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ABSTRACT

There is often a fragmentation between campus-based theoretical preparation of pre-service teachers and their practice in schools supported by school-based mentors. One of the fragmentation issues is related to how school-based teachers being mentors for pre-service teachers consider themselves as teachers and as 'teacher educators'. Thus, school mentors play a key role in integrating theoretical and practical knowledge and integration thus involves a two-way relationship between mentors in schools learning from teacher education programmes and educational programs learning from educational practices in school. This study addresses the problem of fragmentation by focusing on factors which contribute to mentors perceived integration in teacher education programs. We have collected questionnaires from 293 mentors and analysed data using structural equation models (SEM) in IBM/Amos. We include mentors' specific education and training for mentoring, their affective commitment to mentoring, their active use of theory and their positive beliefs about successful outcome of their mentoring as important variables. We also explore how gender and years of mentor practice might contribute to mentor integration. We compared participants from three university programmes. The implications of this research for teacher practice are discussed.

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Mentor education; mentor professionalization; teacher education

Introduction

Mentoring provided by teachers in schools is considered a primary factor that contributes to the professional development of teachers (Feiman-Nemser 2001, Hobson *et al.* 2009). However, research shows that school-based mentoring is still largely unguided and disconnected from aims and goals in the teacher education programmes (Beck and Kosnik 2000, Zeichner 2010) and that mentors lack education and training which would enable them to provide support and to maintain a high-quality commitment to the professional development of pre-service teachers (Clarke *et al.* 2014). Mentors' lack of education and training also prevent them from having a high level of commitment to supporting the professional development of pre-service teachers (Clarke *et al.* 2014), and a mentor's ability to theorise practices and to reflect on and analyse not only mentoring but also teaching in general is seen as crucial for integrating mentors into teacher education (Korthagen 2004, Orland-Barak 2016).

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Furthermore, teachers' responsibilities as mentors exist in addition to their normal teaching tasks, which can potentially lead to unmanageable workloads (Robinson and Robinson 1999, Lee and Feng 2007, Simpson *et al.* 2007). This lack of time can lead to lack of persistence and a lack in professionalism in their role as mentors. The consequence of the challenges described above may be that many teachers do not feel committed to being mentors and, thereby, do not have the feeling of being an integrated part of a teacher education programme. In other words, there seem to be several institutional dilemmas concerning the school-based mentors' role in teacher education. 45

There is little understanding of the additional demands placed on mentors in schools, such as the role they have as teacher educators of pre-service teachers (Goodfellow 2000) and the work involved in becoming a teacher educator (Bullough 2005). This lack of understanding could lead to indifference in the role as mentor; feelings of insecurity, nervousness, inadequacy and isolation are quite normal for mentors (Orland 2001, Bullough 2005, Hobson *et al.* 2009). These problems underlines the importance of the personal or emotional perspectives of teachers involved in professional development in schools, i.e. mentoring pre-service teachers or leading other types of teacher development (Clemans *et al.* 2010). If these personal and emotional aspects are not taken into account, the mentors will become peripheral to university teacher education, and many mentors will not be knowledgeable about or interested in teacher education (Zeichner 2010). 50 55

These challenges can be seen in a broader discussion about coherence and professionalization in teacher education programmes, which include different problematic aspects concerning roles and collaboration within the programmes and what is seen as valued knowledge, what is seen as good teacher performance and teacher professionalism in teacher practices (Darling-Hammond 2006, Hammerness 2006, Korthagen *et al.* 2006, Cochran-Smith and Lytle 2009, Darling-Hammond and Lieberman 2012). This study, specifically, takes a closer look at the dilemmas concerning mentor integration into teacher education programmes and understands it as *one* of the many demanding challenges in teacher education programmes. 60 65

Moreover, mentoring in higher education as a field of research has been characterised as disconnected; the field has competing paradigms, and each has its own conceptual and empirical language, and very often, they do not 'talk' to one another (Orland-Barak 2014, 2016). In her review on mentoring in teacher education, Orland-Barak (2016) argues for more integrative research to develop a more professional mentoring practice. This article is a response to this request, as it explores the relationship between the institutional demands for more professionalization of the mentor role and the emotional aspects related to the mentor role in teacher education. 70

In this study, it was assumed that better collaboration and integration of mentors with the campus-based teacher education programmes would be an adequate response to the fragmentation issue. Not only will mentor integration help the mentors in schools to be better informed about theories and concepts in teacher education, but in the same way, teacher educators on campus will be in a better position to design their campus lessons adequately two challenges student encounter in their school practice. This study responds to the challenge of fragmentation by examining the factors contributing to school mentor integration into teacher education programmes. Thus, the research question is the following: Which personal and institutional factors contribute to the integration of mentors into teacher education programmes? 75 80

In the empirical regression models, the ways that the mentors' commitment, education and years of practice contribute to their subjective perceptions of being integrated were analysed. To investigate the research question, questionnaires from teacher training mentors in Norway were collected, and the ways organisational and personal factors are associated with mentor integration were statistically explored. Statistical regression models were developed using IBM SPSS-Amos (structural equation modelling [SEM]), and these two models are discussed in detail. 85

The norwegian context

In recent years, experts have criticised teacher education in Norway for being too fragmented because students are educated by teachers both in schools and at university, which do not seem to share a common stance for educating teachers (Haug 2008, Lid 2013, Følgegruppen 2014). Hammerness (Hammerness 2013) investigated Norwegian teacher education programmes and found that they lack a shared vision and have few opportunities for pre-service teachers to learn in an actual classroom setting where they must solve actual classroom problems.

Norway is attempting to professionalize teacher training by educating teachers from a more inquiry-based approach to teaching (Menter *et al.* 2006, Donaldson 2010, Lillejord and Børte 2016, Lejonberg *et al.* 2017). Different types of partnership arrangements between schools and universities have been established to develop a stronger connection between school-based knowledge and university-based knowledge in teacher education (Haugaløkken and Ramberg 2007, Smith 2016, Lejonberg *et al.* 2017). Within the last few years three of Norwegian universities has established university-school collaborations, attempting to face the challenges of creating sustainable partnerships in teacher education and to balance the roles of campus and school in teacher education programmes. At one university, a school-based teacher mentoring service and research and development (R&D) programme one site is offered to develop mentors' professionalism. Findings indicate that such a school-based education contributes to a deeper understanding of teacher professionalism among school-based mentors (Emstad and Sandvik 2019).

Q2

The overall policy and the legal framework for teacher education in Norway are established by the Norwegian government through the Ministry of Education and Research (Ministry of Education and Research 2013, 2016). The five-year teacher education programmes require pre-service teachers to have 60–100 days of school-mentored practice, and they also require school mentors to have at least 15 credits in mentoring (bachelor level). Teacher education programmes in Norway vary in structure. However, all pre-service teachers in teacher education for primary (students aged 6–12), lower secondary (aged 13–15) and upper secondary schools (aged 16–18) attend 60–100 days of field placement. In some programmes, the practicum consists of two relatively long periods carried out in one year. In other programmes, the days are divided among several periods during a five-year master study. Student assessments are a shared responsibility between school-based mentors and the teacher education institution. The students are usually mentored by several mentors during their practicum. Mentoring is often carried out by teachers in practice schools with expertise in the pre-service teacher's academic field. Mentors are expected to have research and development qualifications as well as training in mentor education (Ministry of Education and Research 2013, 2016).

Mentor education in Norway is, however, the responsibility of the teacher education institution provider. Thus far, few teacher education institutions in Norway have been able to offer mentor education to all their mentors, and only some institutions have compulsory programmes for their mentors.

Theoretical framework

Mentor integration

The *raison d'être* of teacher learning and teacher training is that pre-service teachers should be prepared for their profession. However, educating reflective practioniers, in light of Cochran-Smiths and Lytle's framework of teacher professionalism (Cochran-Smith and Lytle 1999), is a complex job for teacher educators operating in a field of campus-based teaching and school-based practice. Campus-based teacher educators have traditionally operated in the field of 'knowledge-for-practice' and 'knowledge-of-practice'. However, the school-based mentors supervising students in their teacher practice in schools have focused on the practical experience of teaching, or the 'knowledge-in-practice' (Cochran-Smith and Lytle 1999). University-based teacher

educators have argued that school-based mentors do not connect experiences in classrooms with relevant theories and research, and the criticism of teacher education from pre-service teachers, school administrators and politicians is based on the irrelevance of teacher education to the reality of teaching in the classroom (Korthagen and Wubbels 1995, Korthagen 2010). 140

Therefore, better collaboration and integration of mentors with the campus-based teacher education programmes would be an adequate response to the fragmentation issue. More integrated mentors is closely associated with enhanced focus on professionalism in teacher education programmes (Darling-Hammond 2006). As the university-based teacher education programmes began to seek higher credibility with schools and began to develop closer associations with teachers, some programmes began to use the term 'mentor' instead of 'cooperating teacher' (Clarke *et al.* 2014). This shift reflects the emerging focus on professionalism in teacher education (Darling-Hammond 2006) in which both school-based teachers and university-based teachers should have professionalised roles in the education of pre-service teachers. 145

Mentor integration is also closely related to mentor identity. An important part of mentor integration is that school-based teachers should view themselves not only as teachers but also as 'teacher educators'. For example, in Bullough's (2005) study, a secondary school teacher moved beyond the teacher identity to the mentor identity after mentoring two pre-service teachers and also adopted the term 'school-based teacher educator'; however, evidence has shown that changing the term has not changed the role of the cooperating teacher and that teachers often feel they simply provide a place for pre-service teachers to practice teaching skills (Evans and Abbott 1997, Hall *et al.* 2008, Clarke *et al.* 2014). Consequently, for integration to take place, a more active identification with the mentor role is crucial. 150 155

Furthermore, Darling-Hammond (2006) argued that consistency between the different parts of teacher education is needed. Consistency means that there is a relative consensus regarding what is considered and valued as professionalism in teacher practices between the university teachers and school mentors in teacher education programmes (Darling-Hammond 2006). Also Hammerness (Hammerness 2006, 2013) stressed the importance of coherence in teacher education programmes to avoid fragmenting the field of teacher education. Similarly, in their outline of principles for teacher education, Korthagen and colleagues argued that 'learning about teaching requires meaningful relationships between schools, universities and pre-service teachers' (Korthagen *et al.* 2006). This principle addresses the challenge in teacher education programmes in that actual practice and educational institutions must be integrated to provide relevant teaching to students. Thus, school mentors play a key role in integrating theoretical and practical knowledge. Integration involves a two-way relationship between mentors in schools and teacher education programmes. The latter must support the mentors' efforts, create space for collaboration and value their support of pre-service teachers and of the programmes' responsibility to educate the mentors. 160 165 170

Research has identified institutional challenges regarding how mentors perceive their role as school-based teacher educators (Castanheira 2016). The type of institutional support provided to mentors seems to be inconsistent and insufficient. Indeed, many teachers could feel forced to become mentors due to the number of pre-service teachers interning at the school, and both the freedom of choosing to become a mentor and allotting the time required to carry out the roles of a mentor are important factors for success (Hobson and Malderez 2013, Stephens *et al.* 2014). Furthermore, research has shown that the organisational culture in which mentoring develops has a profound influence on the success of mentoring relationships. The way the collaborative culture in schools and between schools and institutions of higher education is organised and developed is another factor that affects how mentors perceive their role as teacher educators (Wyatt and Arnold 2012, Hobson and Malderez 2013, Kent *et al.* 2013, Thornton 2014, Kochan *et al.* 2015). Mentor integration is the dependent variable of our theoretical framework. 175 180 185

Mentors' 'knowledge for, in and of practice'

Mentors' use of theory when mentoring pre-service teachers is one aspect that can influence mentor integration into teacher education. By meeting with a pre-service teacher, a qualified mentor can discuss and reflect on student practices based on the theory and research related to mentoring and how teachers learn. In addition, the ability to supervise pre-service teachers based on the subject's theories and areas of knowledge is important to guide the pre-service teachers in their efforts to develop as a professional teacher. 190

A mentor's ability to theorise practices and to reflect on and analyse not only mentoring but also teaching in general is crucial for integrating mentors into teacher education (Cochran-Smith and Lytle 1999, 2009, Korthagen 2004). Furthermore, Korthagen (2004) emphasised the importance of reflection on new teachers' professional development in order for them to be prepared for challenges in practice-oriented experiences. In other words, their ability to connect 'knowledge-for-practice', 'knowledge-in-practice' and 'knowledge-of-practice' (Cochran-Smith and Lytle 1999) should be integrated to develop the mentors' feeling of being integrated as teacher educators in teacher education programmes. 200

Studies have shown that mentors' professional development is highly practice oriented and based on their own professional experiences and preferences (Clarke *et al.* 2013, Ulvik and Sunde 2013). Other studies have shown that although mentors value formalised mentor education, the acknowledgement of practical experience is of great importance, and although mentors seem confident in their theoretical understanding, they are still less confident in using the knowledge in practice (Dallat and Moran 1998, Koballa *et al.* 2010, Ulvik and Sunde 2013). 205

One of the most important aspects of utilising the full potential of mentor education is the opportunity to connect and to integrate theory and practice (Aspfors and Fransson 2015). If mentors in schools feel comfortable linking theories and research-based knowledge with pre-service teachers' classroom experiences, they can contribute to enhancing professionalism among pre-service teachers (Cochran-Smith and Lytle 2009). This may also affect mentors' perceived integration into teacher education (Hobson *et al.* 2009), as the different parts in the education could speak a common language and represent different arenas in the education programme in a more conscious way. In this article, the mentors' ability to use 'knowledge for, in and of practice' (Cochran-Smith and Lytle 1999) and to use research-based knowledge while mentoring is defined as mentor theory use (MTU), and it was assumed that the mentors' ability to use theories during their reflection on practice-oriented experiences is related to mentor integration into teacher education programmes. Thus, the following hypothesis is proposed. 210 215

H1: The level of theory use is positively related to the level of mentor integration. 220

Mentors' affective commitment to the mentor role

Mentors' affective commitment to the mentor role is another dimension influencing mentor integration into teacher education programmes. In this article, affective commitment is understood as an emotional attachment to, an identification with and an involvement in the mentor role (Meyer *et al.* 1991, 2002, Lejonberg and Christophersen 2015). Mentors' affective commitment can be understood through the theoretical lens of Ryan and Deci's (Ryan and Deci 2003) work on relations and relatedness. This theory is among the most explicit in its recognition of relatedness as a fundamental component of motivation. It proposes that for one to be motivated, to feel integrated and, in this specific case, to identify as a mentor, the role and activities of mentors should be autonomous to a large extent – that is, they experience volition and freedom in acting (Deci and Ryan 2000, Ryan and Deci 2003). According to Ryan and Deci (2003, p. 258), such motivation and integration result in more positive experiences, 'such as enjoyment, sense of 225 230

purpose and well-being'. In other words, if mentors identify with a role or an activity, they consciously endorse or assent to its personal value and importance. In the discussion of relational aspects and the emotional attachment to the mentor role in mentor integration, the term mentor affective commitment (MC) is used (Meyer *et al.* 1991, 2002). 235

Emotional attachment to a role can be related to the need for autonomy. This need refers to the desire to be one's own source of behaviour (Ryan and Deci 2003). Mentors in schools have their own education and experiences which reflect their behaviour, and in this context, autonomy can be understood as the need and the desire of mentors to make their own choices based on their own knowledge base, which is unrelated to external motives, such as demands from teacher education. Ryan and Deci (2003) work on relations and relatedness includes such terms as 'enjoyment', 'sense of purpose' and 'well-being' when describing a person's engagement in activities, which can help in understanding mentor commitment. If a person identifies with the activities to be performed, the quality of engagement is higher. 240 245

Research has shown that teachers' sense of professional and personal identity is a key variable in their professional motivation and commitment (Day 2002, Thoonen *et al.* 2011, Orland-Barak 2016). Studies have addressed the dilemma that although members of an organisation may be highly committed to their organisation, they do not feel the necessity to make an individual commitment to mentoring (Meyer *et al.* 1991, 2002, Meyer and Herscovitch 2001). For mentor integration, the mentors' commitment to their work as mentors is assumed to be an important contributor to mentees' professional development (Abell *et al.* 1995, Clutterbuck 2004). Munthe and Ohnstad (Munthe and Ohnstad 2008) investigated whether mentors considered themselves teacher educators, and they found that although some mentors participated in a joint practical community with university-based mentors, their professional identities were mostly associated with being teachers to their pupils, and they were less associated with being mentors to teacher educators. Based on these findings and theories on relatedness, the following hypothesis is proposed. 250 255

H2: The level of affective commitment contributes to the level of mentor integration.

Mentor self-efficacy

The final personal aspect discussed in this article that can influence mentor integration is self-efficacy of the mentor to bolster the self-efficacy of the student or shorter, mentor efficacy (MTE). According to Bandura (1997) comprehensive work, self-efficacy is vital to planning and performing any challenging task, such as mentoring. Mentors in schools and their confidence in their teaching abilities may or may not actively support and develop pre-service teachers' beliefs about their role as teachers. Active mentor support requires being sensitive to pre-service teachers' anxieties and needs as well as supporting the mentors' capabilities in communicating active support to foster positive beliefs. Bandura (1997, p. 3) defined self-efficacy as follows: 'self-efficacy refers to beliefs in one's own capabilities to organize and execute the courses of action required to produce given attainments'. From this general definition, teacher efficacy can be understood as teachers' beliefs in their own capabilities to carry out professional actions in various situations and relevant arenas as teachers. 260 265 270

According to Bandura's definition and in the context of this study, 'capabilities' refer to competencies and skills that are required for professional actions as a teacher. These capabilities must help make teachers confident in their ability to teach and to obtain reasonably good results in terms of professional attainment and pupil outcomes. Bandura (Bandura 1997) maintained that efficacy is a generative capability in which cognitive, social-emotional and behavioural sub-skills are organised and orchestrated to serve the purpose of fulfilling the teacher role: 'self-referent thoughts activate cognitive, motivational, and affective processes that govern the translation of knowledge and abilities into proficient action' (Bandura 1997). Therefore, efficacy beliefs organize 275

and motivate teachers related to teaching performance. Teacher efficacy is a broad concept that varies based on the tasks and challenges of teaching (Skaalvik and Skaalvik 2007). Bandura (1997) pointed out that self-efficacy affects thought processes, the level and persistency of motivation and affective states, all of which are particularly important for human action. Consequently, teacher education programmes, and mentors in particular, must support pre-service teachers' efficacy beliefs in their professional education.

Enactive mastery experiences are acknowledged as the most effective way to enhance efficacy beliefs (Bandura 1997, Hoy and Spero 2005, Tschannen-Moran and Hoy 2007). In this study, two sources of mastery experiences – 'modelling' and 'verbal support and persuasion' – were investigated. Pre-service teachers may have several role models, such as their own teachers in schools, other pre-service teachers and teachers (mentors) whom they have observed – particularly the teachers they observe during internship. Mentors may also serve as trusted individuals who actively express support for their actions. Evaluation and feedback in education are of great importance, particularly when such feedback highlights capabilities and is related to students' efforts (Bandura 1997). It is hypothesised that this may (along with other issues) affect mentor involvement in teacher education. Therefore, this variable was included in the model, which was expected to provide support for the assumption that teacher efficacy contributes to mentor integration. The following hypothesis is proposed.

H3: The level of mentor support for pre-service teachers' efficacy is positively related to the level of mentor integration.

Thus far, institutional and personal or relational aspects of mentors' perceived integration into teacher education programmes have been described and hypothesised as dependent and independent variables. Three control variables were also included. As mentioned, it has also been argued that mentor education is vital to improving the mentoring of pre-service teachers. Therefore, it was also predicted that mentor education will predict the level of perceived integration into teacher education (H4). The number of years of experience that mentors had in active mentor practice was also included in the questionnaire. It was assumed that the number of years of mentor practice could predict the way mentors perceived themselves as part of teacher education and the way they felt integrated to some extent (H5). Gender is often a relevant factor in social and professional dimensions, and, thus, it was assumed that there will be gender differences in mentors' perceived integration into teacher education programmes (H6).

Materials and method

The hypotheses were tested using questionnaire data from 295 mentors from two different teacher education institutions, and data from primary, lower secondary and upper secondary schools are represented in the sample. The data were partly (in one mentor education programme) collected by administrators at a lecture for mentors, which resulted in close to a 100% response rate from the mentors who attended. For the two other educational programmes, the same questionnaires were distributed to teacher education contact teachers in local practice schools, who distributed and collected forms from the mentor teachers. The mentors who attended mentor education courses participated in programmes designed within a national framework, which provides guidelines and establishes criteria for mentor training courses.

Questionnaire

The questionnaire was designed based on new measurement instruments as well as instruments previously used in other studies. The self-efficacy instrument was adapted from previous works (Lejonberg and Christophersen 2015, Lejonberg *et al.* 2015), while all of the instruments were

Q3 inspired by the work of Haladyna and Rodriguez (2013), who argued that the instruments used should be adapted to the context under investigation. For the survey, the mentors responded to items on a seven-point Likert scale, where the alternative 'four' represented a neutral midpoint. The analysis reported is based on these items, the results of the measurement statistics factor analysis and the Cronbach's alpha (α_c). The internal consistency (Cronbach's alpha) for each of the concepts was satisfactory. Through structural equation modelling in IBM AMOS, the empirical associations were tested with mentor integration as the dependent variable and theory use, affective commitment, self-efficacy of the mentor to bolster the self-efficacy of the student and effort in the mentoring role as the independent variables.

Control variables were included, such as gender (V86), whether mentors had mentor education (V2) and the mentors' years of experience in mentoring teachers (V88). Gender (V86) was included because it is often a relevant factor in social and professional dimensions.

Measurement

Mentor integration as a dependent variable

Based on the research review of teacher professionalism and the integration of theory and practice (Hobson *et al.* 2009, Korthagen 2010, Darling-Hammond and Lieberman 2012), relatedness and the regulation of identities (Ryan and Deci 2003), the mentor integration variables highlighted two aspects of mentor involvement in teacher education: the way the mentors perceived themselves as teacher educators (81–82) and the way the mentors viewed themselves as integrated with campus education programmes. The Cronbach's α was 0,78.

- I see myself as a teacher educator (81).
- I find that teachers from the training institution appreciate the job we are doing as an important part of teacher education (84).
- Mentors are teacher educators on an equal basis with those who work on campus (85).

Independent variables

Theory use in mentoring

Based on the research review, the mentor theory use emphasises that a mentor's theoretical, analytical and reflection skills are important for developing further mentor skills (Aspfors and Fransson 2015). The α_c was 0,82. Assuming that the mentor's use of theory can contribute to mentor integration, this dimension was operationalised using the following items to measure this variable:

- Do you refer to literature as a basis for conversation with the student? (64)
- Do you encourage students to reflect upon practice in light of the literature being used? (65)
- Do you inform your mentoring practice through using theory and literature based on teaching and learning? (66)

Mentors' affective commitment to the mentor role

Affective commitment to the mentor role variable was adopted from Lejonberg and Christophersen (Lejonberg and Christophersen 2015). The internal consistency of α was 0,86, which was satisfactory. The items included to measure this variable were the following:

- I am proud of being a mentor. (20)
- I am enthusiastic about the mentor role. (21)
- I am pleased to be able to sign up as a mentor. (22)

Mentor support for pre-service teachers' efficacy

The self-efficacy variable related to the mentor role was adopted from Lejonberg and Christophersen (2015) in accordance with the view that 'teacher efficacy scales should be linked to the various knowledge domains' (Bandura 1997). The internal consistency α_c was 0,80, which was satisfactory. Mentor support for pre-service teachers' levels of efficacy was measured using these statements: 370

To what extent do you master these challenges as a mentor?

- ... to make the student believe that he/she can master challenging classes (48)
- ... to make the student believe that he/she can adapt the teaching practices to the needs of all students in class (49)
- ... to make the student believe that he/she is able to find proper solutions to challenging dilemmas that may occur during lessons (50)
- ... to provide strategies for collaboration with diverse colleagues (51)

Analytical procedures

Structural equation modelling was used to analyse the relationships among the variables. Based on the theoretical assumptions and data exploration, a structural model was developed. Assessments of the fit between the models and the data were based on the following indices: the p-value (the probability of observing a test statistic, which is referred to as P-kji); the root mean square error of approximation (RMSEA); the Tucker-Lewis index (TLI); the goodness-of-fit index (GFI); and the comparative fit index (CFI). P-kji >0,05, RMSEA <0,05 and TLI, GFI and CFI >0,95 indicated good fits, while RMSEA <0,08 and TLI, GFI and CFI >0,90 indicated acceptable fits (Kline 2005, Byrne 2010). Both the measurement and structural models were estimated using IBM SPSS Amos 22. The values presented indicate that the structural models presented in Figure 1 has good fit. The RMSEA value of 0,034 indicated a good fit. The TLI of 0,975 was well above the norm of 0,90, which indicated an acceptable fit. The GFI value of 0,945 indicated a good fit, and the CFI value of 0,981 indicated also good fit. 380

In the model, it was assumed that MC would have a significant association with MI, and it was assumed that MC would be a driving force in mentor theory use (MTU) and self-efficacy (MTE) of the mentor to bolster the self-efficacy of the student, with the latter two specified as mediating variables. Mentor experience (V88) was also included, and it was assumed that experience existed prior to the mentoring practice. 385

Ethical considerations

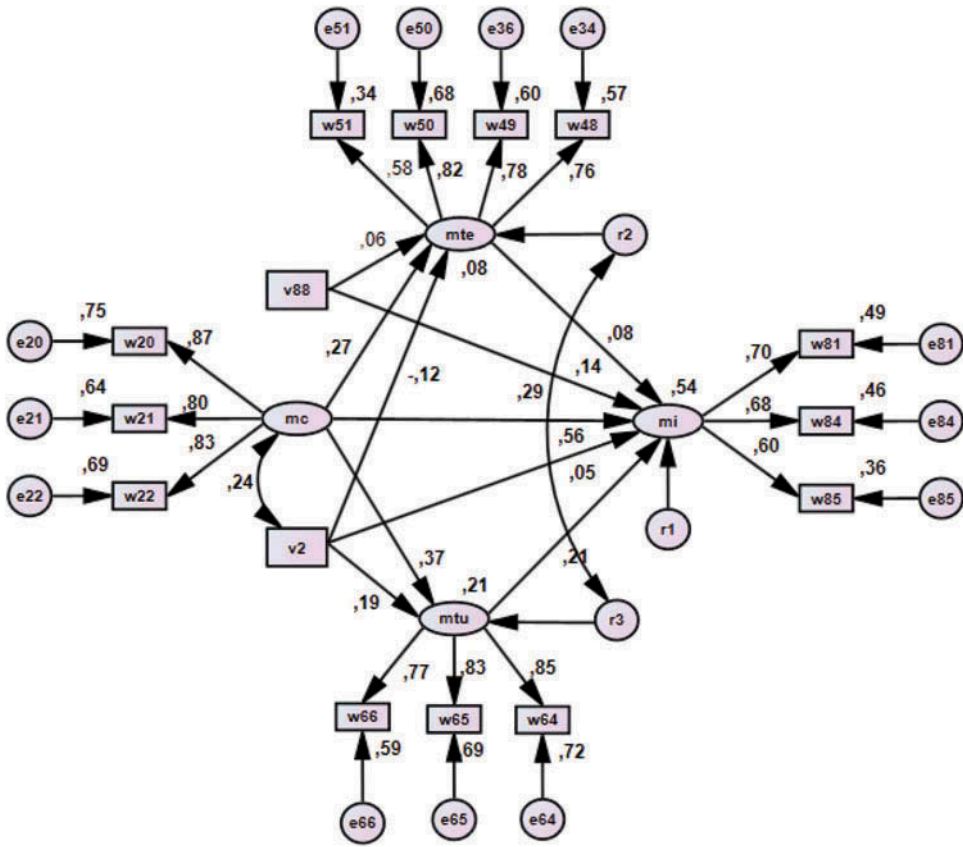
All mentors were informed of study and they volunteered to participate. The participants are completely anonymous and the study is in line Guidelines for Research Ethics in the Social Sciences, Humanities, Law and Theology (NESH 2006). Furthermore all scales from the questionnaire are presented above which makes the study transparent. 390

Results

The bivariate correlations between the independent variables and dependent variable are presented. 400

Table 2 (below) shows the bivariate correlations with MI (mentor integration): V86 = gender (low value = females) and V88 = years of mentor practice. V2 = mentor education (low value = have education), MTE = mentor teacher efficacy, MC = mentor affective commitment and MTU = mentor theory use. The first row shows the correlations between the latent variables, and the second row shows correlations with index sum-scores. The numbers were calculated using Pearson's r. 405





Standardized estimates
 Kji-kvdrat = 100,020 df = 80 p-kji = ,064
 rmsea = ,031 tli = ,982 gfi = ,951 cfi = ,986

Q14 Figure 1.

Q4 Table 1. Data selection from mentors in three teacher education programmes and two institutions.

Institutions/TE-Programmes	N
UO Upper secondary	66
TU Upper secondary	155
TP Primary	74
Σ	295

Table 2. Bivariate correlations with mentor integration (MI).

N = 258	v86	v88	v2	MTE	MC	MTU
Latent	-.07	.13	-.24	.30	.68	.48
Index	-.05	.12	-.18	.20	.52	.38

The primary focus was how correlations between latent variables are associated. Female mentors perceived themselves moderately more integrated than men. Although the association was moderate, it was included in the model. V88, years of mentor practice, was also moderately associated with M and was included in the model. The association offered little support to the

expectations. V2, mentor education, was a bit more strongly associated with MI (mentor integration) and was included in the model. This offered some support for the expectations. MTE (mentor teacher efficacy) was strongly associated with MI. MC (mentor affective commitment) was strongly associated with MI, and MTU was also strongly associated with MI. The correlations these variables (MTE, MC and MTU) have with MI supported the expectations. 415

We display our structural equation modelling in Figure 1

In the SEM model, it should be noted that the variable in the model showed unique associations with MI when controlled for the other variables in the model. 420

In this model, it was assumed that mentor affective commitment (MC) had a wider causal influence on mentor practices related to their use of theory and support for pre-service teacher efficacy. The estimated direct effect of MC on MI was still strong. MC also had a medium indirect association with MI via MTE and a medium to strong effect via MTU on MI. It is, therefore, quite noteworthy that an affective commitment to mentoring seems to reflect a professional engagement, which potentially may support a wider range of practices related to the mentoring profession. The total contribution of MC to MI was, therefore, substantial. These empirical results support the hypothesis that mentor affective commitment may be a driving force in a wider range of mentor practices, which is noteworthy. 425 430

The results for v88, number of years of mentor practice experience, only moderately contributed to mentor integration into teacher education programmes. The small contribution was lower than expected because it was assumed that experience in mentoring pre-service teachers would slowly but gradually lead to better integration. For gender, only minor differences between female and male mentors in terms of support for teacher efficacy among students and use of theory in mentoring were identified. The direct effect of gender on mentor integration was zero. Because gender differences are highlighted in so many aspects of education, this result was somewhat unexpected. 435

Discussion and conclusions

Mentor education was moderately related to mentor self-efficacy (.12), commitment (.24) and theory use (.19) but not to mentor integration (.05). Mentor self-efficacy was slightly related to mentor commitment (.28) but not to mentor integration (.08). When mentors felt confident, they could support the developing self-efficacy of their pre-service teacher, they had a more positive affective response to their role. 440


Furthermore, mentor commitment was related to theory use (.38) and to mentor integration (.56). These results indicate that the higher the affective commitment to being a mentor, the stronger will be the mentors' identity with the role of teacher educator. In addition, mentor affective commitment may contribute to a wide range of teacher practices, and, thus, H2 was clearly supported. It was concluded that mentors' affective commitment contributes to their role as pre-service teachers, which is important to mentor integration and practices. Emotions can be 445 450

Q5 autonomous but may occasionally be led by rationality (Elster, 2007). Emotions and emotion-based behaviour may affect one's desires and beliefs, and, thereby, they have an influence on actions in different situations (Elster, 2007). Such behaviours may be referred to as mechanisms or Q6 explanations for causal patterns. Elster (1997, p. 1) defined mechanisms as '... frequently occurring and easily recognizable causal patterns that are triggered under generally unknown conditions or with indeterminate consequences. Thus, positive emotions related to mentoring – such as enjoyment, proudness and enthusiasm – stimulate positive behaviour and may cause mentors to invest time and effort into support for students as well as to help them overcome the challenges of pre-service teaching in schools. Emotions may also support mentors in identifying (indicated by the strong empirical associations) with their role as teacher educators. These results are in line with previous research, which has shown that teachers' sense of professional and 455 460

personal identity is a key variable in their motivation and commitment to their work (Day 2002, Thoonen *et al.* 2011).

Mentor theory use was related to mentor integration (.21). Although mentor education was not a strong predictor of mentor integration, it did seem to be important in fostering commitment, theory use and self-efficacy. Without education, mentors may not realize the importance of cultivating self-efficacy. It should be noted that ‘theory’ may imply educational theory presented in teacher education programmes as well as theories related to educational practices which take place in everyday situations and discussions. Theory plays a crucial role in teacher professionalism (Korthagen and Vasalos 2005, Cochran-Smith and Lytle 2009), and consequently, mentor use of educational theory, accompanied by the theorising of practice, supports student reflections and may complement campus-based education (Korthagen 2004, Darling-Hammond 2006). H1 was moderately supported, and it was concluded that use of theory supports mentor integration. Mentor support for pre-service teacher efficacy (MTE) only moderately contributed to mentor integration (MI), and, thus, H3 had weak support. As a result, support for pre-service teacher efficacy may not play a role in mentor integration. When mentors felt confident they could support developing the self-efficacy of their pre-service teacher, they had a more positive affective response to their role.

Third, several factors were used to explore mentors’ use of theories (MTU), and the analysis indicated that the MTU correlation with mentor integration was weak. When mentors were able to bring theory into their discussions with their pre-service teachers, they had a more positive experience of being a mentor and were more likely to think of themselves as a teacher educator on an equal basis with the university-based teacher educator. If mentors use theories while mentoring pre-service teachers, this can indicate that the mentors cognitively integrate the use of theory into their teacher education. Mentor use of educational theory in mentoring may affect a mentor’s sense of being successful and, thereby, stimulate a stronger autonomy in practicing the mentor role. Mentor use of educational theory accompanied by a sense of success may be a mechanism (Elster, 1999) to integrate mentors into teacher education programmes.

 Mentor education had a medium association with mentor integration (Table 2), but it had a low causal effect in model 1. This result indicates that mentors with mentor training are slightly more likely to feel integrated as teacher educators than those without mentor training, but the effect was minor. Although mentor education was not a strong predictor of mentor integration, it did seem to be important in fostering commitment, theory use and self-efficacy. Without education, they may not realize the importance of cultivating self-efficacy. Therefore, it seems that mentor education, which these teachers possessed only moderately, resolved the separation between student practice and campus-organised teacher education. Thus, H4 was only moderately supported; mentor education only moderately contributes to mentor integration. Consequently, mentor education may have a significant potential to contribute to mentor integration, which is worth exploring by teacher education institutions. Years of mentor practice did not contribute to mentor integration, which is contrary to the expectations and quite noteworthy because it indicates that internship and campus education are strongly separated. Thus, H5 was not supported. Likewise, no difference was found between men and women (gender) for mentor integration. H6 was not supported; gender differences do not play a role in mentor integration into teacher education programmes.

Implications

The relationships between institutional dimensions, affective commitment, theory use and self-efficacy of the mentor to bolster the self-efficacy of the student with mentor integration as a dependent variable indicated that there are several dimensions within a teacher education context that affect the gap between school-based knowledge and academic-based knowledge. The greater the connectedness at the personal and emotional levels in the academic context of mentoring, the greater will be the scope of academic engagement and achievement accomplished by the mentors. Thus, personal and relational aspects are crucial factors for supporting mentor integration in teacher

education programmes. Taking the professional consistency between actors perspective into account, it is important that university teachers and school-based mentors in teacher education share a consensus over what is considered valued knowledge, good teacher performance and teacher professionalism in teacher practices (Darling-Hammond 2006, Smith 2016).

This study demonstrates that mentor education may support mentor integration into teacher education programmes. The professional development of mentors through programmes designed to develop their professional identity may enhance their understanding of their role as teacher educators. A sense of integration, and possibly a more consistent understanding of professional practices, may further contribute to more sustainable partnerships in teacher education because the equality of the different partners in the partnership would be promoted (Hammerness 2006, Smith 2016).

To summarise, knowledge regarding the factors contributing to mentor integration into teacher education programmes can influence how teacher education institutions design mentor programmes. For example could school-based mentors be encouraged to explicitly explain theory when mentoring pre-service teachers, explore professional and personal identity and commitment to the mentoring role and use modelling and verbal support in the mentor role. This study has yielded several predictions for mentors' perceived integration as teacher educators into teacher education programmes, and it has also provided knowledge regarding the antecedents of mentor integration that can contribute to facilitating conditions promoting mentors' integration for both teacher education institutions and policymakers.

Limitations and further research

This study has several limitations from a conceptual perspective (parsimonious modelling) as well as in terms of its methodological (cross-sectional) approach. A cross-sectional approach was utilised, which has inherent limitations. For instance, the methodological approach makes it difficult to draw clear conclusions without first acknowledging the need for further validation of the central findings. Some of the path coefficients were small and, thus, should be interpreted with caution; however, the basic theoretical model was based on such a strong research foundation that it is highly unlikely that the statistical associations highlighted in this study resulted from coincidence or spurious connections. One limitation of this study is the use of self-reported questionnaire data because the subjective nature of such data is undeniable. In addition, only a limited number of concepts were examined. These shortcomings are acknowledged and can be used as avenues for future research.


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Disclosure statement

Q8 No potential conflict of interest was reported by the authors. 550

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