-diary interview)
Mentees	"There is too much on me now. There were so many stupid comments on my teaching at the last post-lesson debriefing. Stupid ideas about education as such (…) Wow, **it feels very good to say this**. I was self-disciplined in the debriefing but I **feel so relieved now**." (Mentee 1/I, 3rd audio diary) "To be honest, I felt the diary an extra burden in the process, but when I got to record it, I could always get rid of many	"I had to remind myself of the importance of **recording it on the same day**, because of I have so many other things to do." (Mentee 7, post-diary interview) "The one I recorded a few days after the lesson was difficult. I just **forgot things I could have talked about**. But it's not always easy to **find time** for [the recording] right after the teaching." (Mentee 3, post-diary interview)

unnecessary and exasperating thoughts and felt relieved. Some things in my teaching also became clear. I don't know… for example, how I could use my mentor's advice better for getting more attention from the kids." (Mentee 11, post-diary interview)

"This was a more personal way of reporting about different issues. **I talked about things I wouldn't put into my written reflective diary**, because that would not been appreciated." (Mentee 9/II, post-diary interview)

"**It's faster and easier**. Not a tedious job to do it. You don't have to sit and think for hours what to say, because it some naturally after the day. There is no need for pompous sentences." (Mentee 10, post-diary interview)

5.2.4 Discussion

By using DST in this analysis, it was found that the verbalization of thoughts through audio diaries encouraged a retrospective repositioning of the self in mentoring situations and engaged the participants in past incidents by envisioning future steps. Similar to findings by Ericsson and Simon (1993), these results revealed that thinking aloud triggered self-reflection within the situation and possible mind changes, and motivated self-awareness in individual free speech. In this Audio Diaries Study, however, verbalized self-reflections were more typical of mentees than of their mentors. Nevertheless, through simultaneous self-reflective accounts that occurred over time, participants became more self-aware, which contributed to a gradual mutual awareness in the mentorship. For instance, mentees in their audio diaries often broadened their internal I-positions to external I-positions, whereas mentors, although only rarely, started dialogues out of their promoter I-positions to implicitly reflect on their teacher identity, roles and functions as mentor teachers (cf. Hermans, 2013, p. 22). Mentees' transformations and the various promoter positions they used (mentor, students, colleagues, teacher educators) became explicit in their audio diaries. The tension and frustration in actual events was often resolved by the verbalization of self-reflections. Mentors' professional developmental processes were rather implicit and rarely resulted in the restructuring of their own society of mind; hence, hardly any new third positions arose from the monologues.

Although participants were invited to reflect in their audio diaries on all aspects of the mentoring process, mentors mainly focused on their mentees' performance. In contrast, mentees compared their own internal I-positions to the promoter positions within the relationship and changed accordingly. Interestingly, mentors compared their mentoring I-positions to the learnt, external positions of an ideal mentor. This indicates an overvaluation of the instrumental (goal focused) nature of the mentoring relationships by these mentors. This finding resonates with Van Ginkel and colleagues' (2018) claims, according to which teaching performance and classroom control are underlying issues, and that mentors view their own teaching as models of good practice. Hence, when mentees' internal I-positions were re-examined, the tension or trigger had been acknowledged by both parties. This acknowledgement often integrated into third positions already in the post-lesson debriefings or in the reflections of audio diaries. However, in the case of mentors, the tension within the self remained and did not resolve in third positions. This feeling of incompletion and dispositioning of the self may have hindered mentors' authentic reflective practice in the mentoring relationship as well as impacted the content of their audio diaries. Similar to previous studies, we also found that mentors' real and ideal role concepts that suppose mentors to attend different individual needs of their mentees (cf. Bullough, 2012; Hobson et al., 2009; Reid & Jones, 1997) and the lack of capability of fulfilling these expectations limited self-awareness in their diary entries.

It also became clear that the I-positions in the relationships were mainly defined by the self-concepts already created or that were in the making. These self-concepts were deeply embedded in the surrounding educational context. Thus, pre-defined role concepts and an idealistic view of mentors confront the idiosyncratic nature of mentoring, which is strongly relationship- and context-based. In the post-diary interviews, some mentors nevertheless expressed a desire for constant external professional feedback on their mentoring work. Professional reflections and even external evaluative feedback were desired on the quality, structure and content of their work; however, they did not associate the work with their mentees as opportunities for self-development. Neither did they relate to audio diaries as tools to facilitate this process. In order to consider these aspects, if audio diaries are widely integrated in mentoring practices, a feedback cycle needs to be established that involves mentors, teacher educators and educational researchers (cf. Dorner & Kumar, 2016). A cooperative facilitation of the work of the mentor–mentee dyads in substantial triadic relationships (cf. Cameron & Grant, 2017) could mitigate the

various responsibilities and constraints of mentors and help them focus on reflective relationship building through self-reflective practices. As the mentors' diary entries show, confidentiality of the relationships is often subordinated to the assessing, gatekeeping and modelling roles; however, a strong desire is present for a better and more honest mentor–mentee relationship. In accordance with Hobson & Malderez (2013), I thus suggest that mentors' instrumental (goal-focused) and developmental (relationship-focused) roles be separated in order to avoid judgementoring, a restricted (evaluative and overly directive) form of mentoring that impedes trust and openness within the mentoring relationship.

Finally, by encouraging, structuring and supporting an alternative framework for self-reflection, mentors and mentees have been pushed to become more verbal about the mentoring process. This enabled the researchers to inquire into reflections on the process in a context that was not regulated by an explicit mentoring framework or external agenda. Participants could formalize their diary entries within the planning, goal setting and verbal articulation phase of the recording and omit the third step of traditional written accounts – that is, the editing and reviewing stage. In those cases, where no pre-written sketches were used for the recordings, researchers gained more direct access to the unfiltered thoughts, impressions and self-positionings of the participants and received in-process information about the mentorship that otherwise may not have been available for them. However, the researcher has to reflect on their own positionality, since participants, as was the case with one of the mentors in this study, may perceive them as "a promoting authority" for whom they perform certain professional practices through their audio diary entries.

5.2.5   Limitations

Limitations of this phase of the Main Study became visible on three levels during the research: (1) technical, (2) strategic and (3) content. Participants reported difficulties in finding the time and proper place to record the diaries and some also had difficulties with the use of the digital tool for recording the diaries. These did not require the researcher's intervention; however, in a future iteration, these difficulties need to be reconsidered. On the strategic level, diary entries became comparable due to the constant management and monitoring – that is, notifications with prompt questions sent to the participants. Some participants strictly followed the structuring prompts in their diaries, while others took the prompts less into consideration and reflected on the mentoring process within the flow of their mind. The diary entries thus showed various structures and diffuse contents that

required distillation and, in some cases, careful data selection in order to synthesize and define categories for the research. Although there were no expectations communicated in advance with regard to the content of the audio diary entries, some participants, especially mentors, felt restricted in openly communicating their reflections (see Table 15). Data showing what appeared to be performative actions aiming to fulfil the pre-communicated research goals were filtered carefully in the analysis phase. Nevertheless, participants knew that the researcher was interested in the effects of audio diary; hence, their remarks on the usefulness of the research tool need to be taken cautiously.

5.2.6 Conclusions and implications for the interview study

The findings shed more light on the importance of ongoing professional support for and better cooperation with teachers who train future teachers. Reducing time pressure on mentors and improving public recognition of the mentoring profession may result in qualitatively more focused relationships with their mentees in an extended and interconnected society of mind. These relationships may, in turn, enhance mentors' and future teachers' relatedness to the profession, which could decrease the possibility of teacher turnover, not only in the early career phase but also at later stages. The method of audio diaries also calls attention to the importance of more personalized processes in evaluation and assessment and the possibility of dividing the various mentoring roles. Therefore, the question arises, whether the network of teacher educators and mentor teachers is given sufficient support through educational policy, or whether more could be done to make this valuable association more beneficial. Findings of this paper have implications for policies and frameworks that regulate complex relations within the mentoring process. The connection between higher education and actual teaching in schools should be better facilitated and supported once mentors complete professional development programmes related to mentoring. Improvements can be made by (1) supporting universities to improve the embeddedness of the mentoring process and the mentors' role within the TT process, (2) raising awareness of the isolated work of mentor teachers and offering more opportunities for mentors to meet other mentors, (3) promoting the formation of a community of practice for mentors (cf. Holland, 2018) and (4) remunerating and acknowledging mentor teachers' work in a more transparent way. We hope this study will have relevance for others in the field when pursuing the discussion around these issues and beyond. The Interview Study and the Survey Studies

could develop and further explore our initial findings through, for example, larger sample longitudinal studies to explore issues of authenticity in and with audio diaries.

5.3 INTERVIEW STUDY[16]

The findings of the Audio Diaries Study opened up the opportunity for a deeper exploration of the aspects of stakeholders and the interrelation of concepts and perspectives of mentors, mentees, teacher educators and mentor training programme directors. A meaningful teaching practicum is key in teacher training, therefore the quality of cooperation between teacher training universities and workplaces of school-based mentor teachers, as well as the precise description of mentoring roles and activities are aimed to be researched more extensively. Studies, however, rarely deal with the complex dimensions of the discrepancy between mentor teachers' expected and realized practices. Neither is the (missed) potential of institutional co-operations investigated. Based on the findings of the previous findings in this dissertation, two sets of data were aligned: school-based mentors' concepts of their own mentoring role and mentees' (future teachers) process reflections and their concepts and reflections of university-based mentor training programme directors and teacher educators. Mentors and university stakeholders' conceptualizations of mentoring were embedded in their perceptions of mentors' roles and their strategies, as well as in how they conceptualize learning and how engaged they are in the mentoring process. In this Interview Study, global themes are identified which indicate the need for the further development of school-university partnerships (SUPs).

5.3.1   Research aims

The Audio Diaries Study suggested further investigation was needed to reveal the quality and causality of relatedness in the external support of mentoring in teaching pre-service teachers. Therefore, two main research questions were posed in this Interview Study: 1) what are school-based mentors' concepts of their own roles and their mentees' process reflections, and 2) how do these relate to notions of university-based mentor training programme directors and teacher educators within the context of SUPs? The main focus is thus to map the conceptual differences and similarities of mentors, mentees,

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programme directors and teacher educators relating to the real and expected roles and practices of their relationship within SUPs.

5.3.2 Methods

5.3.2.1 Interview study

A segregated and contingent approach was combined with a sequential synthesis design (Hong, Pluye, Bojuld, & Wassef, 2017). Two sets of empirical data were collected and compared. These two data collection iterations were undertaken separately (segregated); nevertheless, an initial scoping review of qualitative evidence was conducted to establish the research goal preferences (Oct 2016-April 2017) (cf. Dorner & Kaplar-Kodacsy, 2020 in press). This informed the design of the first qualitative intervention (mentors' and mentees' reflections on mentoring) (cf. Káplár-Kodácsy & Dorner, 2020). The second set of qualitative evidence analysis (semi-structured interviews with programme directors and teacher educators) was undertaken independently of the first intervention to contrast and compare implementation factors sequentially.

5.3.2.2 Data collection methods and instruments

Self-recorded audio diary entries (Monrouxe, 2009; Crozier & Cassel, 2015) were used from the Audio Diaries Study to explore participants' authentic narratives and reflections on mentoring. Reflections were elicited by two categories of prompt questions: 1) reflecting on observed/taught lesson and on the mentor-mentee debriefings after the class, e.g.: "How did your mentor structure the meeting after the lesson?", "How did your mentee reflect on your feedback after the lesson?"; 2) 'here-and-now' type of prompts (reflecting in the current state of mind within the mentoring process, e.g.: "What do you feel is the main take-away message of today in terms of your teaching/mentoring?"). Jones and colleagues (2015) suggest using more traditional methods together with audio diaries to receive a more valid collection of data. Therefore, to clarify and validate results of the analysis of audio diaries, individual pre-and post-diary interviews (Drever, 1995) were conducted with mentors and their mentees. Semi-structured interviews were used to investigate and clarify the implicit meanings in the audio diaries. These interviews enquired themes that were mentioned in the audio diaries; primarily, critical incidents and reflections that showed two different perspectives of the same issue (as presented by the

mentor and the mentee in their diary). The recordings were reviewed by the interviewer in advance of the interviews.

In the new collection of data, *semi-structured interviews*[17] (Pathak & Intratat, 2012) were used to explore the views of programme directors (n=7) and teacher educators from matched universities (n=7), based in seven different teacher training institutions in Hungary. Interviews were structured around the strategies, roles and concepts of mentors and mentees, and elicited the perspectives of programme directors and university-based teacher educators on these themes.

An exploratory comparative thematic network analysis was performed on the four participant datasets (audio diaries of and interviews with mentors and mentees, interviews with programme directors and teacher educators) to identify the dominant themes and links for conceptualizing the mentoring processes in the SUPs (Nowell, Norris, White & Moules, 2017).

5.3.2.3 Data analysis: Comparative thematic network analysis

Through thematic network analysis (Attride-Sterling, 2001; Nowell et al., 2017), descriptive thematic interferences of the four groups were interconnected. Three themes were identified: (1) *basic themes* which derive from the textual data; (2) *organizing themes* that order basic themes into significant clusters of similar issues; (3) *global* or *concluding themes* that are superordinate themes encompassing the principal notions in the data as a whole.

In the first phase of the analysis, initial codes were generated for patterns of reflections on the concepts of mentoring and their relation to the partnership context of schools and universities. These two foci were combined and the most important constructs in the transcripts were identified and shaped into codes. The codes were put into clusters. The process focused on the most common themes across the dataset through which themes were identified. These themes were then interpreted as basic themes of the analysis, which were assembled into groups based on conceptual correspondence. These groups represent the organizing themes, which encompass the super-ordinate global themes. Global themes summarize and unify the main propositions of the organizing themes.

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[17] Interview protocol attached in Appendix 3.

In the second analysis phase, the organizing themes were explored in full and their significance within the global theme was studied. Basic themes were used for illustrations to support the interpretation. Then the network was summarized by reviewing its elements, to integrate the findings into interpretative patterns and to reveal linkages and implications. In the final stage of the analysis process, the deductions of each network were brought together to explore the similar global themes, compare and contrast the patterns and structures for answering the original research questions. For the schematic structure of the thematic network, see Figure 18.
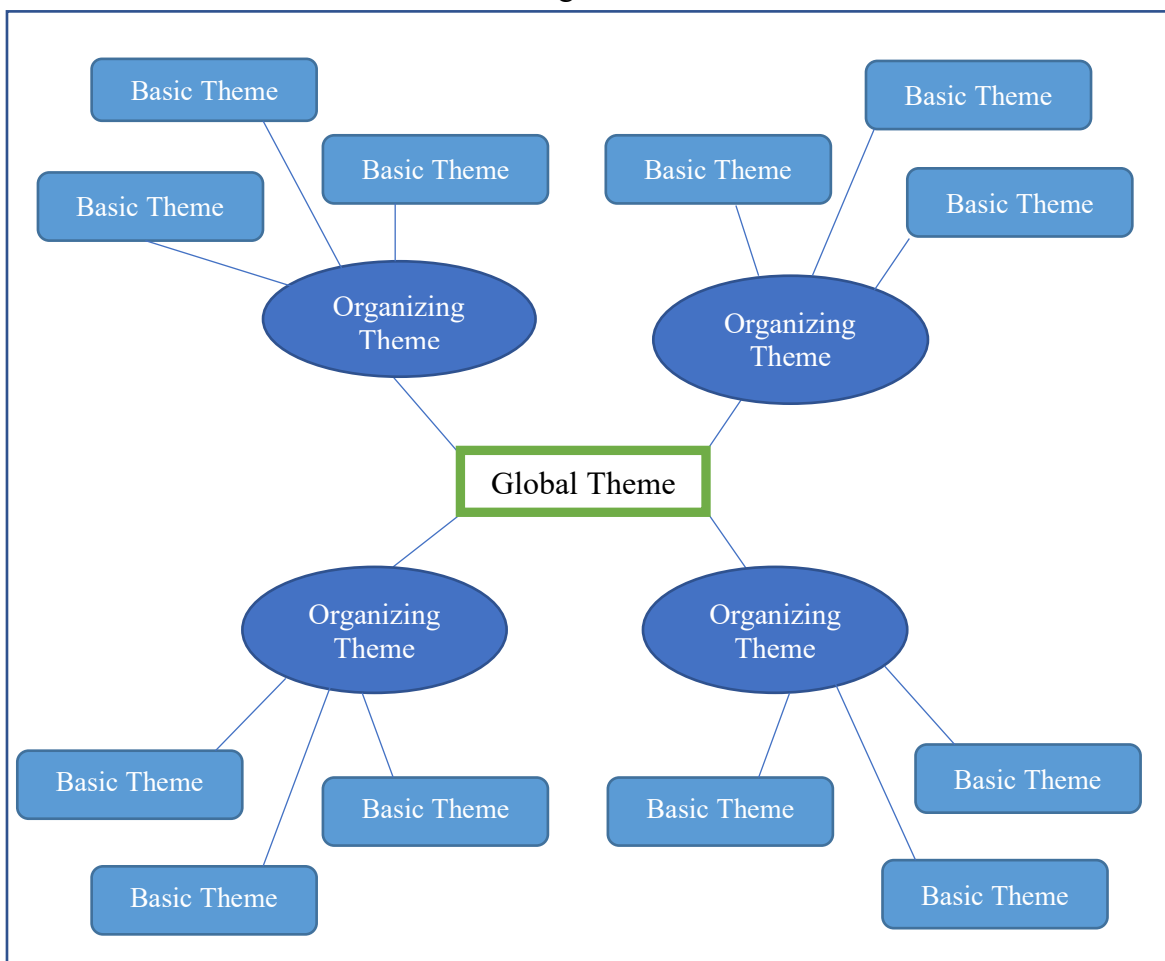
Figure 18. Structure of a thematic network adapted from Attride-Stirling, 2001

5.3.3   Results

Four thematic data networks were created, those of mentors, mentees, teacher educators and programme directors. However, these thematic data networks are presented together in this study, to demonstrate the full complexity of the network. The network is clustered, to indicate key conceptual findings and to form a complex narrative related to the research questions.

Through the discursive aspects of these networks, three synthesized global themes emerged related to (1) mentors' role concepts, (2) mentors' strategies, and (3) engagement in the mentoring process. These global themes are elaborated further in organizing themes, which constitute the sub-sections. The relevant quotes are collected and presented in thematic tables.

5.3.3.1 Mentor's role concepts and conceptualizations of the mentoring process

The data revealed how the perception of the mentor's role is aligned to participants' conception of the mentoring process. In other words, the different roles mentors take on, or the ones they are externally assigned to, predominantly define how other participants think about the mentoring process. Furthermore, mentoring roles are often predefined by externally demanded functions and mentoring strategies. Their role is thus associated with the expected and actual strategies they apply in their work, which also provides the basis for reflection on the concept of mentoring. In the analysis, I have compared two organizing themes related to the global theme of "mentor's role": relationship-based roles and system-based roles.

5.3.3.2 Relationship- and system-based roles

The mentor's role may be described with the help of binary relationships, such as macro-micro contexts and system-individual: the macro-level school-university and the micro-level mentor-mentee relationship. These binaries do not constitute separate "entities" but are interrelated. In other words, relationship-based roles are related to system-based roles and assume a dynamic interplay.

Acting as 'gatekeeper' to the profession, and mentors' educative function, are examples of how this interplay may evolve and associate the mentors' role with the hierarchical state of an assessor and an expert (macro-level/system), whereas the collegial and guiding role manifests in a more horizontal and developmental relationship (micro-level/individual) within a democratic partnership. For the examples of various mentor roles and their relational quality see Figure 19. Major roles presented in the figure are based on examples in the data collected. References to either of these conceptualizations are assumed to be situational, and the necessity of complex role constructs is explained by the various functions that mentors have to manage. As the data also revealed, in the current Hungarian mentoring system (c.f. Section 2.1.4), the separation of roles is not possible. In all four thematic networks, assessor roles or the educative and supportive

roles are perceived as equally important, however, mentors consider the management of these complex roles difficult and externally less supported (see Table 18; Quotes 1).[18]
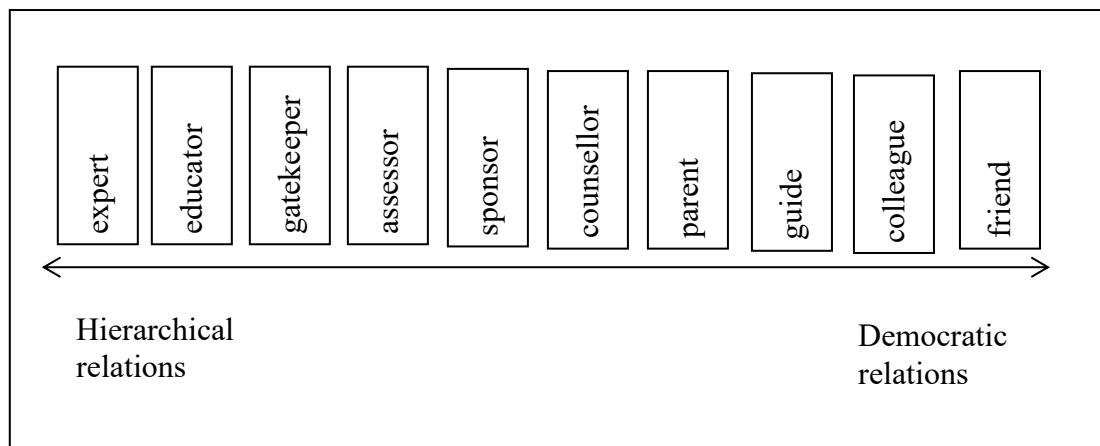
Figure 19. Examples of mentor roles on the spectrum of relational quality

Nevertheless, the difference between what is expected and what is realized in their roles was not so much of a concern for programme directors, teacher educators nor for mentees, but was problematic for mentors. In their mentor-mentee relationships, the integrated role of an "expert" appears to be the most desired and the concept of mentorship is defined in this main role and its functions. However, mentors in their diaries often complain about the overshadowing functions of this role when trying to focus on establishing a more democratic relationship with the mentee (see Table 18; Quotes 2).

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[18] Due to space limitation, the most relevant quotes from the transcripts are outlined as examples.

Table 18. Confronting roles and functions of mentors

	MENTOR	MENTEE	TEACHER EDUCATOR	MENTOR TRAINING PROGRAMME DIRECTOR
Quotes 1 Complex role constructs and the difficulty to manage them	I often feel I have to be [my mentees' parent], colleague and boss at the same time. But in the end, whatever I'd been to them, I have to evaluate their work. *(pre-diary interview)* I tried to explain [the problem with her/his teaching] to [my mentee] in many ways, and I thought s/he understood it, but the same problems came up again and again. I'm not the one who will block her/his career now. I was her/his mentor, but if the university hasn't stopped her/him I won't be the one. There was not much communication about him/her with the university, but they said "yes, we know s/he is problematic, we appreciate your work." *(audio diary 3)*	It's good that [my mentor] is always there to help, and knows when I need more control. *(audio diary 1)* Well, I'm not sure she will be a real model for me. I saw two of her classes already, and I don't really know at this moment how I will fit into this philosophy. S/he seems very open and supportive though. *(pre-diary interview)* [My mentor] is sometimes my teacher, sometimes my colleague. Or sometimes s/he is just there if I need her/him. *(audio diary 2)*	I usually go to the school to discuss the mentees' development or observe their classes. It's not very frequent but frequent enough. And I see how the mentors navigate between different roles in their work and switch to mentor mode from teacher mode and back immediately. Most of [the mentors] think of their mentees as their colleagues and they introduce them to the other teachers as colleagues. But I also see how they hesitate when the final assessment is there. It's a conflicting situation for some.	We aim to provide a training to prepare our mentors for complex learning situations and for the roles they can fit in to best facilitate the practicum. It's not easy for me to complete these different functions and roles.
Quotes 2 Expert role and how it is problematic for mentors	[I]t's the same feeling when you are observed and expected to know the answer to every question. I try to train my mentee to the same thing I train my students for […] I'm not her/his master. I'm a mentor, but I'm not a university teacher. I know certain things but it is also a learning process for me that I like being a part of. […] I'm not sure if the equal position in the mentoring is well recognized by my mentee or by anyone else in the process. *(audio diary 3)*	I like working with my mentor because s/he is knowledgeable, and I can look up to her/him. […] *(post-diary interview)* Basically, I feel my mentor knows the answers to my questions which gives me a certain feeling of security, but s/he also tries to make me answer my own questions first in our meetings. *(audio diary 1)* I try to keep up with the schedule but it's a very tense period. [My mentor] is very good in time management so there is a strict control over me when I'm behind with planning. S/he knows what s/he has to do to make me complete my practicum. *(audio diary 2)*	We count on our mentors to represent us in the schools […] we work with those whom we and the [university] students are satisfied with and can model good teaching. […] They are all experienced teachers, knowledgeable and respected. They know what they are doing.	A good mentor is always a good teacher. We train expert teachers to be mentors who can transfer their broad knowledge to the new teacher generation. We don't expect the mentors to be omniscient, but they have to feel the importance of their roles in the relationship. Mentees more probably decide on staying in the profession if they see a good example in their mentor who can encourage but also teach them new things.

5.3.3.3 Expected and actual mentoring strategies

The four thematic networks revealed differences in terms of expected and realized mentoring strategies. Participants believe that mentoring strategies constituted a creative approach, meaning that mentors' actions are adjustable to the different mentor roles and must be smoothly embedded in the various teaching situations.

Strategies varied according to the different mentoring approaches, from instrumental mentoring to developmental mentored learning. Participants agreed that it may be effective if mentors relied on developmental strategies in their various roles, that is, if cooperative and reciprocal relationships were created between mentors and mentees, coaching elements in mentorship applied, mentees' intentions behind teaching performances addressed, or mentees encouraged to focus on students' thinking rather than their mentors' or their own sense-making. However, the in-process data of mentors and mentees show that actual mentoring strategies often become rather instrumental, for example, classroom management is assumed to be the most important part of teaching, or that providing the mentee with autonomy is best achieved by abandoning them to their teaching work (see Table 19; Quotes 3).

It is ideally expected by the stakeholders that mentor teachers and teacher educators cooperate in mentoring (e.g. regular de-briefings about mentees, collaborative performance development, shared pre- and in-process reflections), however, these instances were perceived as occasional and focused mainly on the assessment strategies in the shared evaluative process.

External and system-based reasons were given for the modest use of developmental and collaborative strategies (e.g. time constraint, lack of staffing) and partly derived from the relational problems (e.g. mismatch of mentor and mentee; unpreparedness of the mentee; lack of engagement and motivation in the process). System-based reasons are often resolved by hiring another experienced schoolteacher to replace the teacher educator. However, mentees often feel insecure and uncomfortable when being observed and evaluated by unfamiliar experts. Mentees would thus appreciate more integration and more advanced forms of collaboration between teacher educators and mentor teachers when it comes to mentoring strategies and articulated a need for less fragmented structural expectations in SUPs. This, according to them, would result in clearer expectations and roles in the process (see Table 19; Quotes 4).

Table 19. Instrumental and developmental mentoring strategies

	MENTOR	MENTEE	TEACHER EDUCATOR	MENTOR TRAINING PROGRAMME DIRECTOR
Quotes 3 Diversity of strategies and how they become rather instrumental	I was patient and tried to elicit my mentee's reflections to see how s/he finds her/his own solutions in teaching and out of the classroom. […] but at a point, it's just more effective to state the problem and the solution. We had limited time and possibility, and [my mentee] was expecting me to say yes or no to be able to prepare for the next lesson. *(audio diary 1)*	[My mentor] gave me freedom to try out different techniques from the very beginning of the practicum. […] I appreciated it. […] However, I felt a bit alone sometimes. S/he kept on saying "oh, you are good, you can do it". But really, I didn't feel that good and would have loved more guidance. *(post-diary interview)*	I see mentors with very different strategies. Our mentees report about all kinds of practices their mentors use. Their desired and less desired practices. Effective and less effective practices.	We designed our training programme to show a full spectrum of different strategies for mentoring teachers. [The mentors] will be able to choose from different techniques in different situations [after the training]. Sometimes they need to be more assertive in the mentoring and often they just facilitate a learning process for the mentee.
Quotes 4 Desire for using more developmental strategies in the partnership	I wish [the mentor and the teacher educator] had had more time and energy invested in the discussions and in what we can take out of them. [The meeting after the final teaching for a discussing the mentee's work] was very formal and target oriented. *(audio diary 3)* I feel it as a missed opportunity to develop the whole process by fitting [the mentors and the teacher educators'] knowledge together about the mentee. We work in a parallel world. *(audio diary 3)* [The teacher educator] is very supportive. S/he visits us a couple of times during the practicum. S/he give good tips but her/his possibilities are limited. Would be nice to see her/him more often here. *(post-diary interview)* I have had some mentees whose work never been discussed with anyone from the university neither were they observed by the teacher educator. I did the job myself. *(post-diary interview)* I can't remember any occasions when I received feedback on my work. It's always the mentee in the focus. *(pre-diary interview)*	Sometimes I feel stuck between two worlds in terms of administration and expectations. *(audio diary 2)* I'm not sure [the teacher educator and the mentor] ever talked about me or my teaching. Do they have to? *(post-diary interview)* [The teacher educator] came to my final teaching. I haven't seen her/him before. I hadn't known what to expect. It was weird. *(audio diary 3)* [The teacher educator] came and evaluated my teaching based on one observed class. My mentor defended me on many issues but of course, s/he didn't want to argue with the university. The situation made me so upset. *(audio diary 3)*	I love visiting practicum sites. It refreshes me after the white walls of higher education. It's flesh and blood. I get on very well with our mentors and I highly appreciate their work. I also learn a lot from them. […] But you know, it usually takes me a whole day to visit and it is not considered as part of my educational working hours. So, I have to limit those visits because I have many students out there. I admit it could be so much more beneficial. Well, I know we have students who do their practicum in remote places. We don't have the capacity to visit them. I'm basically doing this along with my teaching [at the university]. We started to hire other experienced teachers from schools as consultants for the mentors. They visit the practicum sites regularly.	Ideally, our teacher educators and school mentors would establish a developmental partnership by sharing information about the mentee, they would monitor and help their work in collaboration with the teacher educator […] For various reasons, but mainly for technical reasons, [the mentor and the teacher educator] do their job separately and meet the mentees separately either in the school or at the university. It's a pity.

5.3.3.4 Engagement in the mentoring process

Under the third synthesized global theme "engagement in the mentoring process", two common issues were identified as organizing themes, namely, motivation for a collaboration in SUP and agency in mentoring.

The four thematic networks reflected the notion that intrinsic drivers of participation in the mentoring process (e.g. motivation for personal and professional development; multi-perspective understanding of learning and teaching; sustaining high standards of teaching and learning) are associated with the intention to engage collaboratively in the mentoring process. The stakeholders involved were in agreement that intrinsic motivators trigger more intensive engagement in the process; they referred to examples such as creating more interaction among teacher educators, a wider professional network of mentors and a more conscious presence of mentees in the teaching practice (see Table 20; Quotes 5).

Mentors, teacher educators, programme directors shared the same view on the importance of the mentors' active ownership (e.g. sense of 'mineness' and the feeling of responsibility). However, mentors and mentees both reported issues where they felt little or no opportunity for being in charge, and mentioned constraints due to mandatory or strongly recommended forms of reflections and documentations, timetabling and assessment (see Table 20; Quotes 6).

Programme directors and teacher educators see mentoring as a 'back to back' or 'stratified' structure of ownerships, and they consider mentors' and mentees' agency of primary importance. Nevertheless, reflections on the sense of agency, that is, having active contribution to shaping the process for different segments of the mentored practicum, showed the highest level of uncertainty. Mentors expressed a certain level of isolation in their work; their feeling of agency was limited to their own strategies and to the micro-management of the mentoring. They encountered managerial as well as relational conflicts where they felt they hold the responsibility but do not have control over the situation and cannot initiate other solutions. Similarly, mentees often feel confused due to the inconsistencies around the issue of agency (see Table 20; Quotes 7).

Table 20. Engagement, ownership and the feeling of agency

	MENTOR	MENTEE	TEACHER EDUCATOR	MENTOR TRAINING PROGRAMME DIRECTOR
Quotes 5 Intrinsic and extrinsic motivators for engagement in the partnership	I'd love to know more about my work. Would be great to get more feedback, because I want to grow as a mentor. I try to use every opportunity to learn about my mentees and the context they have been in. *(post-diary interview)* I don't need much more connection with the university. I know my duties and I think I've established a routine of managing the mentoring. I provide my mentees with what they need. *(post-diary interview)*	[My mentor] looks as if s/he enjoys doing this mentoring thing. S/he is very enthusiastic and interested in my work. *(pre-diary interview)* I have a strange feeling of being a burden on my mentor. Why s/he wants to do mentoring if s/he uncomfortable with it? *(audio diary 2)*	I clearly see the motivation of the mentors for mentoring. Some of them take it as a career advancement, some of them as a new adventure or as a learning opportunity [...] yes, some of them consider mentoring as something important to take on because this is expected. These mentors work pretty independently.	We want our mentors to see what they can benefit from the process. This is a job that is good for everyone. We encourage the future mentors to discuss and ask for more help from the university if they feel they need it for developing their own practices.
Quotes 6 Importance and lack of ownership of the mentoring process	What is taking place in the school, I'm responsible for. The mentee is teaching my students and my colleagues know s/he is my mentee. *(audio diary 2)* I'm filling in all the required documents for the mentoring even though it feels so distant and pointless sometimes. I'm not comfortable with those prescribed evaluation forms. *(post-diary interview)*	Finally, [teaching] is me. It is not done on me, but I'm doing it. I enjoy it so much. *(pre-diary interview)* I get sick when I think of all the documentations, lesson plans, reflective diaries. It's so monotonous to fill in those grids. And I'm not sure they reflect on the reality at all. *(audio diary 1)*	We trust our mentors. We have to trust them, because in the school they are our representatives. The school is their field. I'm sure they feel the responsibility.	[Mentors] are the main reference points for the mentees in the school. They are key figures in the process. Basically, they own this phase of teacher training and they can define the success of it.
Quotes 7 Inconsistency and the feeling of uncertainty about agency for the mentoring process	[My mentee] is not prepared for the practicum. S/he is not prepared for teaching [...] I'm not sure how s/he got to the practicum, but I'm sure there had been no proper filtering in advance. So, I have to work with what I got. *(audio diary 1)* The structure of the [mentoring] is quite rigorous. I had some ideas about how it could be more effective, and I remember [me and my colleagues] shared our ideas with the university but I don't really know what's been the outcome. *(post-diary interview)*	I'm doing what I'm told to do. I write my reflective diaries, I prepare my lesson plans. My mentor sometimes say I don't have to do the detailed lesson plan, but I know I know I have to submit a bunch of useless paper in the end anyway. *(audio diary 2)* A discussion forum about the possible changes of the practicum was organized at the university. There were invited teacher trainers and we could talk about our difficulties in managing the practicum. I'm not sure there's been anything changed since then. We will see. *(post-diary interview)*	There is a frequent uncertainty about the different phases of the mentoring [among the mentors and the mentees]. I'm there to guide them in the process and to encourage the mentors and the mentees in the discussions to ask and contribute with their opinion to the shaping of the process.	We don't follow our mentors, but we have connection with a group of them who lead our teacher training practicums. I feel the need of involving them more in the planning and designing phase of the practicum.

5.3.4   Discussion

Analysis of the conceptualizations of the mentoring process created a network of three distinctive but interrelated global themes reflecting four different perspectives (mentor, mentee, programme director, teacher educator). Mentoring was defined through the basic themes within the organizing themes of roles, strategies, and engagement in the mentoring process (see Figure 20). Through the organizing themes, a synthesized network was created that encompassed our thinking when interrogating the forms, the quality and the contiguity of SUPs in mentoring.
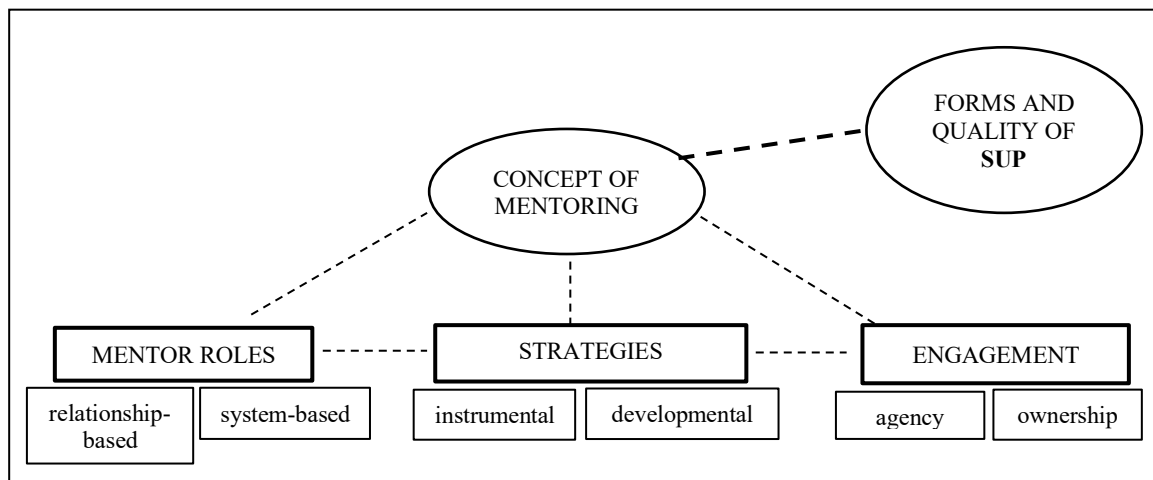
Figure 20. Network of concept of mentoring

5.3.4.1   Mentoring strategies

The data revealed a gap between mentoring strategies expected by the university and the mentees, and the actual mentoring strategies that mentors reported. This also implies that there are ideal and/or real roles mentors take. Furthermore, mentors appeared in various complex and often conflicting roles during the practicum. The reason for an aggregation of these roles is often rooted in their lack of ownership over the mentoring process and in the feeling of isolation in the learning cycle of teaching practice (cf. Hobson, 2016; 2017). Thus, system-based roles often override the relationship-based roles in order to fulfil the expectation that derives from the structural elements of the system. As we found, the less external support mentors received during the practicum, the more intensive system-based roles they had to take on. This indicates a less concentrated relationship to the teacher training institution, and it may also hinder the relationship-based roles, thus the quality of the relationship between mentor and mentee. The externally assigned roles of mentors

(e.g. expert, assessor, gatekeeper) have a reverse impact on the strategies. Instead of the expected mentee-centred approaches, these become mentor-centred interventions.

5.3.4.2 Agency

Agency for mentorship is implicitly discussed in the narratives. On the one hand, mentorship is conceptualized as a form of *collaboration* between higher education and schools as practice sites, mentors end up isolated and *serving* the system, or *complementing* in a parallel dimension of teacher training with limited engagement of the higher education partner (cf. McLaughlin & Black-Hawkins, 2007). Mentors often considered the partnership as a form of system-level service for national teacher training. Programme directors also mention limited possibilities to monitor their mentor graduates (e.g. occasional conferences), and claim that SUPs manifest mainly as the relationship between the mentee and the teacher educator. They see a potential for professional development in SUPs, however, they admit there are limited possibilities for mentors and teacher educators to invest in the knowledge transfer between universities and schools. For instance, teacher educators have to assign certain roles to mentors that they do not necessarily agree with, and mentors are left without collegial guidance and opportunities for reflection. In fact, teacher educators also share the feeling of the unfulfilled potentials of the partnership. There are also limited opportunities for actual meetings between mentors and teacher educators to discuss SUP-related issues or possible incentives (e.g. research, management, professional development opportunities). The meetings remain as occasional, formal consultations. The reason for the lack of collaboration in SUPs is attributed to three groups of external factors: time constraints; understaffing and the lack of financial resources for professional development.

5.3.5 Limitations

Participants of the Audio Diaries Study reported time constraints and impediments caused by a lack of adequate location to complete the recordings. These conditions occasionally caused delay in recording the diary log, which may have impacted on the accuracy of the recorded substance. Some participants strictly followed the structuring prompts for the diaries whilst others took the prompts less into consideration. Therefore, diversity of structures and contents caused by this made data filtering and coding more difficult, which also impeded on the process of creating the protocol for the interviews with the university stakeholders.

5.3.6 Conclusion and practical implications

These global themes indicate several directions for enhancing collaboration in SUPs. Although this is a preparatory research for the quantitative studies, rigorous inquiry into mentoring novice teachers has the potential to trigger systemic modifications which could affect SUPs in Hungary. Our results suggest the following issues be considered: establishing a national database for qualified and active mentors for further collaborations; developing space for reflective circles through explicit interconnection of participant feedbacks (e.g. in more regular SUP meetings, conferences, professional development programmes for mentors; needs analysis); launching a "mentoring the mentors" programme for quality development in teacher training; and providing professional support for mentors and mentees at the in-service mentoring stage. Thus, SUPs need to be researched in a systematic and ongoing manner to foster new insights about collaborative initiatives in the areas of professional development, research and innovation.

The Audio Diaries Study and Interview Study created a complementary perspective on the notion of mentoring in education and findings of this current study suggest further investigation to see how mentor conceive mentoring, what kind of concepts they hold about their role and relationship with their mentee or with external stakeholders.

5.4 MENTOR SURVEY STUDY

In Section 5.4, the results of the quantitative survey study are presented. A priority has been given to the qualitative methods at an early stage of the research project, to engage more deeply with participants in the research agenda and use the findings of the qualitative studies to set the research questions and orient the design process of the quantitative survey. For the triangulation of the data, a mixed methods approach was applied in a sequential manner to weave together and discuss the results and findings of the Main Study. A quantitative research tool was developed as a subsidiary tool to respond the themes and tensions that emerged from the qualitative studies (Chilisa, 2012).

In this Mentor Survey Study, quantitative data is not collected for to validate the qualitative research but instead to further explore patterns and to develop our understanding of the concept of mentoring.

As opposed to the previous qualitative sub-studies, this part of the dissertation project seeks to gain quantitative information about the thematic scope from active mentor teachers (n=242) in various locations of Hungary. The survey was designed as a tool for the cross-sectional study to observe and describe characteristics and interferences of mentoring in the current sample at a specific point of time (Katz, 2006).

5.4.1 Research aims

The qualitative studies of this dissertation study demonstrated the complexity of the mentor's role and concept of mentoring across a large spectrum of qualitative experience. This study aims to respond to the emerging questions of the qualitative studies by engaging with a larger pool of respondents. There are two main research questions and two sets of sub-questions formed at two levels within the Mentor Survey Study. The research questions aim to capture a complex notion of mentoring across the diverse variables that have been elicited by the findings and implications of the qualitative studies. These include the need for a supportive (institutional and legislative) context to allow more time to create a transformative learning process (PS), real and proactive collaboration between different parties of teacher education (PS), that may reduce pressure on mentors (AD). This current study aims to elaborate on the implied importance of more personalized processes in the evaluation and assessment of mentees by dividing the various mentoring roles (AD), and for the mentors to gain broader ownership over the mentoring process and limit the feeling of isolation in the learning cycle of teaching practice (IS).

Hypotheses were also assigned to the questions of the Mentor Survey Study to follow the tradition of the quantitative research design in social sciences. In the hypotheses, expected outcomes and assumptions are proposed that help understand the results of the Mentor Survey Study and test correlations and comparisons in the data. Of course, the research questions and sub-questions are derived from the main goal of this dissertation study, namely, to explore the concepts of mentoring in TT and the roles within, and the diverse ways mentor teachers translate their concepts into practical mentoring strategies to support adult learning. The research sub-questions predominantly aimed to inquire about the correlation between the process of mentoring and the experience and qualification of the mentor, as an indicator of embeddedness in the mentoring profession and in the

network of teacher training (TT). These questions and assumptions are set out in Table 21.

Table 21. Research question of the Mentor Survey Study

Research Question 1	In which manner do the different sets of complex components predict the process of mentoring in terms of qualification and mentoring experience?	
Research Sub-questions 1	a. How does mentoring experience and qualification correlate with the concept of mentoring as a professional learning opportunity held by the mentor teachers?	b. How does mentoring experience and qualification correlate with mentor teachers' practices of supporting mentees as adult learners?
Research Hypotheses 1	H0 Qualification and experience in mentoring are determinants of perceiving mentoring as an opportunity for professional learning and development. H1 Qualification and experience in mentoring do not show correlations with perceiving mentoring as an opportunity for professional learning and development.	H0 Qualification and experience in mentoring defines particular patterns in conceptualizing mentoring as a support for adult learning processes. H1 Qualification and experience in mentoring do not define any particular patterns in conceptualizing mentoring as a support for adult learning processes.
Research Question 2	How do mentors perceive their work is supported and motivated by external factors and stakeholders?	
Research sub-questions 2	a. In which manner do mentors think that their work is supported by the teacher training institutions?	b. How do intrinsic and extrinsic motivators for mentoring define mentors' practice?
Research hypotheses 2	H0 Qualified mentor teachers feel more supported by the teacher training institutions compared to non-qualified mentor teachers. H1 Qualified mentor teachers do not feel more supported by the teacher training institutions	H0 Mentors tend to perceive extrinsic motivators stronger at the start of their mentoring career while in their current mentoring work, they feel intrinsic motivators stronger for staying in the profession. H1 Mentors do not report any change in perceiving

compared to non-qualified mentor teachers.	extrinsic and intrinsic motivation for their mentoring work compared to their initial motivation when taking up mentoring.

5.4.2 Methods

In the Mentor Survey, items of the earlier research surveys were adapted (van Ginkel, Vermunt, Verloop, & Beijaard, 2005; Chong, 2009, Lejonberg et al., 2015) to complete, organize and thematize the design within the conceptual framework of this dissertation project. These elements were adapted for measuring motivation, mentoring conceptions and self-efficacy. The research tool contained 45 questions of single and multiple choice, ranking, scaling, Likert-type and open-ended question structures[19]. In this current study, only the quantitative aspect of the data is analysed and presented.

In the design of this survey, five-point Likert type scales (1932) were used predominantly within the tradition of rational method (Oosterveld, 1996) and follow the established guidelines of Oppenheim (1992) for designing and adapting questionnaires. As Nemoto and Beglar (2013) summarizes: in a Likert-scale questionnaire, it is possible to (a) gather data relatively quickly from a large number of respondents, (b) respondents can provide highly reliable self-perceived estimates, (c) the validity of the interpretations made from the data can be established through a variety of means, and (d) the data they provide can be profitably compared, contrasted, and combined with qualitative data-gathering techniques, such as interviews.

Thematically, the questionnaire contains 13 thematic groups of questions: (1) demographic data, (2) teaching and mentoring experience and qualification, (3) motivation for mentoring, (4) concepts of learning to teach, (5) goals of mentoring, (6) self-efficacy in mentoring, (7) roles in mentoring, (8) understanding mentoring as a form of professional learning process, (9) understanding mentoring as an adult learning process, (10) time dimensions of mentoring, (11) perceived support for mentoring, (12) reflective practice of mentors, (13) ideas for development. The questionnaire aimed to collect the widest spectrum of information about mentoring as possible to create a pool of data that can be used for further investigation in the topic.

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[19] Mentor questionnaire attached in Appendix 5. Ethical permission reference: 2018/199.

In terms of the horizontal formulation of the questions, two main types of questions were formed: (1) one that tries to capture the general conceptualizations of the mentoring, (2) and another that intends to depict the potential actuality of the thinking by providing a timeframe for the questions and orient the mentors' thinking towards actual cases in the mentoring profession. The latter is achieved by enquiring about the experience of actual mentoring processes.

5.4.2.1 Data collection

In this study, active mentors (mentoring at least one novice teacher in the school years of 2017/18 or 2018/19) in the Hungarian primary, secondary education system and the National Association of Institutes for Complex Special Education were invited to participate. As there is no complete list of mentor teachers in education, homogenous convenience sampling (Bornstein, Jager, & Putnick, 2013) was used as data collection technique in order to gather an adequate number of responses from mentor teachers across Hungary. This technique is used to collect information from a sample that is limited to specific sociodemographic subgroups and is therefore homogeneous. This sampling technique on average yields estimates with clearer, but narrower generalizability. In the convenience sampling, mentors were selected in an ad hoc fashion based on their accessibility to the research and intention to volunteer as study participants.

Participants were recruited through (1) teacher and mentor training centres of Hungarian teacher and mentor training universities, (2) head teachers of Hungarian schools and (3) the researcher's personal network of mentor teachers. An official online call for participants was developed (including a weblink to the survey) and was disseminated through formal and informal channels via e-mail. The research tool was available at an open link on Qualtrics Survey Software for four weeks (15 April 2019-15 May 2019) and was promoted in three waves of recruitment.

5.4.2.2 Sample

As for validity, the results and conclusions described here are not generalizable, they refer only to the sample data collected in the study. Statistically, the sample size of the study is not representative to the estimated complete population of mentor teachers in Hungary. As there have been no valid list or exact number of population of active Hungarian mentor teachers available, by a simple calculation, an estimated sample percentage is given

here.[20] The estimated active mentor teacher population was 3283 in Hungary in the school year of 2018/19 and the study sample (n=242) represents an estimated 7.37% of the total estimated population of active mentors. 86.8% (210 people) of the respondents were women and 13.2% (10 people) were men. The age of the mentors displayed a normal distribution in the sample between the age of 29 and 66 years. 101 participants (41.7%) were mentors in primary education, 141 participants (58.3%) in secondary education and 11 participants (4.5%) in the National Association of Institutes for Complex Special Education. In general, 72.7% of the mentors in the sample held a recognised mentoring qualification; on average, participants in this study had been mentoring for 3.94 years and has 5.36 years of teaching experience. For further data on the qualified and non-qualified mentors in the sample, see Figure 21. For further demographic indicators see Appendix 6.

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[20] In the academic year of 2018/19, there were 120709 primary, elementary and special education teachers present in the Hungarian educational registry system. There were all together 6005 primary, secondary and special schools registered from which 28 are official teacher training schools (source: KSH, 2019). There was an average of 15 active mentor teachers estimated per one official teacher training school and one mentor teacher is counted for every second registered schools on average.
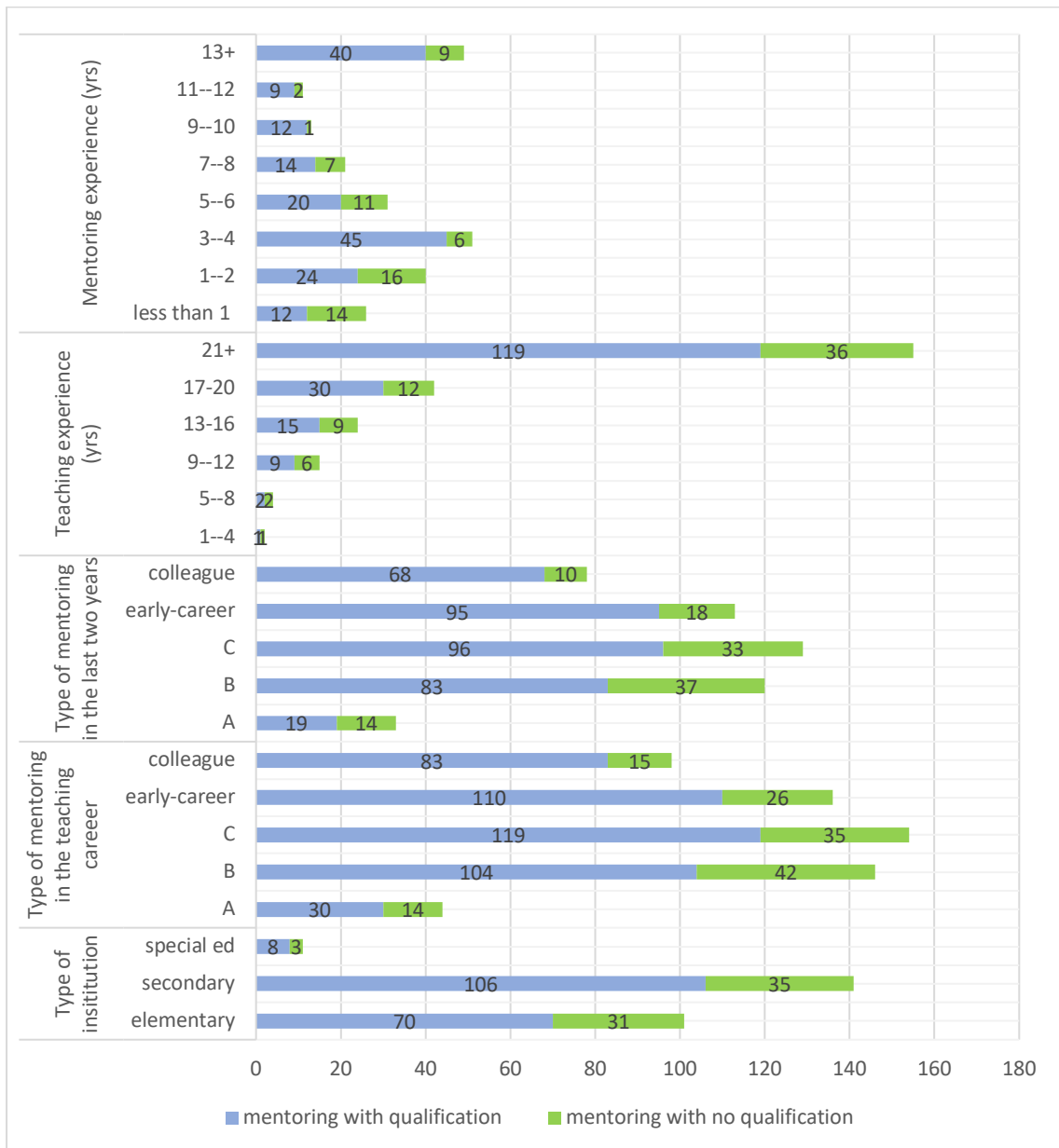
Figure 21. Cross-tabulation of qualification and experience in mentoring

5.4.2.3 Data analysis

When analysing the data, basic statistical tests were conducted in SPSS Statistics software. For the purposes of this research, initial descriptive, correlational statistical exploration (T-tests and variance analysis) were conducted upon the dataset in order to map out the basic relations between the data segments and underline their relevancy in the light of the qualitative data. Given the complexity and the detailed nature of the data collected in the survey, only certain segments of the data are highlighted to respond the research questions of the Mentor Survey Study.

5.4.2.4 Data processing and data validation

In the statistical processing of the data, the variables were first scaled and nominal, ordinal, and interval scales were compiled. The variables that related to the abilities of the mentor teachers were merged to ordinal indicators for easier comparison.

In the analysis of the questionnaire results, the negative answers (meaning the answers representing 0 values from the evaluation point of view), were transcoded in each case, and the other responses were adjusted accordingly.[21] Consequently, this did not distort the final results because the missing data showed no value as it did not modify the aggregated scale values of the complex variables.

5.4.2.5 Complex variables and weighting of complex variables

In order to sift and achieve compact indicators of mentoring concepts and practice, and gather as comprehensive information about the mentoring work as possible, certain groups of variables were formed to compile complex components in this study. The number of variables under each component varies from component to component. The totality of the variables belonging to each component were weighted equally for all three components, as scale weighting was applied and all three complex components were expressed on a scale of 100. Consequently, the scale value of the variable resulting from the sum of the three complex components is 300. The multiplier was 100/202 for the first complex component, 100/98 for the second complex component, and 100/63 for the third complex component.

When creating the main complex variables, the goal was to make the concepts and beliefs of mentor teachers visible and comparable in three major units. The aim was for the three complex components to show equal weight, as these components are considered equally important. The ordinal and interval variables were included in the three complex components. The complex components, the sub-components, the means and standard deviations for the 242 respondents is presented in Figure 22.[22]

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[21] For example, for five-point Likert scales, between the "strongly disagree" and "strongly agree" endpoints, the former was 0 and the latter was the maximum value of 4. In the original coding, these were values of 1 and 5.

[22] For the detailed list of the variables involved in the aggregation of complex components see Appendix 7.

	Complex component 1 Concepts about the mentor	Complex component 2 Concepts about the mentoring process	Complex component 3 Concepts of about the mentor-mentee relationship	Main /aggregate/ Complex Component
Item no.	242	242	242	242
Distribution	16,27	21,62	23,26	56,64
Mean	85	94	90	246,18
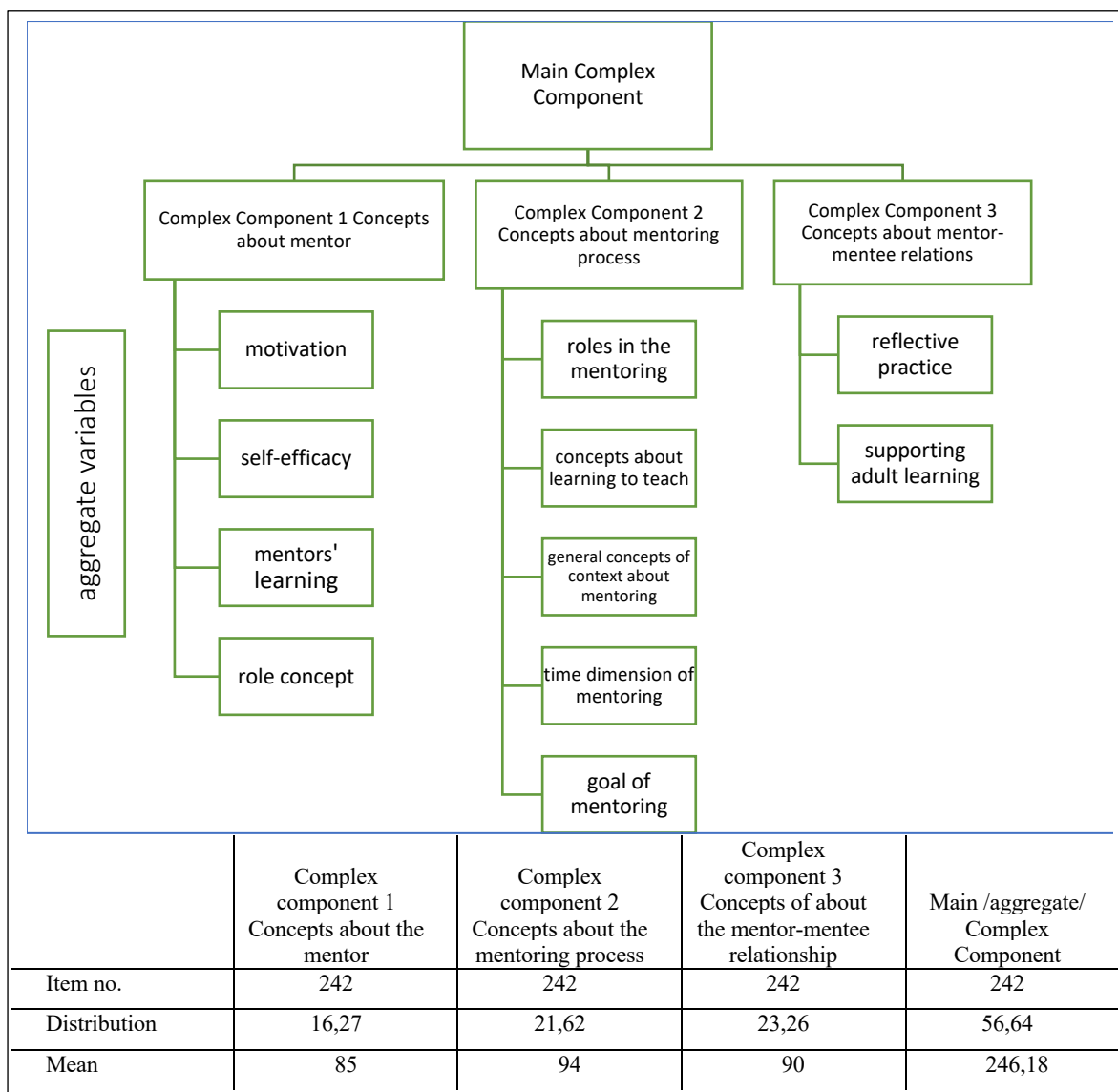
Figure 22. The structure of the three complex variables and their subcomponents

Further analysis was performed with the distinguished variables of motivation for mentoring and perceived support of mentoring work. As found earlier, these components largely predefine the thinking of mentors about mentoring practices. These two components aim to provide more elaborate information about how mentors access different situations in their work.

5.4.2.6 Mentoring experience and qualification

While the qualitative studies of this dissertation invited experienced mentors to participate irrespective of possessing qualification for mentoring or not, this current study was intended to perform an analysis to see whether the concepts of and approaches to

mentoring are modified either by the experience in the mentoring profession or by the holding of a relevant qualification. Thus, the correlations of complex components and further correlations are also presented through two main aspects; along the ordinal independent variable of years spent with mentoring and the dichotomous nominal value of mentoring qualification. Nonetheless, the correlation between these two aspects and the complex independent variables are also explored, to indicate the extent to which the complex variables realize the preliminary assumptions in this study. When the correlations are examined, the following values of the correlation coefficient were used as the basis for defining the strength of the relationship: $r < 0.4$ for weak correlations, $0.4 \leq r \leq 0.7$ for moderate correlations and $0.7 < r$ for strong correlations.

Differences on years spent in mentoring and the scale values of complex variables were examined by variance analysis. According to the time spent in mentoring, 8 categories of experience were created (for the categories see Table 22).

Table 22. Number of years spent in mentoring and sample distribution

Category	Years of mentoring	N
1	less than 1 year	27
2	1-2 years	39
3	3-4 years	52
4	5-6 years	27
5	7-8 years	24
6	9-10 years	11
7	11-12 years	8
8	13 years or more	54

The sample predominantly involved teachers with 21 or more years of teaching experience (n=161). The responses show that this group of senior teachers is either relatively new in the mentoring profession (64 teachers with 4 or less years of experience) or has long experience in mentoring (51 teachers with 13 or more years of experience in mentoring).

Mentor teachers with 3-4 years of mentoring experience and mentors with 13 or more years of mentoring experience dominate the group of qualified mentors in this study. In order to see whether qualified mentor teachers (n=176) show a significant difference in the values of complex variables compared to non-qualified ones (n=66), two-sample T-tests were processed.

5.4.3 Results

Each complex component showed several strong correlations with the main complex component created. Of the three complex components, the component referring to the relation between the mentors and the mentees contains the strongest correlations. General self-efficacy (r=0.755, r=0.825, r=0.814, r=0.866; p<0.01) shows the strongest correlations with the complex components, but the other aggregate sub-components of mentors' learning (r=0.808, r=0.722, r=0.743, r=0.809; p<0.01), role in the mentoring (r=0.820, r=0.834, =0.842, r=0.900; p<0.01) and the component to measure elements of the support for adult learning (r=0.760, r=0.913, r=0.838, r=0.911; p<0.01) also present strong correlation with the complex components. The results of the correlation analysis, further correlation values (r) and the significance level (p) are shown in Appendix 8.

5.4.3.1 Qualification and experience in mentoring

The first complex component (*concepts about mentors*) distinguished several clearly distinct groups for indicators made of even differences, which confirms the validity to process aggregation of the variables. The least experienced mentors exposed the lowest scale values and this group of mentors showed significant differences compared to those who had been in mentoring for at least 7 years. Also, those mentors who belong to categories 2, 3, and 4 (see Table 22) achieved significantly lower scale values than mentors mentoring for more than 9 years.

Clear distinctions in the third complex component (*concepts about mentor-mentee relationship*) regarding mentoring experience were also strong. Mentors in category 1 scored significantly lower than those with 9-10 years of mentoring experience, while mentors who had been mentoring for 9-10 years achieved significantly lower scale values than mentors with 11-12 years of mentoring experience. In the case of the main complex component, two groups are distinguished; the values of mentor with less than two years of experience achieved significantly lower scale values than mentors 9-10 years of mentoring experience.

Variance analysis revealed the highest scale values of difference in initial *motivation* in case of mentors with 9–10 years of mentoring experience (see Appendix 9/A). This category performed significantly differently from category 1 (less than 1 year of mentoring experience), category 2 (1–2 years), and category 7 (11–12 years). By undertaking data correlation analysis related to current motivation, similar results were

found; mentors with 9–10 years of mentoring experience show a significant difference from categories 1, 2, 4, and 8 with the highest scale values.

Interestingly, the group of mentors with less than a year of mentoring experience achieved significantly lower scale values in the correlation analysis of the aggregate variable of understanding mentoring *as learning* compared to the mentors with 9-11 years of experience in mentoring. However, no further significant differences were explored among the other categories. Similarly, when analysing the aggregate variable of general reflective practice, it was found that those who had been working as mentors for 11-12 years achieved significantly higher scale values than those in the other categories.

The group of mentors with qualification show significantly different values in the following sets of aggregate variables: experience in mentoring, motivation for mentoring, understanding mentoring as a way of learning, concepts of learning to teach, concepts of setting goals for mentoring, general reflective practice, the three complex components and thus the main complex component. Additionally, qualified mentors achieved significantly higher scale values in the above listed components compared to those obtained no mentoring qualification (the detailed results of the T-test are included in Appendix 9/B).

5.4.3.2 Self-efficacy

The complex component of self-efficacy was measured by the aggregate variables of general self-efficacy (ability to fully complete mentoring duties, ability to maximise the mentee's performance, ability to fulfil expectations of mentees while mentoring, and ability to overcome personal/professional problems when mentoring) and time-related self-efficacy indicators. The variance analysis showed significant differences for the ability of task completion (F=1.652, p=0.122, $p < 0.05$; x_1=2.52, x_2=2.62, x_3=2.64, x_4=2.82, x_5=2,88, x_6=3.00, x_7=3.06, x_8=3.73) in terms of mentoring experience. Those who have been mentoring for less than a year have marked significantly lower values than those who have been mentoring for at least 9–10 years. For detailed results see Figure 23.
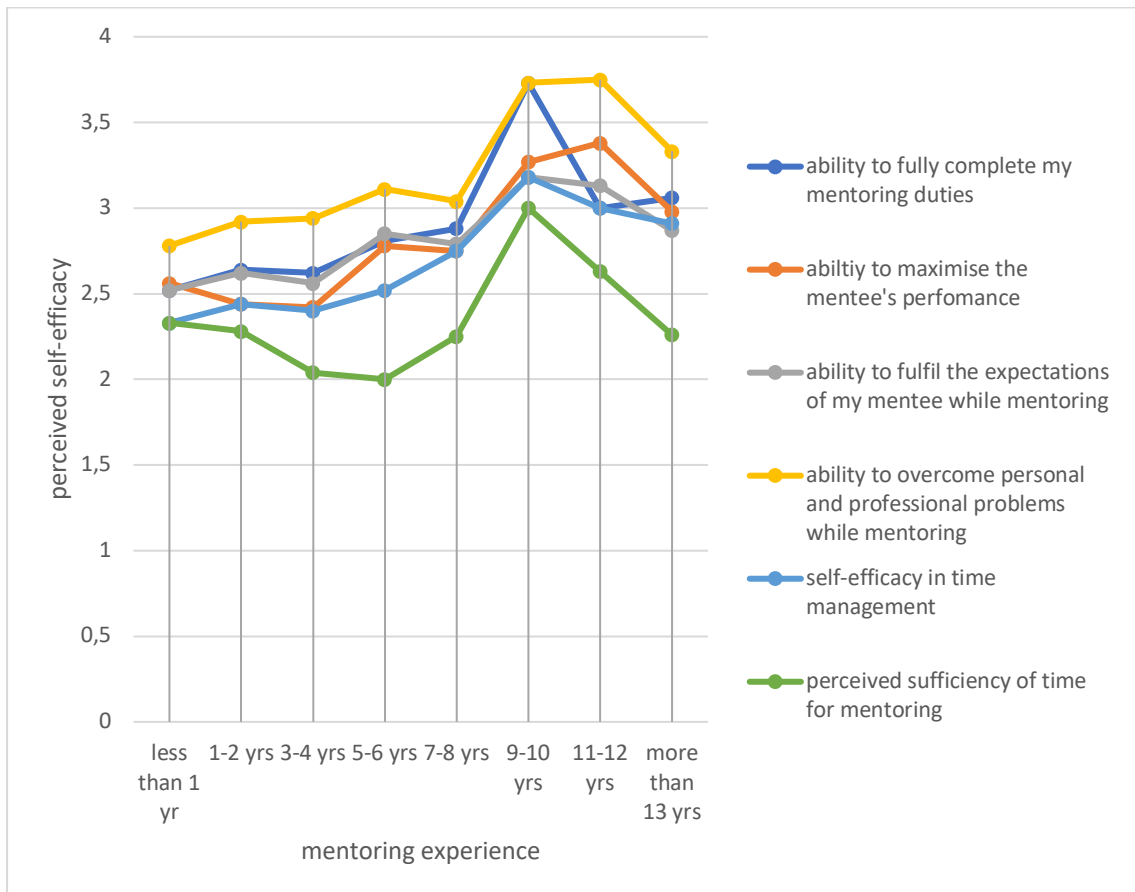
Figure 23. Correlations of perceived self-efficacy and number of years spent with mentoring

In terms of the time-related self-efficacy indicators of the mentoring performance, two significant differences ($p=0.002$, $p<0.05$) were found when comparing the groups formed according to the mentoring experience. Mentors with 5-6 years of mentoring experience spend significantly less time with their mentees beyond the lesson time ($x4=7.3$ minutes) than those with 9-10 years of experience ($x5=15.36$ minutes), and 11-12 years of experience ($x7=15.25$ minutes) in mentoring. Another significant difference was observed in terms of the time mentors dedicate to pre- and post-lesson discussions in average. Mentors with 9-10 years of mentoring experience tend to dedicate significantly more time to the discussion ($x5=3.45$) than mentors with less than 1 year of mentoring experience ($x1=2.11$) (for more details see Table 23.

Table 23. Correlations of mentoring experience and time dedicated to mentoring

	df	F	Sig.	less than 1 yr	1-2 yrs	3-4 yrs	5-6 yrs	7-8 yrs	9-10 yrs	11-12 yrs	more than 13 yrs
Minutes spent with mentee a day in average	234	3,395	,002	8,63	9,13	11,54	7,30	11,25	15,36	15,25	11,11
Minutes spent with pre- and post-lesson discussion in average 1=less than 10 mins 2=10-20 mins 3=20-30 mins 4=30-45 mins 5= more than 45 mins	234	3,402	,002	2,11	2,49	2,71	2,30	2,92	3,45	2,88	3,39
More time needed for mentoring	7	1,335	,234	20,96	17,41	22,83	24,81	22,62	26,00	30,00	30,48

In the results of the two-sample T-test, there is no significant difference detected between the perceived general self-efficacy of qualified and non-qualified mentors (see Appendix 10/A), however, a significant difference was found in time-related self-efficacy. Collected data show that mentors with qualification conceive their time management more effective than non-qualified mentors (x1=2.42, x2=2.69), nonetheless, they also feel they would have liked to dedicate more time to mentoring than they could have lately (x1=22.4091, x2=24.64779). For more details of the T-test see Appendix 10/B.

As a complementary information of the complete dataset, the majority of mentors also use their non-working hours to fulfil their mentoring duties (79.02%) as they see their working hours insufficient for effective mentoring work.

5.4.3.3 Mentors' learning

The basis for the analysis of conceptualizing mentoring as a mutual opportunity for learning was explored through the mentors' perception of positive impact of mentoring on their teaching. Almost an unequivocal agreement was found in the responses referring to the positive impact of mentoring on their teaching practices. 93.1% of the qualified mentors and 84.9% of non-qualified mentors believe that mentoring has a positive impact on their teaching. The variance analysis showed no significant difference in how mentor teachers with different experience in mentoring think about the positive impact of the mentoring process on their pedagogical work (F = 1.911 p = 0.069; p> 0.05 x1 = 2.79; x2 = 3.07; x3 = 3.38; x4 = 3.46; x5 = 3.48; x6 = 3.57; x7 = 3.63; x8 = 3.82). However,

qualified mentors are more likely to consider the positive impact of mentoring on their pedagogical work to be significant (F = 47.831 s = 0.00 T = -2.527 df = 86.267 s = 0.013 s <0.05; x1 = 3 .05 x2 = 3.49).

As for understanding mentoring as a learning opportunity for mentors, only 18 mentors claimed that they do not learn while mentoring, and 92.57% of the mentors consider mentoring as a mutual opportunity for learning. Those who assumed mentoring as a source of learning ranked the areas they learn about the most and the least on a 6-point scale. Results show that mentors think they learn the most about the young teachers' generation and about their own professional competences while mentoring. Responses indicate a low rating on the learning gains about the school students in the classroom and about disciplinary contents. (For the detailed distribution see Table 24, where the lowest mean shows the highest ranking priority.)

Table 24. Fields of learning while mentoring

	Df.	Mean	Std. Deviation
About the young teacher generation	242	2.45	1.904
About my professional competences	242	2.68	1.769
About teaching methods	242	2.72	1.852
About myself	242	3.14	1.882
About my students	242	3.25	1.947
About disciplinary contents	242	4.07	2.086

Mentors develop in in their work in several ways. In this study, nine different sources of learning were listed for the respondents to scale. Self-reflective planning marked as the most frequent way of development in mentoring (x1= 4.35, s1= 0.6) while asking for the reflection of teacher training institutions on mentoring appears to be a rare practice of the mentor teachers (x2=1.75, s2=1.2). For the more detailed outset of the distribution and standard deviation of the set means see Figure 24.
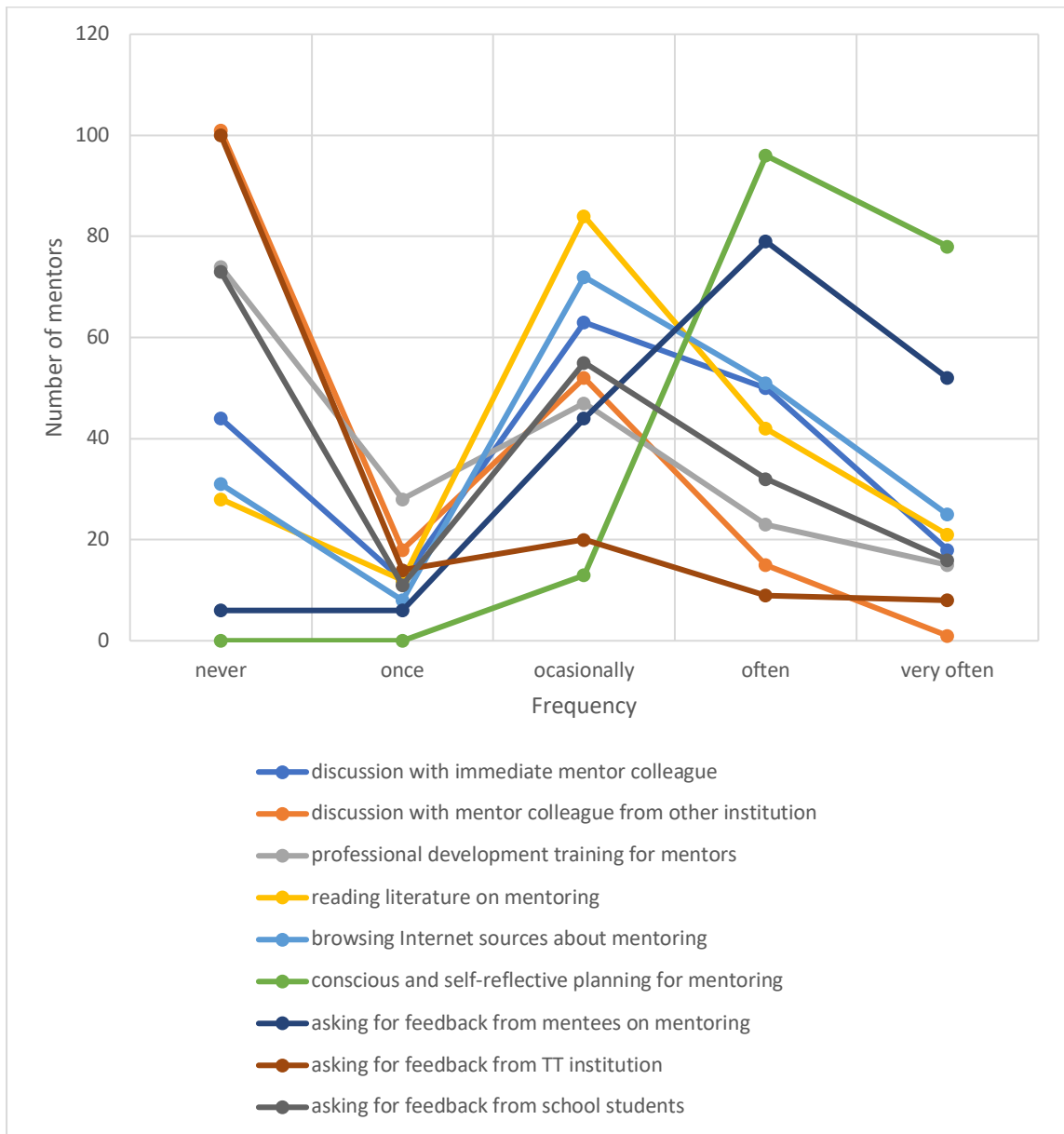
Figure 24. Source of development in mentoring and frequency mentors apply them

5.4.3.1   Indicators of supporting adult learning: roles, general goals and approaches

The majority of mentor teachers found the relationship with their mentee(s) to be a non-hierarchical and partnering where mentors and mentees are understood as colleagues (36.91%), partners in work (36.39%) or friends (7.59%) in general. Only 19.11% of the mentors report some kind of hierarchical relationship with their mentees in the previous two years. However, mentors agree that being an observer, helper or assessor in the classroom was equally relevant in their work while mentoring, but assessor role defines the mentors' presence in the classroom stronger than the other roles (x1=3.42 Std=1.43, x2=3.45 Std=1.38, x3=3.63 Std=1.22).

Regarding the main goal of the mentoring, respondents consider mentoring as an important tool to help the mentee form his/her teaching identity (x=3.358) as well as make mentee enjoy teaching in the classroom (x=3.426). There is no significant difference between different types of goals for mentoring except in one case. Mentors found developing their mentees' leadership skills significantly less important (x=2.166) than all the other mentoring goals.

In the variance analysis, there was no significant difference in terms of mentoring experience, however, the two-sample T-test confirmed two significant differences between the two groups of non-qualified and qualified mentors. Mentors with qualification find helping teachers form their teaching identity (s1=1.568 ; s2=1.18 ; x1=3; x2=3.46; F=11.352, p<0.05, (t(93.937)=-2.165, p=0.001) and giving support to enjoy teaching (s1=1.559 ; s2=1.18 ; x1=3; x2=3.392; F=8.73, p<0.05, (t(93.937)=-1.853, p=0.003) significantly more important than non-qualified mentors. For the detailed differences in mentoring goals, see Appendix 11.

Complex indicators of self-perceived practice suggest that mentors tend to support their mentees as adult learners in several segments of the mentoring process and link various approaches to their mentoring practices. For the positive responses, see Figure 25.
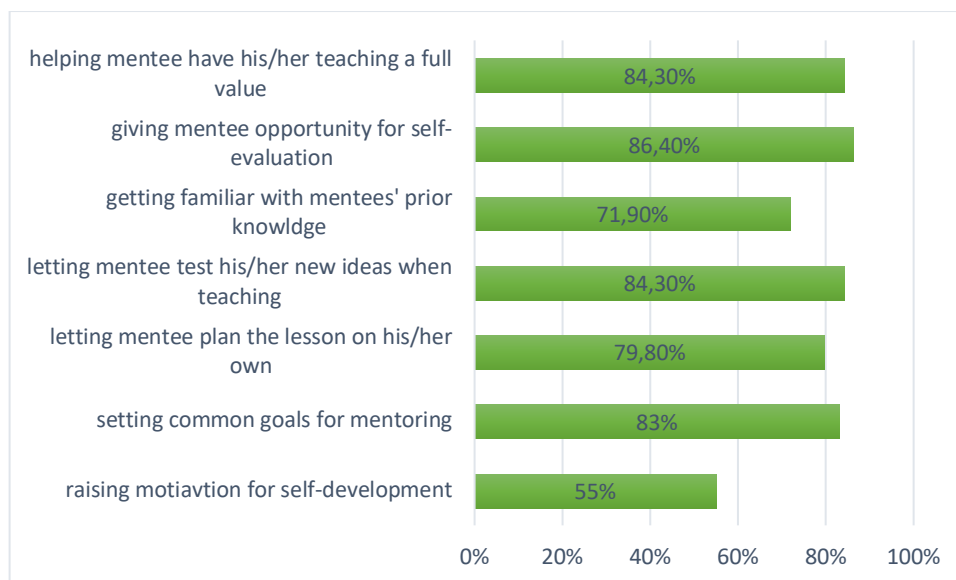
Figure 25. Ratio of mentors applying different approaches for supporting adult learning

In terms of goal setting for the mentoring process, forming and discussing common goals with the mentee at the beginning of the mentored practicum seem to be a main determinant to other variables of supporting adult learning processes. For correlations see Table 25.

Table 25. Correlations of setting common goals for mentoring and other indicators for supporting adult learning

		experience in teaching	experience in mentoring	mentoring qualification	letting mentee plan the lesson on his/her own	letting mentee test his/her new ideas in teaching.	raising motivation for self-development	getting familiar with mentees' prior knowledge.	providing opportunity for the mentee to self-evaluate teaching
Setting common goals with the mentee at the beginning of the mentored practicum	Pearson Correlation	.193**	.158*	.207**	.763**	.789**	.518**	.717**	.874**
	Sig. (2-tailed)	0.003	0.014	0.001	0	0	0	0	0
	N	242	242	242	242	242	242	242	242

Cross-tabulation for variables included in the aggregate variable of supporting adult learning show further strong correlations in the totality of the sample (see Appendix 12). As for exploring the relations between mentoring qualification and indicators of supporting adult learning, a two-sample T-test was launched. Significant differences were found in only two elements: mentors with qualification feel raising motivation for self-development of mentees ($s1=1.362$; $s2=1.313$; $x1=1.92$; $x2=2.35$; $F=0.184$, $t=-2.205$, $p=0.028$) and getting familiar with existing knowledge ($s1=1.479$; $s2=1.298$; $x1=2.24$; $x2=2.89$; $F=9.256$, $t=-3.144$, $p=0.002$) significantly more relevant in their practice than non-qualified mentors.

When giving feedback on the mentee's teaching, mentors prefer reflections on the teaching of mentees compared to reflection within the teaching process. However, in certain situations, mentors find it necessary to interrupt the pre-service teacher's lesson for immediate feedback, especially when mentees make content-specific mistake (see Figure 26). There was no significant difference in mentors' routine for interruption in terms of qualification.
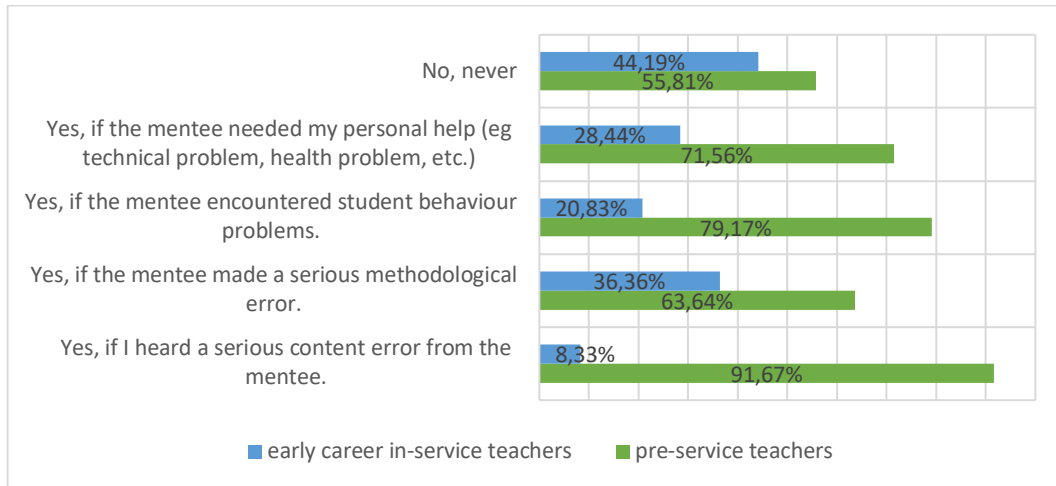
Figure 26. Routine of mentors' interruption in mentee's teaching

In a T-test analysis, weak or no significant correlations were found between the mentoring experience, the qualification and complex component of *reflective practice*. However, non-qualified mentor teachers typically reflect significantly more on areas of teaching when mentoring pre-service teachers. For the differences see Figure 27.
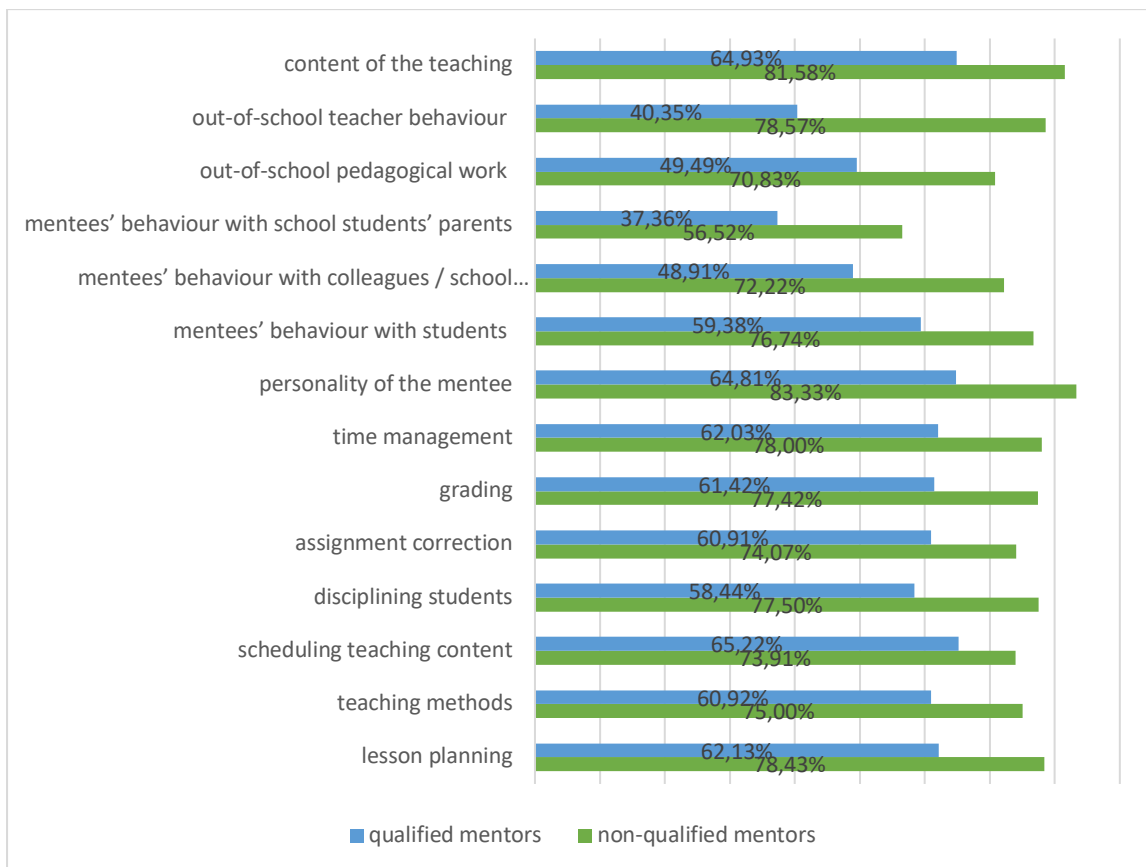
Figure 27. Reflected areas of teaching by qualification of mentors

5.4.3.2 Motivation for mentoring and perceived support for mentoring

Mentors' motivation for mentoring was analysed in four dimensions (i.e. retrospective initial and current state of extrinsic and intrinsic motivators). Initial extrinsic motivation of mentor teachers correlates with a high level of significance (p <0.01) with all major and subcomponents examined, however, only the current intrinsic motivation (r = 0.559) showed strong correlation with the complex component of concepts about mentor (r = 0.550) and showed a moderate correlation with the main complex component (r = 0.422). Initial intrinsic motivation showed only moderately strong correlation with current intrinsic motivation (r = 0.671, p <0.01).

Current extrinsic motivation of mentor teachers correlates moderately with most variables except for the concepts of learning to teach (r = 0.291). However, it shows a strong correlation with the first complex component of concepts hold about mentors (r = 0.794, p<0.01). Current intrinsic motivation of mentors for mentoring has significant correlation with all variables examined, but the correlation relationships are weak.

Initial and current motivators to taking up and remaining in mentoring were examined by paired T-test analysis (see Table 26 for the details). Significant differences were found in several driving factors between the initial and current motivation for mentoring, such as the impact of friends, family members; the possibility of financial compensation for mentoring; the possibility of cut in teaching hours (in the case of mentor teachers in practice schools); use of mentoring qualification; space for challenge and diversity; opportunity for working with adults; opportunity for working with young teachers and the opportunity for professional development. These factors were initially perceived as significantly stronger motivators by the mentor teachers compared to the current motivation for mentoring. Initial strong motivators for mentors to taking up mentoring were the possibility for working together with adults and young professionals, however, the prestige of the mentoring profession was considered as the strongest initial and current motivator for mentoring

Table 26. Result of paired T-test of motivation for mentoring then and now

	x₁	x₂	s₁	s₂	t	Df.	Sig.
extrinsic_impact of school management	1.45	1.4380	1.314	1.34129	.181	241	.856
ex_impact of colleague	1.8678	1.6694	1.45152	1.35664	1.936	241	.054
extrinsic_impact of friend/family member	1.6983	1.3223	1.12493	1.09480	5.118	241	.000
extrinsic_upon the inquiry of teacher training institution	1.6694	1.4752	1.39880	1.33630	1.912	241	.057
extrinsic_possibility of financial compensation	1.6694	1.4669	1.05758	1.19166	2.588	241	.010
extrinsic_possibility of cut in the number of classes taught	1.2521	1.0868	.78265	.91818	2.948	241	.004
extrinsic_prestige of mentoring	1.9091	1.7851	1.43171	1.58157	1.178	241	.240
practice of mentoring qualification	1.5992	1.3719	1.50810	1.58118	2.077	241	.039
intrinsic_seek of challenge and change in work	1.3058	1.0455	1.76806	1.66798	2.641	241	.009
intrinsic_possibility of working together with adults	1.9421	1.5826	1.46493	1.55780	3.831	241	.000
intrinsic_possibility of working together with young professionals in teaching	1.6942	1.2190	1.76571	1.67405	3.997	241	.000
intrinsic_possibility of developing as a teacher	1.0041	.7231	1.66112	1.44103	3.168	241	.002

Teacher training institution (x1=1.6694) and school management (x1= 1.45) were retrospectively considered as moderately strong motivators for taking up and remaining in the mentoring by the mentors. Colleagues were perceived as strong motivators initially (x1=1.8678) and remained moderately strong drivers in the current intentions.

In the totality of the sample, mentors claimed that they received adequate support from their colleagues to successfully carry out their mentoring work (64.92%) and they were sufficiently supported by their school management while mentoring (73.29%). However, a lower average of positive satisfaction was perceived by the mentors in case of the support of the teacher training institution (45.06%). Slight correlational differences were

discovered between qualified and non-qualified mentors in satisfaction with support of external stakeholders (see Figure 28).
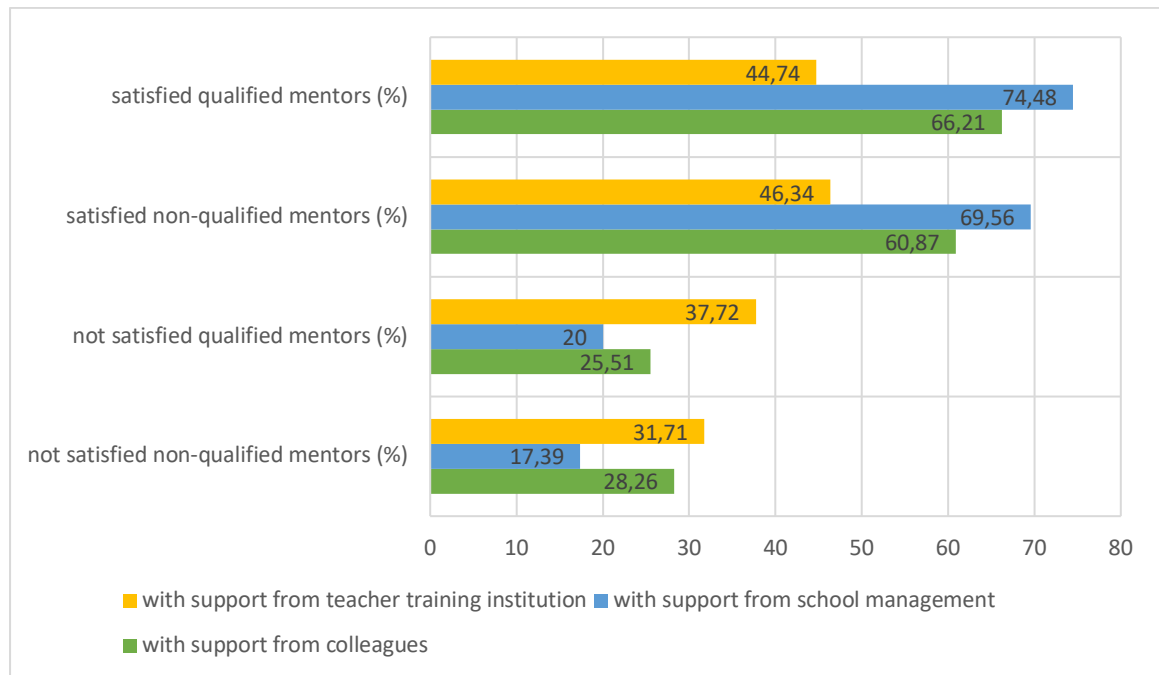
Figure 28. Perceived support of external stakeholder in mentoring

A two sample T-test showed that mentors' satisfaction with support from colleagues strongly correlates with their satisfaction with the support from school management ($r=0.823$) and moderately correlates with satisfaction with the support from the teacher training institution ($r=0.543$). Satisfaction with support from school management moderately correlates with the degree of satisfaction with the support received for mentoring from the teacher training institution ($r=0.604$).

5.4.4 Discussion

This study was developed as a subsidiary tool to respond and reflect the themes and clashes of the preceding qualitative studies and to broaden the understanding about mentoring novice teachers. In this section, quantitative data is put into a dialogue with the previous qualitative findings.

5.4.4.1 *H0. Qualification and experience in mentoring are determinants for perceiving mentoring as an opportunity for professional learning and development.*

The results of this study point to several segments of the mentoring work where qualification and experience in mentoring may predict scaled performance. In terms of the mentoring experience, mentors with 9-10 years in the profession tend to outperform all the other mentoring experience groups in almost all examined elements of mentoring including the largest sample group of mentors with 13 or more years of experience. Moreover, mentoring qualification appeared as one of the other major determinants for defining mentoring work, however, qualification also triggered the most diverse spectrum of mentoring practices without defining tendencies for mentoring work.

General and time-related self-efficacy were explored in more detail as in the initial correlational analysis of the complex components, the aggregate variable of self-efficacy of the mentors indicated the most significant relations to the complex components. Mentoring experience and qualification for mentoring showed strong impact on the perceived self-efficacy of the mentors, but as was found in the Pilot and Audio Diary Study, mentor teachers felt available time for mentoring insufficient for effective practice. Time-related self-efficacy is considered to become stronger with mentor qualification, but qualified mentors still feel they would need 20-30% more time for conducting effective mentoring. Officially, in the current regulation, only mentors for practice schools receive reduction in their teaching hours when mentoring. This means mentors in non-practice schools individually integrate the mentoring work into their teaching hours or rather take mentoring as an extra above their working hours to burden their free time.

5.4.4.2 *H1. Qualified mentor teachers do not feel more supported by the teacher training institutions compared to non-qualified mentor teachers.*

Although mentors claim a lack of sufficient time available for mentoring, they remain motivated to stay in mentoring for several reasons. Reasons are rarely rooted in external drivers, such as remuneration or the impact of school management, but rather in the mentor teachers' dedication to learning from the mentoring process and cooperating with the mentee to learn (cf. Hobson et al., 2009, Hudson, 2013, Káplár-Kodácsy & Dorner, 2020, in press). Mentor teachers think they learn the most through their own self-reflections and from their mentees' feedback when mentoring, however, they rarely

depict the opportunity for mentoring-related learning in a network or in a community of practice. Qualified and non-qualified mentors equally report on the lack of support within the professional network of peers or external TT stakeholders connected to their mentoring work.

5.4.4.3 *H1. Mentors do not report any change in perceiving extrinsic and intrinsic motivation for their mentoring work compared to their initial motivation when taking up mentoring.*

The desire for getting involved in mutual learning processes is confirmed by the strongest perceived motivating factors for mentoring: opportunity for working together with early career teachers and becoming part of a prestigious group of mentor teachers in education (cf. van Ginkel et al., 2015b, Bullough, 2005). The strength of these motivators remains almost unchanged over the mentoring career. Previous findings of this dissertation interpret teacher training institutions as potentially strong link between mentors and mentees, and mentors and other mentors when mentoring, however, this study found that TT is considered to be a relatively weak driver and supporter for staying or developing in mentoring. Interestingly, feedback of school students in the classrooms shared with the mentee are not considered as source of development for mentors either. Thus, this study again highlights two main gaps in the reflective cycle for developing mentoring practices.

5.4.4.4 *H1. Qualification and experience in mentoring do not define any particular patterns in conceptualizing mentoring as a support for adult learning processes.*

When mentors consider mentoring as a source of mutual learning opportunities, they unequivocally acknowledge their mentees as partners, equal participants in learning. Setting common goals for mentoring seem to be a main determinant to all other variables of the mentoring process along the adult learning cycle (Taylor & Hamdy, 2013). The elements of supporting adult learning, namely, acknowledging and validating prior knowledge and experience, building on self-regulated learning and self-reflections, and the genuine reflective nature of the whole process (cf. Knowles et al., 2012, Kaufman, 2003) appear with strong relevance in the mentors' thinking. However, a discrepancy of concept and practice is found in terms of role-taking in mentoring (cf. findings of Audio Diary Study and Interview Study). While mentors conceptualize mentoring as a partnering relationship with their mentees, the concept conflicts with the practical

expectation of mentors to be present as assessors in the mentee's class or even promptly correct mistakes by interrupting the autonomous teaching processes. Classroom observation and reflecting within the teaching process need advanced strategies from the mentors to avoid developing an impediment for self-regulated learning (cf. Audio Diaries Study).

5.4.5 Limitations

The survey was designed as a complex cross-sectional tool and as such it manifests certain limitations. Causal relationship between the independent and dependent variables are difficult to map out, thus, cross-sectional data are possibly biased due to the unobserved heterogeneity of the sample and to endogeneity of provided data (cf. Wooldridge, 2010). This cross-sectional survey is also limited in the sense that it invited participants to respond to various notions retrospectively. To raise the validity of the data collected, questions were formed to capture the best possible potential actuality of the notions perceived by the mentors by targeting definite timeframe and cases.

Also, the main complex component summarizes three components and thus compare the comprehensive concepts of the mentor teachers. It should be noted, however, that this type of aggregation marks the mentor teacher with a single metric, so it carries the same limitations as when marking a person's intelligence with a single number. These numbers say only little about the mentors' abilities. Therefore, overarching conclusions can hardly be drawn from the statistics, still, results are indicative of actual operations of the responding mentors.

5.4.6 Conclusions and implications

This study is an important step toward clarifying and completing the knowledge base about mentoring in TT in Hungary. This quantitative survey study was designed to add and extend the findings in the preceding qualitative studies of this dissertation in order to elaborate on the complexity of the system. The results confirmed previous findings at several points and challenges still exist and need to be addressed. The lack of a close bond in the professional network of mentors and other stakeholders needs to be fixed; workload and time-burden of mentors should be balanced; the discrepancy between role-taking of and expectations towards the mentor needs be reviewed to unlock the tension in the practice of supporting adult learning which seems to be a clear conceptual goal of

mentors; finally, an increased readiness and intention to provide intensive support for mentors needs to be raised in order to be develop the effectiveness of mentoring.

New findings of this study included the awareness about the importance of experience and qualification in mentoring, which have a substantial impact on the perceived self-efficacy in the practice of mentors. The patterns of motivation for mentoring draw attention to the primary driver of mentors; that is, the overarching dedication to learning as a mentor and the serious desire to collaborate with novices within this process. Mentoring was conceptualized as a mutual learning opportunity that needs to be valued, acknowledged and supported by the stakeholders of the system in as many ways as possible. Teacher training institutions should aim for and sustain stronger and more rigorous reflective cycles in the teacher training network, involving back and forth reflections between the mentors and the teacher trainers. Further suggestions by the mentors to improve the system still need to be discovered through analysing the qualitative responses of the mentors in the survey. Thus, for deeper and more complex understanding of the link between the quantitative and qualitative data in this study, further analysis will be processed in the future.

Another implication of this study is the need for investigating the school students' aspect, to see if their views reflect the concepts and practices of the mentors in the mentoring process. In this study, results show that students of mentors and mentees are given limited involvement in the feedback loop of the mentoring process by the mentors; however, they pro-actively follow the process with close contribution. As only 26.4% of the mentors inquire the school students' feedback on the mentoring regularly and 39.7% never, the prospective analysis of the student perspective may help understand the congruency of the multiple participation in the process.

Chapter 6 Overall Conclusions

The goal of the current dissertation was to explore stakeholders' views about and experience of mentoring in teacher training in Hungary, with the aim of generating discussion for future research and to fill the practical-conceptual gap of mentoring novice teachers. The various studies investigated (1) the different ways the process of mentoring and the roles within are conceptualized by different actors in the process of teacher training; and (2) how these concepts are translated into the practical mentoring strategies to support mentees' adult learning. Also, this dissertation explored pre-assumptions based on the literature review and pilot study, considering the degree of interconnectedness within the conceptualization of mentoring and how that is affected by the external conditions of mentorship.

The dissertation was conducted in the pragmatic paradigm and applied a qualitatively-driven mixed-method approach combining several sub-studies: a Pilot Study (piloting interview themes and questions for the Main Study); an Audio Diary Study (monitoring mentoring processes in education); an Interview Study (with mentor training programme directors and teacher educators); a cross-sectional Mentor Survey Study (with mentor teachers in Hungary) and another panel/longitudinal Student Survey Study (with school students in secondary education taught by mentees).

This final Chapter 6 concludes the findings of the research triangulation conducted in the dissertation for presenting overall implications, contributions and suggestions for future research. First, the study's overall conclusions are outlined (Section 6.1) then general implication for the stakeholders are stated (Section 6.2). The third section highlights the main contributions of the current study to the field (Section 6.3). The chapter ends with suggestions for future research, including some possible themes and research questions grounded in the rationale identified through this dissertation (Section 6.4).

6.1 OVERALL CONCLUSIONS

The *Pilot Study* found that self-reported reflective strategies which are, to a certain extent, aligned to mentees' adult learning processes seem to be dependent on students' actual, often ad hoc needs and curricular obligations and thus are hardly reconciled in the complexity of the authentic teaching self. These strategies exist in distinct forms associated with either teaching students or mentoring adult learners. Hence, mentees' autonomy and self-regulation in teaching and in learning is guided in a supportive manner

as far as it is perceived by the mentor to be beneficial – or at least not harmful – to the school students' learning. This tension influences mentors' conceptualizations of the process and their approaches to mentoring. Mentor teachers aim to support mentees to become authentic and autonomous teachers, but their work is seemingly limited by a lack of clear adult learning strategies that facilitate mentees' self-regulation and autonomy in teaching and a supportive (institutional and legislative) context that allows for the time that is needed for such a transformative learning process.

Further, the *Pilot Study* suggested that real and proactive collaboration between different stakeholders in teacher education (teacher educators, programme directors, school administrators, colleagues, mentors and mentees) could enhance the quality of the practicum by reducing stress, isolation and the discrepancy between theory and practice throughout the mentoring phase. The low level of coherence may, however, result in roles that mentors have to take individually instead of sharing the responsibility of assessment, gatekeeping to the teaching career, and being the only link to the profession (Hobson et al., 2009; Hobson et al, 2013).

A strong school-university partnership for pre-service teaching practicum, a mutually informative diagnostic discussion should be established about mentees' background, progress, engagement and motivation in learning to teach (cf. Eliott, Stemler, Sternberg, Grigorenko, & Hoffman 2011).

The *Audio Diary Study* indicated that reducing time pressure on mentors and improving public recognition of the teaching profession may result in qualitatively more focused relationships with their mentees in an extended and interconnected society of mind. These relationships may, in turn, enhance mentors' and future teachers' relatedness to the profession, which could decrease the possibility of teacher turnover, not only in the early career phase but also at later stages. The method of audio diaries also calls attention to the importance of more personalized processes in evaluation and assessment, and to the possibility of dividing the various mentoring roles that help develop the quality of reflective cycles, providing authentic advanced organizers in the mentoring process for adult learning (cf. Kaufman, 2003). Therefore, the question also arises whether the network of teacher educators and mentor teachers is sufficiently supported through educational policy, or whether more could be done to make this valuable association more beneficial.

The findings of the *Audio Diary Study* suggested certain improvements by (1) supporting universities to improve the embeddedness of the mentoring process and the mentors' role within the TT process, (2) raising awareness of the isolated work of mentor teachers and offering more opportunities for mentors to meet other mentors, (3) promoting the formation of a community of practice for mentors (cf. Holland, 2018) and (4) remunerating and acknowledging mentor teachers' work in a more transparent way.

The *Interview Study* further confirmed a gap between mentoring strategies expected by the university and the mentees and the actual mentoring strategies that mentors report. This also implies that there are ideal and/or real roles mentors take. Furthermore, mentors appear in various complex and often conflicting roles during the practicum. The reason for an aggregation of these roles is often rooted in the lack of ownership over the mentoring process and in the feeling of isolation in the learning cycle of teaching practice (cf. Hobson, 2016; 2017). Thus, system-based roles often override the relationship-based roles in order to fulfil the expectation that derives from the structural elements of the system. This aggregation has an impact on the chain-of-responses (Cross, 1981), consequently, on the motivation of the mentors and mentees (cf. Merriam & Caffarella,1991).

This comparative study conceptualized mentorship as a form of collaboration between higher education and schools as practice sites, with mentors serving the system isolated or complementing in a parallel dimension of teacher training with limited engagement of the higher education partner (cf. McLaughlin & Black-Hawkins, 2007).

The *Mentor Survey Study* expanded the research by confirming certain challenges that need to be addressed in mentoring. Lack of close bond in the professional network of mentors and other stakeholders needs to be fixed; the workload and time burden of mentors should be balanced; the discrepancy between role-taking of and expectations towards the mentors needs be reviewed to unlock the tension in the practice of supporting adult learning which seems to be a clear goal of mentors conceptually. An increased readiness and intention to provide intensive support for mentors needs to be explored to develop the effectiveness of mentoring.

This study confirmed the importance of experience and qualification of mentors have a substantial impact on their perceived self-efficacy in practice. The patterns of motivation for mentoring that were revealed highlighted the primary driver of mentors; that is, their overarching dedication to learning in the mentoring process as a mentor and the serious

desire to collaborate with novices within this learning process. Mentoring is conceptualized as a mutual learning opportunity that expected to be valued, acknowledged and supported by the stakeholders of the system in as many ways as possible. Teacher training institutions are recommended to work on stronger and more rigorous reflective cycles in the teacher training network, encouraging dynamic reflections between the mentors and the teacher trainers. Further suggestions by the mentors to improve the system still need to be discovered through analysing the qualitative responses of the mentors in the survey.

Consequently, *the findings and results of this mixed methods sequential research* suggest that the mentoring process should trigger and maintain a complex dialogue of stakeholders and participants in order to utilize the potential of this unique mentoring system. Dynamic dialogues within the network help to define roles, competences and strategies and develop the authenticity of participants' self-definitions, and provide the contours for ideal and real mentoring practices.

6.1.1   Supporting adult learning of mentees

Effective mentoring of adults depends on the micro and macro management of mentoring process, on the quality of the school-university partnership, and on the quality and quantity of feedback exchanged in and on the mentoring. Domains of adult learning processes are all linked to the reflective practice of the facilitator of the process (e.g. Nixon, 1989; Copper, 1990; Belanger, 1992; Winne & Hadwin, 2008). Reflective practice creates a context for supporting self-regulatory learning, and thus motivation for learning (Zimmerman, 2000, Taylor & Hamdy, 2013).

Multi-participatory dialogue, however, is rarely operationalized in the complexity of reflections and quality support of adult learning is mitigated by the overlapping roles and contextual limitations of the framework. The routine of reflective practice to value and apply experiences in the adult learning context needs more time and fewer role constraints upon the mentor to establish a model of partnering knowledge management of learning in the mentoring relationship (cf. Boshier, 1998).

In Figure 31, the existing system-integrated reflections and their directions are presented with continuous lines. Dotted arrows implicate the desired presence and directions of reflections; as was found in this study, mutually informative diagnostic discussions are missing from the network of stakeholders. Routinized back-and-forth feedback in the

system can maximise the impact and effectiveness of mentoring and can also balance the load of responsibility of mentors to be able to fully achieve the mentoring goals in practice.
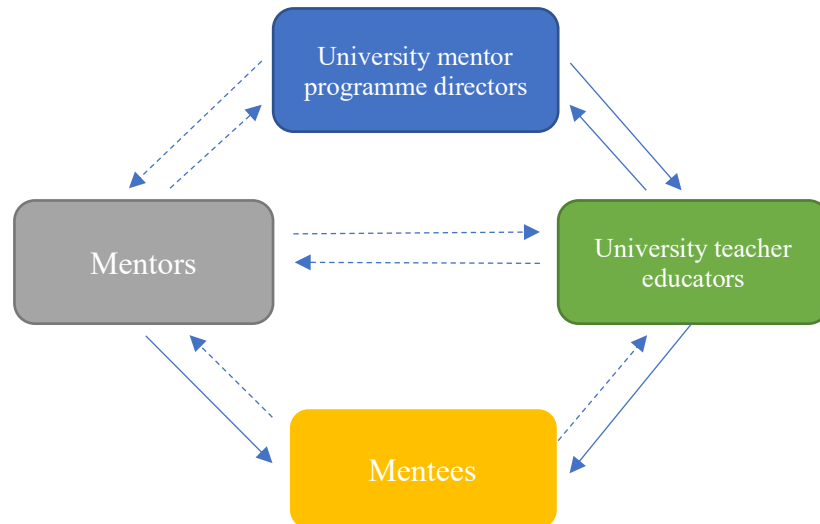
Figure 29. Actual and expected dynamics of reflections in the mentoring network

6.2 OVERALL IMPLICATIONS

Based on the evidence available in this research project, possible actions can be taken to advance and foster the development of reflective cycle in the mentoring network in four main steps:

(1) provide financial and infrastructural support for universities to improve the embeddedness of the mentoring process and the mentors' role within the teacher training;

(2) initiate and launch feedback loops (including school students, school management and stakeholders of the mentoring process) that have never been targeted before, in order to acquire richer and deeper understanding of their needs, limitations and expectations;

(3) raise awareness about the isolated work of mentor teachers and create more opportunities for mentors to meet other mentors in order to promote the formation of communities of practice for mentors;

(4) acknowledge and fairly remunerate mentor teachers' work and dedication to the mentoring process in a more appropriate and transparent way.

These strategic implications are also assigned to different agents, namely, educational policymakers, teacher trainers, and mentors themselves.

6.2.1   Implications for policymakers

This research informs educational policymakers about the practice of mentoring after 6-7 years of regulations for an undivided system of teacher training, and how different participants experience these measures. Policymakers can benefit from these findings when refining policies to maximise the potential of mentoring.

Second, this study aims to raise policymakers' awareness of contextual constraints and challenges to fostering reflexivity in mentoring. Policymakers can use the constraints and facilitating factors identified through this research to trigger more fruitful and effective mechanisms conducive to effective mentorship in teacher training.

Third, policymakers should revisit policy documents and modify the definitions for enhancing the conceptualizations of mentoring by research-based evidence. Policy documents should also offer guidelines for unifying the system in terms of mentors' acknowledgement and the main strategic concepts of mentoring to directly help teacher retention for early career teachers.

6.2.2   Implications for teacher training

Several implications can be found in the current study that could be adopted by teacher trainers within pre-service and in-service training programmes. The results provide a segmental evidence base of what mentors and other stakeholders believe about mentoring in their actual context of teacher training. It offers a partial but important account of how the participants in Hungarian teacher training think about and practice mentoring with respect to reflective practice in mentoring adults for the teaching profession. Teacher training can build upon the findings of the current study to define new routes to synthetize the different perspectives and needs related to the mentored teaching practicum.

The study also identifies factors that facilitate or limit mentors' ability to translate their knowledge and intentions within the mentoring programme. These factors can be reviewed and collaboratively reflected upon by the teacher training institutions, universities, mentor training providers in a shared understanding with the mentors.

Last but not least, stakeholders in teacher training should also help promote the important roles of mentors, by acknowledging the mentors' and their own contributory roles as

change agents in the training process. Teacher and mentor trainers should address barriers to fostering reflective cycles in the process and help develop routines for reflexivity.

6.2.3 Implications for practice

This mixed method research holds implications for mentor teachers who intend to promote their mentees' development in teaching and form their own teaching identity. Mentor teachers need to regularly reflect upon their own views and cultivate the self-reflections of their mentees to interact, model and sustain the mutual adult learning processes generated by the mentoring process. The qualitative and quantitative studies in this research project provide mentor teachers with an overview of mentoring in education that can inform concepts and practices of nurturing reflective practice through facilitated adult learning. Mentor teachers should use the research to develop more effective processes and learning management by becoming familiar with the mentees' and their students' views, needs, reflections in the mentoring process.

6.3 Contributions of the study

In addition to the practical implications, the present study also contributes to existing literature in several ways. This study contributes to a better understanding of the different stakeholders' beliefs about mentoring and its possible development through reflections by synthesizing the findings of empirical evidence base. Although participants' beliefs, strategies and practices in teacher mentoring were explored segmentally before, no comprehensive triangulation of reflective evidence was found in the national or international literature.

This study intended to undertake and explore each perspective directly involved in the mentored teaching practicum to accomplish a full spectrum of views and experience with mentoring Though mentor teachers', their mentees', teacher trainers' and mentor training programme directors' reflections on mentoring were collected separately before, the current study focused for the first time on tackling and apprehending mentoring in all of its complexity. This study thus provides insights into what may be conceptualized as mentoring in one aspect of the process; but at the same time, parallel reflections are explored to compare and contrast the findings.

The study did not only provide a list of constraints and facilitating factors with respect to reflective mentoring concepts and practices, it also filled the gap in the Hungarian context by examining Hungarian stakeholder' beliefs about and experience with mentoring and the

partnering relationship between the participants of the mentoring network. Thus, the study contributed to the understanding of the relationship among views, practices, effectiveness and impact within the Hungarian education system.

6.4 SUGGESTIONS FOR FUTURE RESEARCH

Findings of this study fill in a research gap in the body of knowledge on mentoring concepts and real practices, but it also provides future research perspectives to deepen the understanding of the link between reflective practice, motivation and engagement in the mentoring process. This mixed method study raises a number of opportunities for future research at the intersections of mentoring, reflective practice, adult learning, and the stakeholders' beliefs.

First, the Audio Diary and the Interview Study shed more light on the importance of ongoing professional support for and better cooperation with teachers who train future teachers. In the Mentor Survey Study, mentor teachers report on the value and prestige of mentoring profession, however, the perspective and recognition of colleagues in teaching and the school management have not been explored yet. Also, an international comparative perspective on the motivation of mentor teachers for mentoring may further increase the value and importance of the findings of current drivers of mentors in the Hungarian system.

Second, the Audio Diary Study adapted an innovative method, namely, the audio diary approach that utilised its potential in educational research. The method revealed unknown perspectives in mentoring and opened new dimensions for researchers to test and integrate alternative approaches to generate novel and often hidden data about teacher training and mentoring within.

Third, the qualitative and quantitative studies of this research mapped out various existing and missing links in the mentoring network. However, the direct impact of mentoring training on the mentors' effectiveness or on the mentees still needs to be discovered. Longitudinal comparative studies could generate more knowledge about certain short- and long-term impact of the mentor training on the process.

Fourth, a complete monitoring research to strengthen and broaden the evidence base of mentees' changing motivation and self-regulatory processes in the practicum may be able to open up new perspectives and developmental opportunities for the practices in teacher training.

Finally, the study that involves school students of mentors and mentees needs to be further developed vertically and horizontally to elicit a new perspective rarely investigated in the teacher training context. This perspective may help to complete the understanding of the mentoring phenomena by looking at the changing concepts of school students about mentored practicum. As an initial result, it was found that school students are open to give feedback on their experience with teaching, ready to highlight critical aspects, suggest space for improvement and most importantly, value the opportunity to contribute to the research and to be let their voice within that process to be heard.

Future studies could adopt qualitative or mixed method research elements to explore and conceive richer data on school students' lived-through experiences to analyse and refine certain mechanisms in the system.

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Appendices

APPENDIX 1

Pilot interview protocol for designing interview prototype
Translated from the original Hungarian

Themes
Personal information
- Male/female
- Where do you mentor?
- For how long have you been mentoring in ITE?
- How often do you work with mentees?
- Which subjects do you teach? In which subject field do you mentor?

General concepts of mentoring
- What do you think about mentoring in general?
- How do you relate your work to this general concept?
- How would you define yourself as a mentor?
- Do you have a guiding principle in mentoring? If yes, what is it?

Mentoring practice
- Have you ever been thinking about your own mentoring practice? If yes, what do you think about it in general?
- Do you regularly reflect (think) on your mentoring practice? Is this incidental, conscious or problem-based?
- How do you communicate your reflections to your mentee? Do you have a reflective routine?
- What do you think what your mentees' strong and weak points usually?

Means of communicating reflections
- In what ways do you communicate with your mentees? (in person, online, on phone, in group, individually etc.)
- Do you use mobile apps, online tools for communication? How often?
- How and for what purpose do you use communication tools in your mentoring?

Themes of post-lesson conferences

- How often and when do you have post-lesson conferences with your mentees?
- Who does take the initiative of these discussions?
- Where and in what kind of circumstances do you communicate with your mentees?
- What do you talk about in these meetings?
- Do you consider these discussions useful? If yes, why? If no, why not?
- What would you consider as an outcome of these conversations?
- What do you think your mentees take as an outcome of these conversations?
- What makes these conversations productive and effective?
- What do find particularly difficult in these conversations?
- What do you think your mentees find difficult in these conversations?
- Is your communication changing during the mentoring process? If yes, how?
- How do these discussions affect your work and teaching?
- Do you think these discussions affects your mentees? If yes, how? If no, why?
- Do you think there is any room for improvement in making these discussions more effective or productive?

APPENDIX 2

ELTE Audio Diaries
Interview protocol and questions
Translated from the original Hungarian

Introductory session
Interview Process
Part 0: Interview questions shared with the students in advance.

Part 1: Set-up and briefing (about 5')
Part 2: Initial general questions (about 10')
Get information about year of mentoring experience/ year of studies, discipline, qualification, institutional background, explore general reasons for mentoring/becoming a teacher

Part 3: Journey Plot (about 15-20')
Ask interviewee to reflect on the past years in their life as mentor/student in teacher education and explore significant events and their impact; and reflect on specific actions or strategies they developed to face or cope with the negative significant events.

Part 4: Expectations and hopes in the Audio Diaries project (15-20')
Ask interviewees to share their expectations concerning the project and how they would like to approach this project and what they would hope to gain from it.
Part 5: Closure (5')
Opportunity for the interviewee to add or expand on what has been discussed.

Prompts for the interviewers
Part 2

Mentor	Mentee
How long have you been mentoring student/novice teachers? Are you qualified for mentoring? What subject(s) do you teach/mentor? What was initial motivation for mentoring? Has that changed so far? Have you received what you expected from mentoring? What has been your biggest challenge in mentoring? What has been the most pleasant experience in mentoring?	Which year are you in? What is the discipline you study? Would you like to become a teacher? Why? Why not? Are you satisfied with the school you do your teaching practice for? Have you chosen the school/your mentor? Are you satisfied with your mentor? Do you remember why you decided to start your studies for becoming a teacher? Has that initial idea changed so far? What kind of support have you received from the university to become a good teacher? Do you have anything you are afraid of in the teaching practice? Do you have anything that you really look forward in your teaching practice?

Part 3
If you think back on the past year, can you please name 2 events that represent the highs (a positive significant event) and the lows (a negative significant event) in mentoring/ in teacher training?
Can you please describe them briefly? (ADDITIONAL QUESTIONS: How did you feel? Who was involved? Who helped in this situation?)
Why are these two events particularly relevant to you as a mentor teacher/ future teacher? What did you learn from them as a mentor teacher/ future teacher?
How have these events in the past year have changed your relationship within mentoring/teaching?
What does mentoring /teaching mean to you?
What do you expect from your mentor/mentee?
What goal(s) have you set for this teaching practice?
Have you received any kind of support from your colleagues/peers/ school/university?
Part   4
Why do you want to take part in the Audio Diaries research project? How do you see you could benefit from it?
How do you approach this research project in the context of the current state of your work/studies?
Do you have other opportunities to reflect on your mentoring work/on your teaching practice? If yes, where and with whom?
What do you hope to achieve in your self-reflections on your mentoring/teaching?
What would be your goals for self-reflection on your mentoring/teaching?

Post-diary interview questions
Interview Process
Part 0: Interview questions shared with the students in advance.

Part 1: Set-up and briefing (about 5')
Part 2: Initial general questions (about 10') Summarize an get information about experiences, motivation for future work, etc.

Mentor	Mentee
Have you received what expected from this teaching practice? Have your expectation been fulfilled regarding your mentee? Could you support your mentee as you wanted to? Could you achieve your general mentoring goals? What was the biggest challenge? What was the most pleasant experience? What kind of support have you received from the university, your colleagues, your school? Do you have unresolved doubts, concerns about the teaching practice?	Would you like to become a teacher? Why? Why not? Have you been satisfied with the school you have been teaching? Have you been satisfied with your mentor? Have your expectation been fulfilled regarding your mentor? Has your concept of teaching changed during the teaching practice? How has your mentor affected your concept of teaching? What kind of support have your received from your mentor, from your university, from your peers? Do you have unresolved doubts, concerns about the teaching practice or teaching as such?

Part 3: Reflecting on the Audio Diaries experience (about 20')
1. If you think back on your initial ideas about the Audio Diaries Project, how do you see you have benefited from it? If at all?
2. Did you meet the goals you wanted to achieve in your self-reflections on your research?
3. How do you perceive of yourself as a mentor/student teacher? What does mentoring/teaching practice mean to you?
4. How does an audio diary contribute to shaping a person's research identity?
5. How does recording audio diaries influence, assist, or hinder your own reflections on your mentoring/teaching practice?
6. To mentor: Would you like to work as a mentor in the future? Would you like to change anything in your mentoring practice?
   Tom mentee: Would you like to work as teacher in the future? Why? Why not?
   Part 4: Closure
   Are there any additional comments, reflections you would like to share?

Prompt questions and suggestions to record the Audio Diary logs
(sent in e-mail to the participant on due time)

Introduction

Many thanks for agreeing to take part in the Audio Diaries project. We know that the period of mentoring can be both extremely challenging and rewarding, so we really appreciate your willingness to share your experience with us. We hope that the Audio Diaries will not only help us, with our research, but also you as you reflect on your project.

This is your diary, and you are free to tell your diary as much or as little as you like. We will, however, lightly prompt you with questions along the way. Talk for as long or as short as you see fit, and about whatever you feel to be relevant about yourself, your research and your discipline.

Please make three recordings during the mentoring process (we'll send a reminder). You can make the recording on your phone or with whatever you feel most comfortable. Send the recorded file to Kinga's email address (kaplar-kodacsy.kinga@ppk.elte.hu). We'll acknowledge that we received the file, but will not give any comments or feedback until after the completion of all the diaries.

Many thanks again for your time and help!

Prompt questions for Audio Diary 1

Mentor	Mentee
What do you think about the first class of your mentee? What did you aim to achieve with the post-lesson conference? Do you feel satisfied with the conference? Have you received additional/valuable information about your mentee/ about the mentee's class on the conference? Can you think of anything else from the conference you would happily share? (Something that has been very good or something less successful?)	What do you think about your first class? Has anything unexpected happened during the preparation or during the post-conference with your mentor? What kind of difficulties did you have? Did you enjoy your first post-lesson conference with your mentees? What was the structure of the conference? Have you found the conference useful? Why? Why not? Can you think of anything else from the conference you would happily share? (Something that has been very good or something less successful)?

Prompt questions for Audio Diary 2

Mentor	Mentee
What did you aim to achieve with the post-lesson conference? Do you feel satisfied with the conference? Have you received additional/valuable information about your mentee/ about the mentee's class on the conference? · What do you think your mentee's main concern about his/her teaching? How could you reflect on that? Have you learnt anything from your mentee or from the conference today? · How does this cooperation with your mentee affect your work? Can you recognize improvement in your mentees work or teacher identity? Please give more details. How do you reflect on these changes? Have your mentoring strategies, tools, concepts changed since the first class? How do you think your work affect your mentee? Can you think of anything else from the conference you would happily share? (Something that has been very good or something less successful?)	· Do you have doubts regarding your teaching? What are these? Is there anyone who can help? How? What were your goals with the class you taught? Could you achieve those? What was the structure of the post-lesson conference with your mentee? What were your goals with the conference? Could you achieve those? Do you think the conference was useful? Why? Why not? Can you think of anything else from the conference you would happily share? (Something that has been very good or something less successful?) How would describe your relationship with your mentor? Has that changed since the first class? Are you satisfied with your mentor? Would you define yourself a student or colleague/teacher to your mentor? Do you see improvement in your teaching? Give more details.

Prompt questions for Audio Diary 3

Mentor	Mentee
What do you think about the last class of your mentee? What did you aim to achieve with the post-lesson conference? Do you feel satisfied with the conference? How far have you been involved in the evaluation process of your mentee's teaching performance? What was your mentee's main concern about the final lesson? How could you reflect on that? Can you think of anything else from the conference you would happily share? (Something that has been very good or something less successful?) Would you define yourself as a teacher or teacher educator? What do you take as a positive outcome of this teaching practice? Do you think there is any room for improvement in your mentee's work? Have your mentoring strategy, tools, views on mentoring changed during the teaching practice? Would you define yourself as a teacher or teacher educator? What was the most successful moment of this teaching practice? ·	What do you think about your last class? How did you prepare for this class? How did you structure your preparation? Who has helped you in getting prepared for the final class? (people, tools, events, conferences, formal or informal conversations)? Have you had doubts related to your last class? Have you been supported in resolving these doubts? What was your main goal with your last class? Could achieve that? What do you think about the last post-conference meeting? Have you been involved in evaluating your own performance? Do you think it was a useful meeting? · Can you think of anything else from the conference you would happily share? (Something that has been very good or something less successful?) What kind of relationship do you have with your mentor? Are you satisfied with your mentor's work? How did your 212niversity, your colleagues contribute to your teaching practice? Would you define yourself as students, colleague, teacher to your mentor? Outline 2-3 things you could improve in your teaching practice during the practicum! Do you think there is any room for improvement in your teaching? Where?

APPENDIX 3

Interview protocol
for university mentor training programme directors
Translated from the original Hungarian

Section 1

Introduction (based on preliminary information about the participant filled in before the interview)

Mentor Network

1. How long has your institution operated a mentoring network?
2. How many schools does your institution currently have in contact with?
3. How many mentors do your institution currently have contact with in the schools?
4. What types of institutions are these?
   a) primary school
   b) secondary school
   c) National Association of Unified Special Education Methodological Institutions
5. Where are these schools located?
   a) village
   b) town
   c) city
   d) county seat
   e) capital
6. In what ways are you contacting with the mentors? Has the system changed since the beginning?
7. What are the expectations of the university towards the schools? Have these expectations changed over time?

Mentor Training

8. How long has you had mentor training at your institution? How long have you been involved in training planning? How long have you been a leader in mentor training?
9. Why has the training started? What is the main purpose of the training?
10. Has the training changed since the beginning? Why? Why not?
11. How many teachers do training per year? How many graduates do they have?
12. Who is the training recommended for?
13. What are the main elements / areas of the training? Are changes planned in the future? Why? Why not?

Section 2
Motivation
1. Why do you think a teacher starts mentoring? Why do you do this job? What can motivate you to take on more and more mentees to support?

Mentoring roles and tasks (learning, teaching, effectiveness)
2. What do you think is the role of a mentor in teacher training during a career induction? What makes a good mentor?
   a) What can the mentee learn from the mentor?

    b) What is the role of a mentee during a teaching practice?

3. What does a teacher training institute expect from a mentor? What do you expect as an expert from a mentor?
    a) What counts as a result of a mentor's work? How can they achieve this? How can they be effective?

4. What might be the greatest joys and difficulties of mentors in mentoring?

5. How do you help your work to be effective? What helps your work and what hinders you?

6. What difficulties do you face? What are the joys of working?

Mentoring strategy (learning teaching process, goal orientation, consideration of student autonomy and adult learner characteristics, time management)

7. What are the most typical mentoring strategies you have seen or heard?
    a) How do mentors introduce, accompany, and dismiss their mentee?

8. To what extent do you think the student autonomy of teacher candidates prevails in the process? (design, construction, evaluation, reflection)
    a) How much and in what way do mentees get a autonomy, how much and in what way did the mentee's work be led by the mentor?
    b) What and how much prior knowledge does the mentor teacher candidate have and vice versa prior to mentoring?

9. On average, how much time do you think mentoring takes per lesson taught by the mentee in addition to observing the lesson taught?
    .... minutes / mentor held by the lesson

10. Do you think mentors spend enough time with their mentoring?

Continuous professional development (interpretation, development, development of teaching learning, personal and professional benefits of mentoring)

11. What do you think are the main elements of learning to teach? What is the role of university teacher education and teaching practice in this?
a) What makes a candidate / novice teacher a good teacher?

12. What makes a teacher a good mentor? Can a mentor gain anything while mentoring?
a) What opportunities does the mentor have for development?
b) How is your institution involved?

13. Can a teacher become a better mentor if he or she participates in mentor training? Why? Why not?

Support (personal-professional-organizational)

14. How would you describe the ideal relationship between a mentor and your mentee? How are you present in this relationship? What is your role in the mentoring process?
a) boss (mentor) – employee (mentored)
b) service provider (mentor) – customer (mentored)
c) parent (mentor) – child (mentored)
d) teacher (mentor) – student (mentored)
e) co-workers
f) partners
g) friends

15. What is your relationship with mentors? How often do you communicate with mentors?

a) In your opinion, on an organizational, professional and personal level, to what extent and by whom and how is the work of the mentor supported and can be supported the most?
b) How has the mentorship in your institution been supported?
c) What are the main pleasures of supporting the teaching practice?
d) What are the main difficulties associated with internships?

General reflective practice (lesson observation, lesson discussion, lesson plan, assessment)
16. How often and when do you think a mentor should give feedback on the work of his/her mentee? (During class? After class? How long?)
    a) What is good feedback? What can a teacher candidate learn the most from?
17. What role can the lesson plan play in these reflections?
18. To what extent does the evaluation of the mentee's work depend on the mentor's feedback?
    a) To what extent does the evaluation of final teaching depend on the feedback of the mentee?
19. Do you consider it important to be present at the candidate's final / exam teaching?
    a) In general, do you have a different or similar opinion of the teacher candidate about your work than your mentor?
20. Do you happen to give feedback on the work of the mentor?
    b) Do you happen to give feedback to the practitioner about the work going on there?

Do you have any additional comments or questions related to the interview?

APPENDIX 4

Interview protocol
for university teacher educators participating in the teacher training program
Translated from the original Hungarian

<u>**Section 1**</u>

1. Introduction (based on preliminary information, can be filled in before the interview)
    a) personal information
    b) mentor network
    c) teaching / mentoring experience (if any)
2. Do you have a PhD degree or are you preparing to obtain a degree? Yes No If so, what is your research topic?
3. Have you taught in public education?
    If so, what subject, in what school and since when? Have you mentored? If so, since when? Do you have a mentoring qualification? In what field (subject) do you mentor?
4. In which discipline (subject) do you follow the mentoring?
5. Do you teach at a teacher training institute? If so, what subject do you teach? Do you contact teacher candidates in other ways?
    a) How long have you been working in the teacher training institute, how many years have you supporting mentored teaching?

<u>**Section 2**</u>
Motivation

21. Why do you think a teacher starts mentoring? Why do you do this job? What can motivate you to take on more and more mentees to support?

Mentoring roles and tasks (learning, teaching, effectiveness)

22. What do you think is the role of a mentor in teacher training during a career induction? What makes a good mentor?
    c) What can the mentee learn from the mentor?
    d) What is the role of a mentee during a teaching practice?
23. What does a teacher training institute expect from a mentor? What do you expect as an expert from a mentor?
    b) What counts as a result of a mentor's work? How can they achieve this? How can they be effective?
24. What might be the greatest joys and difficulties of mentors in mentoring?
25. How do you help your work to be effective? What helps your work and what hinders you?
26. What difficulties do you face? What are the joys of working?

Mentoring strategy (learning teaching process, goal orientation, consideration of student autonomy and adult learner characteristics, time management)

27. What are the most typical mentoring strategies you have seen or heard?
    b) How do mentors introduce, accompany, and dismiss their mentee?
28. To what extent do you think the student autonomy of teacher candidates prevails in the process? (design, construction, evaluation, reflection)

c) How much and in what way do mentees get a autonomy, how much and in what way did the mentee's work be led by the mentor?

d) What and how much prior knowledge does the mentor teacher candidate have and vice versa prior to mentoring?

29. On average, how much time do you think mentoring takes per lesson taught by the mentee in addition to observing the lesson taught?
.... minutes / mentor held by the lesson

30. Do you think mentors spend enough time with their mentoring?

Continuous professional development (interpretation, development, development of teaching learning, personal and professional benefits of mentoring)

31. What do you think are the main elements of learning to teach? What is the role of university teacher education and teaching practice in this?

b) What makes a candidate / novice teacher a good teacher?

32. What makes a teacher a good mentor? Can a mentor gain anything while mentoring?

c) What opportunities does the mentor have for development?

d) How is your institution involved?

33. Can a teacher become a better mentor if he or she participates in mentor training? Why? Why not?

Support (personal-professional-organizational)

34. How would you describe the ideal relationship between a mentor and your mentee? How are you present in this relationship? What is your role in the mentoring process?

h) boss (mentor) – employee (mentored)

i) service provider (mentor) – customer (mentored)

j) parent (mentor) – child (mentored)

k) teacher (mentor) – student (mentored)

l) co-workers

m) partners

n) friends

35. What is your relationship with mentors? How often do you communicate with mentors?

e) In your opinion, on an organizational, professional and personal level, to what extent and by whom and how is the work of the mentor supported and can be supported the most?

f) How has the mentorship in your institution been supported?

g) What are the main pleasures of supporting the teaching practice?

h) What are the main difficulties associated with internships?

General reflective practice (lesson observation, lesson discussion, lesson plan, assessment)

36. How often and when do you think a mentor should give feedback on the work of his/her mentee? (During class? After class? How long?)

b) What is good feedback? What can a teacher candidate learn the most from?

37. What role can the lesson plan play in these reflections?

38. To what extent does the evaluation of the mentee's work depend on the mentor's feedback?

b) To what extent does the evaluation of final teaching depend on the feedback of the mentee?

39. Do you consider it important to be present at the candidate's final / exam teaching?
    c) In general, do you have a different or similar opinion of the teacher candidate about your work than your mentor?
40. Do you happen to give feedback on the work of the mentor?
    d) Do you happen to give feedback to the practitioner about the work going on there?

Do you have any additional comments or questions related to the interview?

APPENDIX 5

Questionnaire for mentor teachers
Translated from the original Hungarian

tajekoztato **Questionnaire for mentor teachers**

GENERAL INFORMATION

 Dear Mentor Colleague!

You are invited to participate in School Mentoring and Reflective Pedagogical Practice: Advanced Opportunities for Mentor Teachers, a scientific research projected by Kinga Káplár-Kodácsy and Dr Helga Dorner (ELTE Faculty of Pedagogy and Psychology, Doctoral School of Education). The questionnaire inquiries about your experiences with mentoring strategies and reflective practice in mentoring in teacher training, the concepts of the mentoring process, learning to teach, and the possibilities of cooperation between mentor teachers and teacher training institutions. By participating, you can contribute to deepening our knowledge of mentoring roles and processes. Participation in the research is completely voluntary. During the tasks, it is possible to interrupt participation so that it is not tiring. You can even cancel the participation at any time without giving a reason or refuse to answer the questions. There is no financial reward for participating in the study. It takes about 20 minutes to complete the questionnaire. We sincerely hope that the research will not only be valuable to us and bring results to our research but will also draw attention to the importance of mentoring and the relationship between mentoring and teacher training. The leaders of the research will report on the results obtained during the research in scientific lectures and then in a publication. We will provide oral or written information on these as you wish. In the research, we collect the data anonymously and do not record any other personal (e.g. log info) information.

We hold the privacy of your personal information in the highest regard. The data obtained during the research are stored on a secure computer with a code. The individual code is always given by the researchers involved in the research, only they know and have access to it. We perform statistical analysis on the data obtained during the research, from which the identity of any participant cannot be established.

beleegyezo **DECLARATION OF CONSENT**

By proceeding, I consent to the use of non-personally identifiable information about me for research purposes and to make it available to other researchers. I reserve the right to withdraw from the investigation at any time during the investigation. In this case, the data recorded about me so far must be deleted. I declare that I am 18 years old, I have received detailed information about the conditions of my participation in the research. I agree with the conditions and I agree to participate.

◯ Yes (1)

◯ No (2)

Skip To: End of Survey If BELEEGYEZŐ NYILATKOZAT A továbblépéssel hozzájárulok ahhoz, hogy a vizsgálat során a rólam felve... = Nem

nem_Gender: Male   Female

szul_ev Year of birth:

ped_tapaszt For how long have you been working as a teacher?

○ for 1-4 yrs (1)

○ for 5-8 yrs (2)

○ for 9-12 yrs (3)

○ for 13-16 yrs (4)

○ for 17-20 yrs (5)

○ for 21 or more (6)

- -

ment_tapaszt For how long have you been mentoring students/novice teachers as a mentor or lead teacher?

○ for ess than 1 (1)

○ for 1-2 yrs (2)

○ for 3-4 yrs (3)

○ for 5-6 yrs (4)

○ for 7-8 yrs (5)

○ for 9-10 yrs (7)

○ for 11-12 yrs (8)

○ for 13 yrs or more (6)

- -

regio Where do you work as a mentor?

○ Budapest (8)

○ Northern-Hungary (1)

○ Northern Great Plain (2)

○ Southern Great Plain (3)

○ Central Hungary (4)

○ Central Transdanubia (5)

○ Western Transdanubia (6)

○ Southern Transdanubia (7)

telep_tip Please specify the location of your mentoring work!

☐ village

☐ town

☐ city

☐ county seat

---

intezm_tip In what kind of institution do you work as a mentor? (more than answer is possible)

☐ elementary education

☐ secondary education

☐ National Association of Institutes for Complex Special Education

---

szakter In what subject field do you mentor?

---

ment_kepes Are your qualified for mentoring student/novice teachers (possessing official certificate)?

○ yes (1)

○ no (2)

---

ment_tip What kind of mentoring work have you already conducted? (more than one answer is possible)

☐ Mentoring individuals and groups in pedagogical, psychological school practicum (practicum type „A")

☐ Subject-specific group mentoring (practicum type „B")

☐ Mentoring comprehensive individual practicum (practicum type „C")

☐ Mentoring in-service novice teachers

☐ Mentoring a colleague

---

ment_gyak How many times have your mentored in your career?

	0 (8)	1-2 (1)	3-4 (2)	5-6 (3)	7-8 (4)	9-10 (5)	11-12 (6)	13 or more (7)
teacher candidate (1)	○	○	○	○	○	○	○	○
in-service novice teacher (2)	○	○	○	○	○	○	○	○
colleague (3)	○	○	○	○	○	○	○	○

- -

ment_tip_ket What kind of mentoring work have you conducted <u>in the last two years</u>? (more than one answer is possible)
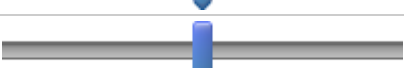
☐ Mentoring individuals and groups in pedagogical, psychological school practicum (practicum type „A")

☐ Subject-specific group mentoring (practicum type „B")

☐ Mentoring comprehensive individual practicum (practicum type „C")

☐ Mentoring in-service novice teachers

☐ Mentoring a colleague

End of Block: Személyes

Start of Block: Mentori motivációk

kezd_motiv Why did you start mentoring? How do the following factors affect you? Please drag the slider to the right place!

	Had no impact on me		Had a huge impact on me		I don't know/Can't remember
	1	2	3	4	5

my boss (1)	
one or more colleagues (2)	
one or more acquaintances/friends/family members (3)	
teacher training institution (4)	
possible financial compensation (5)	
reduction of teaching load (classes) (6)	
prestige of mentoring (7)	
practicing my mentoring qualification (8)	
change for challenge and change (9)	
work with adults (10)	
work together with novice teachers (11)	
possibility for professional development (12)	

End of Block: Mentori motivációk

Start of Block: Általános vélekedések: tanulás tanítása és mentori szerepek

tanit_tan Learning to teach is a long and complex process. We would like to know your general views on the process. Please indicate how much you agree with the following statements?

	Strongly Disagree (1)	Rather Disagree (2)	Can't Decide (3)	Agree (4)	Strongly Agree (5)
Learning to teach begins with learning different teaching techniques and methods. (1)	○	○	○	○	○
Learning to teach begins with the acquisition of solid subject knowledge. (2)	○	○	○	○	○

Learning to teach begins with getting to know the students. (3)	○	○	○	○	○
Teaching is creative work where new ideas can be tried. (4)	○	○	○	○	○
All teacher candidates and / or novices can become good educators if they work hard. (5)	○	○	○	○	○
All teacher candidates and / or novices are able to teach well if they receive appropriate help. (6)	○	○	○	○	○
Mentor training helps a teacher become a good mentor. (7)	○	○	○	○	○
The process of mentoring has a positive effect on the teaching of the mentor. (8)	○	○	○	○	○
Every good teacher is also a good mentor. (9)	○	○	○	○	○
Every good mentor is also a good teacher. (10)	○	○	○	○	○

ment_tan Have you ever learnt anything during mentoring?

○ yes (1)

○ no (2)

ment_tan_rang What do you learn the most about in the mentoring process? Rank the listed areas and drag the rows to the right place! (1- what you learn the most, 6- what you learn the least)

_____ about pedagogical methods (1)
_____ about subject-specific content (2)
_____ about my students (3)
_____ about myself (4)
_____ about a young generation of teachers (5)
_____ about my professional competencies (6)

ment_konc Mentoring work and roles can be interpreted in several ways. We would like to know your general views on this. Please indicate how much you agree with the following statements!

	Strongly Disagree (1)	Rather Disagree (2)	Can't Decide (3)	Agree (4)	Strongly Agree (5)
A teacher candidate and / or novice needs support to find their own pedagogical path. (1)	○	○	○	○	○
It is important to listen to other people's opinions so that the teacher candidate and / or novice understands certain teaching-learning situations. (2)	○	○	○	○	○
To support a teacher candidate and/or novice appropriately, the mentor must be a better teacher than average teacher. (3)	○	○	○	○	○
Mentoring is essential for the teacher candidate and / or novice to find the best solutions to problems that arise during teaching. (4)	○	○	○	○	○
A teacher candidate and / or	○	○	○	○	○

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	novice performs better if their work is being analysed. (5)				

Mentoring is essential for the teacher candidate and/or novice to become motivated to develop themselves. (6)	○	○	○	○	○

info1 Please think about the general experience of your mentoring work in the last two years and answer further questions in light of this!

- -

ment_strat Mentoring can be done well in a myriad of ways. We would like to know more about your mentoring role, strategy and goals. In light of your mentoring work over the last two years, how much do you agree with the following statements? If you have had several mentees in the last two years, think about your last completed mentoring job!

	Strongly Disagree (1)	Rather Disagree (2)	Can't Decide (3)	Agree (4)	Strongly Agree (5)
I was able to complete my mentoring duties completely. (1)	○	○	○	○	○
I was able to get the most out of my mentoring during the process. (2)	○	○	○	○	○
I was able to mentor my mentees as expected. (3)	○	○	○	○	○
I was able to overcome above my personal and professional problems when I was mentoring. (4)	○	○	○	○	○
At the beginning of the mentoring, I set common	○	○	○	○	○

goals with my mentor. (5)					
I let my mentee plan their lesson alone. (6)	◯	◯	◯	◯	◯
I let my mentees try new ideas even if I wasn't convinced of its success. (7)	◯	◯	◯	◯	◯
I was present as a passive observer in my mentee's classroom. (8)	◯	◯	◯	◯	◯
I was present as a helper during my mentee's class. (9)	◯	◯	◯	◯	◯
I was present as an evaluator during my mentee's class. (10)	◯	◯	◯	◯	◯
I think it is important to get to know my mentee's prior knowledge. (11)	◯	◯	◯	◯	◯
I think it is important to provide an opportunity for my mentee to evaluate their own work. (12)	◯	◯	◯	◯	◯
I found it important to draw attention to the mistakes the mentee made while teaching. (13)	◯	◯	◯	◯	◯
I repeated the part of the curriculum taught by my teacher candidate in my own lessons after the teaching practice. (14)	◯	◯	◯	◯	◯

My goal was to lead and / or keep my mentee in the pedagogical career. (15)	○	○	○	○	○
My goal was to help my mentee develop his / her own teacher identity. (16)	○	○	○	○	○
My goal was to help my mentee develop leadership skills. (17)	○	○	○	○	○
My goal was to help my mentee develop time and task management competencies. (18)	○	○	○	○	○
My goal was to make my mentee enjoy teaching. (19)	○	○	○	○	○
My goal was to help my student enjoy my mentee's classes. (20)	○	○	○	○	○
My goal was to make my mentee's work a full-fledged teaching process. (21)	○	○	○	○	○

info2 Please think about the general experience of your mentoring work in the last two years and answer further questions in light of this!

TIME

atl_perc_ment On average, how many minutes did you spend with mentoring per lesson the mentee taught excl. classroom observation? (with preparation, contact, organization, class discussion, etc.)

| about .... minutes (1) | ▼ 5 (1) ... 200 (40) |

TIME

oramegbesz_ido Of this time you dedicate to mentoring, how many minutes you spend with post lesson conferences on average? (You can mark more than one answer!)
☐ I spent less than 10 minutes. (1)
☐ I spent 10-20 minutes. (2)
☐ I spent 20-30 minutes. (3)
☐ I spent 30-45 minutes (4)
☐ I spent more than 45 minutes. (5)

TIME+SELF-EFFICACY

ido_ment_konc How far do you agree with these statements?

	Strongly Disagree (1)	Rather Disagree (2)	Can't Decide (3)	Agree (4)	Strongly Agree (5)
I knew how to make the most of the time available for mentoring tasks. (1)	○	○	○	○	○
I felt that the time I had for mentoring was enough. (2)	○	○	○	○	○

TIME

ido tobb How much more time would you have needed to increase the effectiveness of your mentoring? (100%: time spent mentoring so far)

0   10   20   30   40   50   60   70   80   90   100

| 100 % plus () | |

TIME

ido_forras Mark the most typical answer for your work! You can mark more than one answer!
Time for mentoring…
☐ I took from the time I spent with my students. (1)
☐ I took from the class preparation time. (2)
☐ I took from the time I spent with my family. (3)
☐ I took from my free time. (4)
☐ other: (5) _____

End of Block: Idő

info3 Please keep in mind the experience of your mentoring work over the last two years and answer the questions below in light of this!

SUPPORT FOR MENTORING
tamogatas_jell In the following section, we are interested in what kind of support you have given and received during your mentoring work. Please indicate how much you agree with the following statements!

	Strongly Disagree (1)	Rather Disagree (2)	Can't Decide (3)	Agree (4)	Strongly Agree (5)
I received adequate support from my colleagues to successfully cultivate my mentoring work. (1)	○	○	○	○	○
I received adequate support from the management of my workplace to successfully carry out my mentoring work. (2)	○	○	○	○	○
I received adequate support from the teacher training institution to mentor the teacher candidate (3)	○	○	○	○	○
I considered it important to provide emotional support to my mentee. (4)	○	○	○	○	○
I considered it important to set an example for my mentee. (5)	○	○	○	○	○

MENTORING ROLES
ment_kapcs How would you generally describe the relationship between you and your mentee (s) over the last two years? You can mark more than one answer!
☐ boss (mentor) – employee (mentee) (1)
☐ service provider (mentor) – customer (mentee) (2)
☐ parent (mentor) – child (mentee) (3)
☐ teacher (mentor) – student (mentee) (4)
☐ colleagues (5)
☐ partners (6)
☐ friends (7)
☐ other: (8) _____

info4 Please think about the general experience of your mentoring work in the last two years and answer further questions in light of this!

- -

MENTOR ELARNING

fejl_tip How often did the following cases occur in connection with your mentoring work?

	Never (1)	Once (2)	Occasionally (3)	Frequently (4)	(4) Very often (5)
I consulted with my direct mentor colleague about my mentoring work. (1)	○	○	○	○	○
I consulted with my mentor colleague at another institution about my mentoring work. (2)	○	○	○	○	○
I took part in further training related to my mentoring work. (4)	○	○	○	○	○
I read Hungarian or foreign language literature on mentoring. (5)	○	○	○	○	○
I found out about internet-related strategies, tasks and work about mentoring. (6)	○	○	○	○	○
I consciously thought about my mentoring work in advance / afterwards the process. (7)	○	○	○	○	○
I asked my mentee for feedback on my work. (8)	○	○	○	○	○

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I mentored the teacher candidate and asked the teacher educator/ teacher training institution or its representative for feedback on my mentoring work. (9)	○	○	○	○ ○
I asked my students for feedback on my mentoring work. (10)	○	○	○	○ ○

info5 In the following questions, we are interested in the general reflective practice that develops during mentoring. Please mark the most typical answer for your work! Please keep in mind the experience of your mentoring work over the last two years and answer the questions below in light of this!

GENERAL REFLECTIVE PRACTICE
refl_targy
In what areas did you give feedback on your mentee's work? Tick the appropriate columns.

	teacher candidate (1)	novice in-service teacher (2)
lesson planning (1)	☐	☐
teaching methods (2)	☐	☐
curriculum scheduling (3)	☐	☐
disciplining (4)	☐	☐
evaluation of student work (5)	☐	☐
grading (6)	☐	☐

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scheduling (7)	☐	☐
personality of the mentee (8)	☐	☐
mentee's behaviour related to students (9)	☐	☐
mentee's behaviour related to colleagues / management (10)	☐	☐
mentee's behaviour related to parents (11)	☐	☐
extracurricular pedagogical work (12)	☐	☐
out-of-school teacher behaviour (13)	☐	☐
curriculum content (14)	☐	☐
other: (15)	☐	☐

MENTORING STARTEGY
oralat_gyak How often did you visit your novice's class in a semester?

○ six times or more (1)

○ four to five times (2)

○ two to three times (3)

○ once (4)

○ never (6)

MENTORING STARTEGY
oralat_ok
For what reason did you attend your novice's class? You can mark more than one answer!

○ my mentee found it important (2)

○ I requested a class observation (3)

○ we both considered it important (1)

○ other (4) _____

GENERAL REFLECTIVE PRACTICE
refl_gyak_pedj How often did you give feedback on the work of your teacher candidate (s) in writing or speaking? You can mark multiple answers!

○ after each lesson taught (1)

○ after every second lesson taught (2)

○ after three to five lessons taught (3)

○ after six or more lessons (4)

○ never (5)

GENERAL REFLECTIVE PRACTICE
refl_targy_pedj When did you give feedback on the work of your mentee (s) in writing or speaking? You can mark multiple answers!

	in case of teacher candidate (1)	in case of in-service novice teacher (2)
if possible, immediately after the lesson taught (1)	☐	☐
on the day of the lesson taught (2)	☐	☐
in the week of lesson taught (4)	☐	☐
if I felt the need or the mentee requested (5)	☐	☐
never (6)	☐	☐
other: (7)	☐	☐

MENTORING STRATEGY + GENERAL REFLECTIVE PRACTICE

oraterv When did you request a written lesson plan for the observed lesson? You can mark more than one answer!

	in case of teacher candidate (1)	in case of in-service novice teacher (2)
in the first half of the teaching induction / career period (1)	☐	☐
in the second half of the teaching induction / career period (2)	☐	☐
before the final lesson (3)	☐	☐
if I felt it necessary, for example: (5)	☐	☐
if the mentee felt the need (7)	☐	☐
never (6)	☐	☐

MENTORING STRATEGY + GENERAL REFLECTIVE PRACTICE

felbesz Have you ever interrupted your mentee's class to give instant feedback? You can mark more than one answer!

	in case of teacher candidate (1)	in case of in-service novice teacher (2)
Yes, if I heard a serious content error from the mentee. (1)	☐	☐
Yes, if the mentee made a serious methodological error. (2)	☐	☐
Yes, if the mentee encountered student behaviour problems. (3)	☐	☐
Yes, if the mentee needed my personal help (eg technical problem, health problem, etc.) (4)	☐	☐

No, because ... (5)

☐		☐

MENTORING STARTEGY + ICT

IKT To what extent has digital technology been a part of your work in the last two years? How typical are the following statements for your work?

	Not at all typical (1)	Rather not typical (2)	I can't decide (3)	Rather typical (4)	Completely typical (5)
I was also available to the mentee online (email, chat, etc.) if s/he contacted me with a professional question. (1)	○	○	○	○	○
I was also available online for the mentee (email, chat, etc.) if I was approached with a trust question. (2)	○	○	○	○	○
To create cooperation and communication, I created or operated online communities (e.g. website, Facebook group). (3)	○	○	○	○	○
I used ICT tools (e.g. subject groups, forums) to communicate and collaborate with teacher colleagues. (4)	○	○	○	○	○
I used ICT tools to communicate and collaborate with students (e.g. blogs, social media, educational framework). (5)	○	○	○	○	○

MOTIVATION

motiv_most We asked earlier why you started mentoring. Now we wonder why you are mentoring right now? How do the following factors affect you? Please drag the slider to the right place!

	Had no impact on me	Had a huge impact on me	I don't know/Can't remember
	1 2	3 4	5

my boss (1)	
one or more colleagues (2)	
one or more acquaintances/friends/family members (3)	
teacher training institution (4)	
possible financial compensation (5)	
reduction of teaching load (classes) (6)	
prestige of mentoring (7)	
practicing my mentoring qualification (8)	
change for challenge and change (9)	
work with adults (10)	
work together with novice teachers (11)	
possibility for professional development (12)	

- -

motiv_jovo What would motivate you in your mentoring work that is not currently available to you?_____

End of Block: Motiváció újra

Start of Block: ötlet
CHANGE
otlet In the last question, we wonder if you have any ideas for improving the quality of mentoring work?

End of Block: ötlet

Start of Block: Visszajelzés

email_tajek Would you like to be informed about the results of the research?

yes, at the following e-mail address: (1) _____

no (2)

Correlations of years in teaching, in Mentoring, age and mentoring qualification

Years of teaching experience and years of mentoring experience

Mentoring qualification and age

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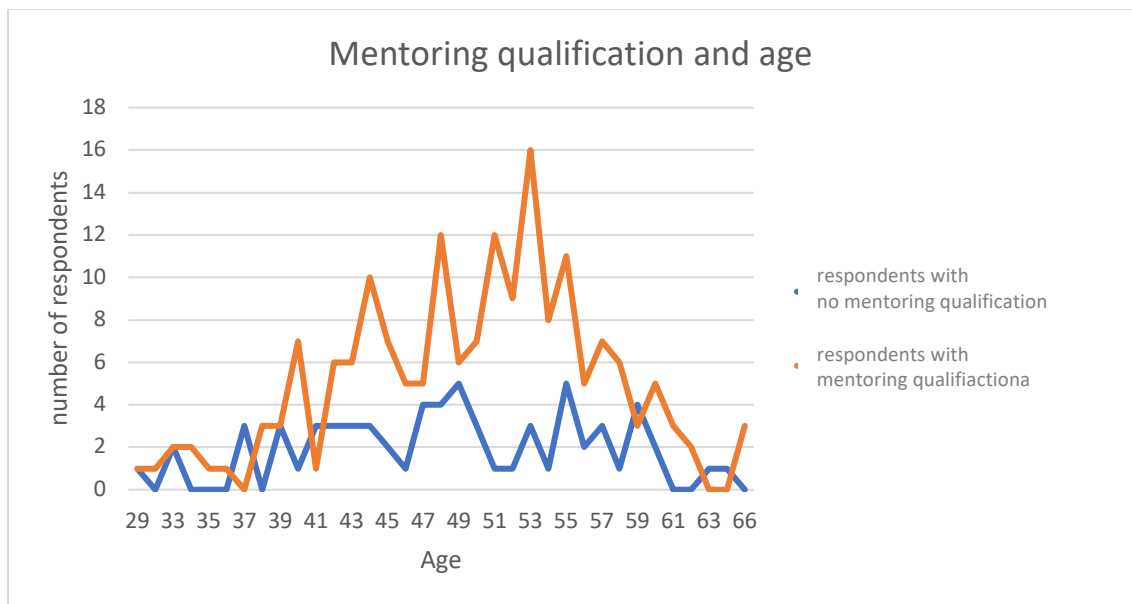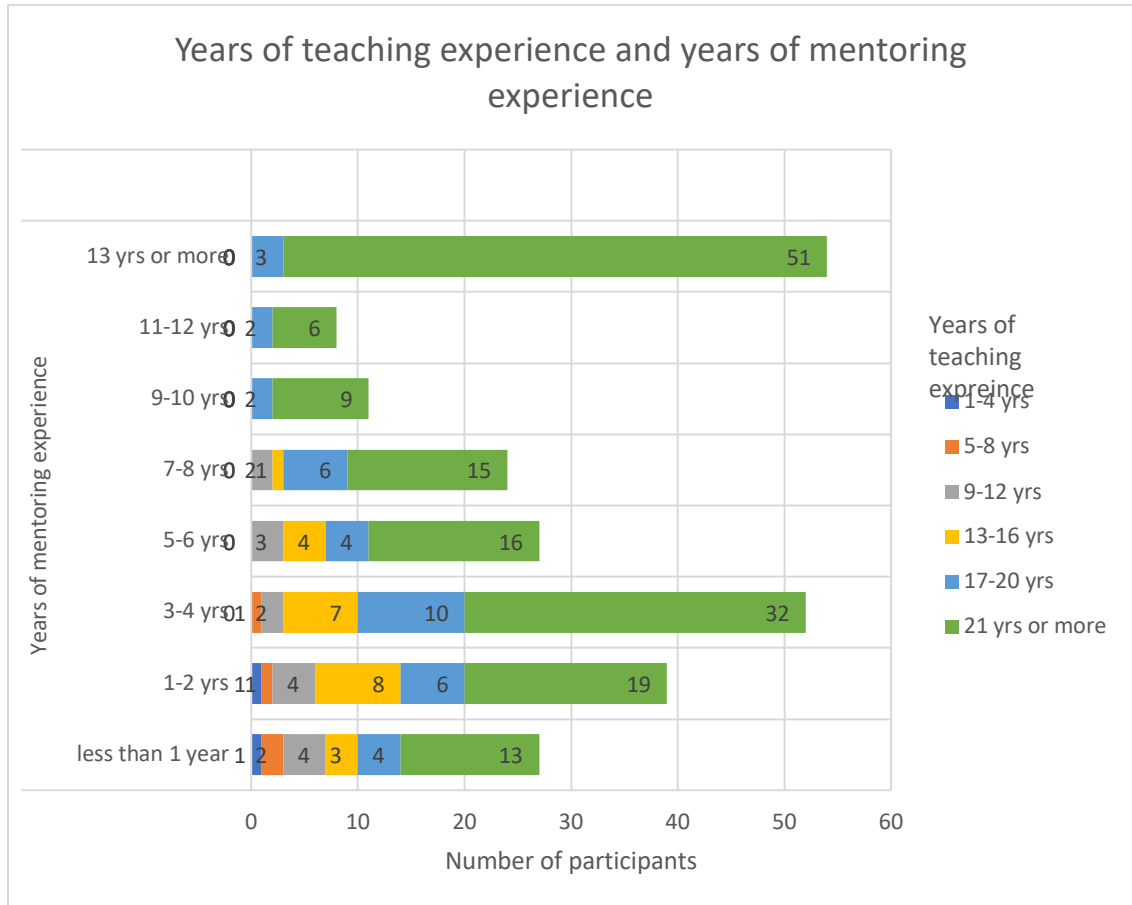
Distribution of complex components and aggregate variables in the Mentors Survey

Complex Component 1	Concepts about the mentor						
Sub-components	**Qualification**	**Experience**	**Motivation for mentoring**		**Mentoring practice**		
Involved variables			**extrinsic**	**intrinsic**	**self-efficacy**	**time management efficacy**	**mentoring as a form of learning**
		teaching_exp INT 6	initial_motiv_1_7 INT4	intial_motiv_8_12 INT4	ment_strat_1_3 INT4	time_ment_concept_2 INT4	learning_teach_8 INT4
	ment_quali OR 2	ment_exp_ INT8	current_ motiv__1_7 INT4	current_motiv_8_12 INT4			ment_learning OR
	ment_tip_two 4ÖsszOR	ment_prac INT7					ment_learing_rank1_6 OR_
		ment_prac2 INT7					develop_tip1_9 INT4
		ment_prac3 INT7					
	No. of involved variables: 49						
	Scale value of involved variables: 202						

Complex Component 2	Concepts about the mentoring process				
Sub-components	Roles in mentoring	General concepts			
Involved variables		concepts about learning to teach	general concepts about mentoring (ordinal)	general time dimension	goal
	ment_strat_8_10 INT4	learning_teach_1_6 INT4	learning_teach_7_9_10 INT4	postles_time INT5	ment_strat_15_21 INT4
	support_charac_4_6 INT4		ment_concept1_6 INT4	ave_min_ment_5scale INT5	
	ment_relation OR				
	ment_concept_3 INT4				
	No. of involved variables:24				
	Scale value of involved variables: 98				

Complex Component 3	Concepts about the mentor-mentee relationship	
Sub-components	supporting adult learning	reflective practice
Involve variables	refl_subj N -> refl_subj_preservicethird and refl_subj_earlycareerthird INT5	ment_strat_4_7 INT4
	refl_prac_earlycareer INT4	ment_strat_11_14 INT4
	refl_subj_earlycareer N -> refl_subj_earlycareer_preservice and INT5	observation_prac INT4
	interrupt INT2	IKT1_5 INT1
	No. of involved variables: 17	
	Scale value of involved variables: 63	

Cross-tabulation of complex components

	COMPLEX1_weighed	COMPLEX2_weighed	COMPLEX3_weighed	COMPLEX_SUM
qualification	,296**	,112	,282**	,243**
	,000	,083	,000	,000
mentoring_teaching_experience	,368**	,194**	,269**	,290**
	,000	,002	,000	,000
COMPLEX1_mentormotiv_initial_extrinsic	,550**	,361**	,307**	,422**
	,000	,000	,000	,000
COMPLEX1_mentormotiv_initial_intrinsic	,410**	,069	,171**	,214**
	,000	,287	,008	,001
COMPLEX1_mentormotiv_current_extrinsic	,794**	,499**	,616**	,671**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX1_mentormotiv_current_intrinsic	,551**	,204**	,334**	,373**
	,000	,001	,000	,000
	242	242	242	242
COMPLEX1_mentor__self-efficacy_general1	,755**	,825**	,814**	,866**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX1_mentor_self-efficacy_time2	,655**	,695**	,695**	,739**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX2_mentors_learning	,808**	,722**	,734**	,809**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX1_mentor roles	,820**	,834**	,842**	,900**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX2_concepts about _learning to teach	,489**	,804**	,490**	,648**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX2_concepts_about	,637**	,931**	,651**	,806**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX2_general_time_efficacy	,649**	,673**	,650**	,710**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX2_goal	,760**	,913**	,838**	,911**
	,000	,000	,000	,000
	242	242	242	242

COMPLEX3_reflective_ practice	,670**	,490**	,883**	,742**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX3_supporting_adult_learning	,810**	,885**	,912**	,945**
	,000	,000	,000	,000
	242	242	242	242
COMPLEX1_weighed	1	,743**	,829**	,911**
		,000	,000	,000
	242	242	242	242
COMPLEX2_weighed	,743**	1	,780**	,915**
	,000		,000	,000
	242	242	242	242
COMPLEX3_weighed	,829**	,780**	1	,946**
	,000	,000		,000

APPENDIX 9

A) Result of variance analysis of complex components and years of mentoring experience

Variance Analysis	Df.	F value	Sig	x1	x2	x3	x4	x5	x6	x7	x8
				less than 1 year	1-2 yrs	3-4 yrs	5-6 yrs	7-8 yrs	9-10 yrs	11-12 yrs	13 or more yrs
COMPLEX1_mentoring_qualification	7	10,809	0,000	3,56	5,13	5,88	6,29	6,56	7,50	7,64	8,02
COMPLEX1_mentoring_experience	7	60,339	0,000	7,07	9,23	12,27	13,04	15,04	20,36	21,88	20,56
COMPLEX1_mentormotiv_init_extrinsic	7	2,481	0,018	10,70	9,85	12,35	11,11	13,00	15,36	10,57	11,22
COMPLEX1_mentormotiv_init_intrinsic	7	0,798	0,590	6,85	7,31	8,10	8,00	8,25	9,64	8,13	6,48
COMPLEX1_mentormotiv_now_extrinsic	7	2,586	0,014	7,96	9,31	10,52	9,19	12,42	15,64	12,00	10,00
COMPLEX1_mentormotiv_now_intrinsic	7	1,541	0,154	5,52	6,10	5,65	6,59	7,46	7,64	9,75	4,41
COMPLEX1_mentoring_pac_self-efficacy_1	7	1,484	0,174	7,59	7,69	7,60	8,44	8,42	10,18	9,50	8,91
COMPLEX1_mentoring_prac_self-efficacy_2	7	1,045	0,400	4,67	4,72	4,44	4,52	5,00	6,18	5,63	5,17
COMPLEX1_mentoring_prac_mentoring_as_learning	7	3,428	0,002	13,74	16,38	17,40	18,41	20,17	23,00	22,63	21,28
COMPLEX1_mentor_roles	7	1,075	0,380	15,63	15,92	16,08	16,33	17,25	20,27	19,88	17,65
COMPLEX2_concepts_about _learning_to_teach	7	1,500	0,168	15,19	14,56	17,31	15,63	16,54	17,27	17,50	17,28
COMPLEX2_concepts_about_mentoring	7	1,418	0,199	21,56	21,82	22,40	23,33	25,08	28,00	25,38	24,78
COMPLEX2_time_dimensio	7	3,213	0,003	3,30	3,82	4,21	3,48	4,46	5,27	4,75	5,19

COMPLEX2_goal	7	1,174	0,319	19,11	20,28	20,19	21,56	22,63	24,36	24,05	22,78
COMPLEX3_supporting_adult learning_refl_practice	7	2,971	0,005	9,46	10,65	11,56	12,04	13,61	15,42	21,38	13,28
COMPLEX3_strategy	7	1,775	0,093	19,81	21,49	21,83	23,33	23,25	28,00	27,25	24,50
COMPLEX1	7	6,212	0,000	83,30	91,64	100,69	102,19	112,88	135,91	127,63	113,69
COMPLEX2	7	1,587	0,140	59,15	60,49	64,12	64,00	68,71	74,91	72,13	70,02
COMPLEX3	7	2,687	0,011	29,27	32,14	33,39	35,37	36,86	43,42	48,63	37,78
COMPLEX_MAIN	7	4,175	0,000	171,72	184,26	198,20	201,56	218,44	254,24	248,38	221,49

B) Correlations of complex components and mentoring qualification

Qualification in mentoring		Frequency	Mean	Std. Deviation	F	F-test significance level	T value	Df.	T-test significance level
COMPLEX1_professional_experience	no	66	11,7121	5,65349	1,659	,199	-3,958	122,283	,000
	yes	176	14,9886	5,94546					
COMPLEX1_motivation for mentoring_initial_intrinsic	no	66	6,3030	4,66400	4,716	,031	-2,410	137,082	,017
	yes	176	8,0114	5,51672					
	no	66	16,1061	8,80057	,387	,535		240	,008

COMPLEX1_mentoring_practice_mentoring as learning	yes	176	19,4091	8,49287			-2,668		
COMPLEX2_concepts_learning to teach	no	66	15,0000	6,80045	11,949	,001	-2,075	87,442	,041
	yes	176	16,8750	4,52122					
COMPLEX2_concepts_of setting goal for mentoring	no	66	21,2879	9,52691	3,231	,074	-2,293	98,091	,024
	yes	176	24,2841	7,64864					
COMPLEX3_ general reflective practice	no	66	10,7020	7,64179	,004	,948	-1,975	240	,049
	yes	176	12,9280	7,87069					
COMPLEX3_approaches	no	66	20,2424	10,50137	10,103	,002	-2,567	95,769	,012
	yes	176	23,9148	8,13800					
COMPLEX1	no	66	91,5455	37,34751	6,146	,014	-3,362	97,702	,001
	yes	176	108,7500	29,81227					
COMPLEX2	no	66	59,6212	26,27006	10,276	,002	-2,291	90,395	,024
	yes	176	67,6932	18,54623					
COMPLEX3	no	66	30,9444	16,92947	5,783	,017	-2,522	100,676	,013
	yes	176	36,8428	14,09852					
COMPLEX_TOTAL	no	66	182,1111	76,19441	10,196	,002	-3,022	93,584	,003
	yes	176	213,2860	56,97106					

APPENDIX 10

A) Self-efficacy and obtained qualification in mentoring

	F	Sig.	t	df	Sig. (2-tailed)	x_1	x_2	s_1	s_2
Ability complete mentoring duties (1)	9,350	,002	-1,237	97,893	,219	2,64	2,89	1,474	1,180
Ability achieve self-set goals (2)	5,986	,015	-1,037	99,835	,302	2,56	2,76	1,405	1,156
Ability to fulfil mentee's expectations (3)	11,278	,001	-1,794	96,859	,076	2,48	2,83	1,406	1,108
Ability to overcome personal/professional problems when mentoring (4)	6,904	,009	-1,541	96,812	,127	2,86	3,19	1,538	1,211

B) Self-efficacy in time management and obtained qualification in mentoring

	F	Sig.	t	df	Sig. (2-tailed)	x1	x2	s1	s2
Minutes dedicated to mentee/ taught lesson	,261	,610	-1,420	240	,157	9,95	11,66	7,830	8,488
Self-efficacy in time management	7,688	,006	-1,340	99,655	,183	2,42	2,69	1,426	1,171
Sufficient time for mentoring	3,992	,047	,115	105,620	,909	2,26	2,23	1,532	1,360
Time spent with post-lesson conferences ((1) less than 10 mins, (2) 10-20 mins, (3)20-30 mins, (4) 30-45 mins, (5) more than 45 mins)	1,373	,242	-2,190	240	,029	2,44	2,90	1,520	1,423
More time needed for effective mentoring (+%)	1,287	,258	-,689	240	,491	22,4091	24,6477	23,70588	22,03947

APPENDIX 11

A) Variance analysis of mentoring experience and goals of mentoring

	df	F	Sig.	less than 1 yr	1-2 yrs	3-4 yrs	5-6 yrs	7-8 yrs	9-10 yrs	11-12 yrs	more than 13 yrs	Mean
lead and keep mentee in the teaching profession	7	,846	,550	2,63	2,79	2,92	3,11	3,17	3,45	3,50	3,09	3,0825
help my mentee form his/her teaching identity	7	,804	,585	3,04	3,15	3,10	3,33	3,38	3,64	3,75	3,48	3,35875
develop my mentee's leadership skills	7	,612	,746	1,81	1,97	2,06	2,19	2,42	2,45	2,13	2,30	2,16625
help my mentee develop his/her time and task management skills	7	1,219	,293	2,81	2,92	2,90	3,07	3,38	3,45	3,75	3,33	3,20125
help my mentee enjoy teaching	7	1,078	,378	3,04	3,18	3,15	3,30	3,54	3,91	3,75	3,54	3,42625
help my students enjoy my mentee's teaching	7	1,191	,309	2,93	3,18	3,04	3,19	3,42	3,73	3,75	3,52	3,345
help my mentee's teaching to have full value	7	1,555	,150	2,85	3,08	3,02	3,37	3,33	3,73	3,88	3,54	3,35

B) Two sample T-test for mentoring qualification and goals of mentoring

Independent sample T-test					Levene's Test for Equality of Variances		t-test for Equality of Means		
	qualification	N	Mean		F	Sig.	t	df	Sig. (2-

				Std. Deviation					tailed)
lead and keep mentee in the teaching profession	no	66	2,727273	1,554601	4,950	,027	-1,717	101,181	,089
	yes	176	3,096591	1,303529					
help my mentee form his/her teaching identity	no	66	3	1,559092	8,730	,003	-1,853	94,343	,067
	yes	176	3,392045	1,180675					
develop my mentee's leadership skills	no	66	1,969697	1,538928	5,421	,021	-1,092	104,906	,278
	yes	176	2,204545	1,353591					
help my menteee develop his/her time and task management skills	no	66	2,833333	1,53506	6,277	,013	-1,818	97,835	,072
	yes	176	3,215909	1,227763					
help my mentee enjoy teaching	no	66	3	1,568929	11,352	,001	-2,165	93,937	,033
	yes	176	3,460227	1,180125					
help my students enjoy my mentee's teaching	no	66	2,984848	1,554076	6,893	,009	-1,814	96,165	,073
	yes	176	3,369318	1,211833					
help my mentee's teaching to have full value	no	66	3,015152	1,563944	7,067	,008	-1,554	96,114	,124
	yes	176	3,346591	1,218566					

APPENDIX 12

		years in teaching	years in mentoring?	qualification	common goal-setting with the mentee.	mentee to plan the lesson on his/her own.	mentee to try out new ideas	mentoring to motivate self-development of mentee	getting familiar with prior knowledge of mentee	opportunity for self-evaluation of mentee	draw my mentee's attention to mistakes made in teaching	revisit teaching content after practicum	mentoring for mentee's teaching to have full value.	interrupting the mentee's lesson (pre-service)	interrupting the mentee's lesson (in-service)
common goals with the mentee	Pearson Correlation	,193**	,158*	,207**	1	,763**	,789**	,518**	,717**	,874**	,689**	,210**	,827**	,263**	,263**
	Sig. (2-tailed)	0,003	0,014	0,001		0	0	0	0	0	0	0,001	0	0	0
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242
mentee to plan the lesson on his/her own	Pearson Correlation	,209**	,147*	,181**	,763**	1	,824**	,420**	,589**	,824**	,653**	,130*	,775**	,209**	,209**
	Sig. (2-tailed)	0,001	0,022	0,005	0		0	0	0	0	0	0,043	0	0,001	0,001
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242
mentee to try out new ideas	Pearson Correlation	,227**	,202**	,172**	,789**	,824**	1	,423**	,643**	,882**	,677**	,161*	,818**	,230**	,230**
	Sig. (2-tailed)	0	0,002	0,007	0	0		0	0	0	0	0,012	0	0	0
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242

mentoring to motivate self-development of mentee	Pearson Correlation	0,068	0,107	,141*	,518**	,420**	,423**	1	,511**	,525**	,395**	,268**	,497**	0,105	0,105
	Sig. (2-tailed)	0,292	0,097	0,028	0	0	0		0	0	0	0	0	0,103	0,103
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242
getting familiar with prior knowledge of mentee	Pearson Correlation	,243**	,250**	,210**	,717**	,589**	,643**	,511**	1	,737**	,564**	,201**	,692**	,280**	,280**
	Sig. (2-tailed)	0	0	0,001	0	0	0	0		0	0	0,002	0	0	0
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242
Interrupted a pre-service mentee's lesson when needed my help (eg. technical, health problem)	Pearson Correlation	,227**	,216**	,134*	,874**	,824**	,882**	,525**	,737**	1	,756**	,215**	,899**	,248**	,248**
	Sig. (2-tailed)	0	0,001	0,037	0	0	0	0	0		0	0,001	0	0	0
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242
Interrupted an in-service early career mentee's lesson when needed my help (eg. technical, health problem)	Pearson Correlation	0,078	0,117	0,108	,168**	0,09	,140*	0,075	,223**	,167**	0,096	-0,055	0,087	,530**	,530**

Interrupted a pre-service mentee's lesson when needed my help (eg. technical, health problem)	Sig. (2-tailed)	0,225	0,069	0,093	0,009	0,162	0,029	0,242	0	0,009	0,136	0,395	0,178	0	0
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242
never interrupted e pre-service teachers' lesson	Pearson Correlation	0,001	0,041	0,049	0,064	,186**	,216**	-0,091	0,021	,153*	0,12	-0,023	,172**	0,103	0,103
	Sig. (2-tailed)	0,99	0,522	0,445	0,324	0,004	0,001	0,16	0,749	0,017	0,063	0,718	0,007	0,109	0,109
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242
never interrupted an early career in-service teacher's lesson	Pearson Correlation	0,056	-0,021	,173**	,181**	,168**	,157*	0,081	,157*	,161*	,132*	-0,101	,132*	,733**	,733**
	Sig. (2-tailed)	0,382	0,744	0,007	0,005	0,009	0,015	0,208	0,014	0,012	0,041	0,118	0,04	0	0
	N	242	242	242	242	242	242	242	242	242	242	242	242	242	242