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Striving for a holistic view: student teachers' views on teacher competencies

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ABSTRACT

This article examines how Finnish student teachers describe teacher competencies. Investigating teacher competencies as a comprehensive whole and using an established framework have been rare in teacher education research, despite being crucial for fluent transitions from teacher education to working life. The participants ($N=73$) were studying in the primary and special teacher education programmes of a Finnish university, and had just completed their first teaching practicum (Spring 2023). Textual data were collected through written reflections on the topic, which students completed as part of their coursework. This data were analysed using a theory-driven qualitative content analysis informed by the multidimensional adapted process model of teaching (MAP). The findings indicated that student teachers describe teaching as a multifaceted profession, emphasising pedagogical knowledge, relational skills, and emotional competency. Reflections on content knowledge were strikingly few. Competencies that were scarcely mentioned included practical knowledge, contextual knowledge, digital skills, and diversity and intercultural competencies. This study contributes valuable insights on the intersection of teacher education and working life to be used in teaching, curriculum development, and programme design. Additionally, the study discusses the use of competency models in empirical research.

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Introduction

What should be taught and learned in initial teacher education remains a persistent question that reflects wider tendencies in higher education and affects teachers' professional development. Teacher competencies have been researched extensively, yet studies often examine certain competencies independently of others. Only a handful of studies investigate teacher competencies as a comprehensive whole and use an established framework for organising these competencies. It is constructive if actors within teacher education, including student teachers, shared an understanding of what kind of knowledge, skills and beliefs are required to be successful in the teacher profession. When actors such as teacher educators, student teachers, politicians, and researchers agree on this issue, teacher education is likely to be more coherent and comprehensive. This study contributes to discussions about success in teaching by focusing on Finnish student teachers' views on teacher competencies. It uses the multidimensional adapted process model of teaching (MAP; Metsäpelto et al., 2022), which has systematically synthesised a variety of evidence-based teacher competencies, to explore the following research question: How do Finnish student teachers describe teacher competencies in their reflexive reports after their first practicum?

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Competency acquisition and development have become standards in describing the aims and outcomes of higher education (Isopahkala-Bouret et al., 2011; Scholkmann et al., 2025; Wilson-Daily et al., 2021). Study programmes are expected to formulate competency goals, which involves the identification of future work competencies, including both field-specific knowledge (Shulman, 1987) and generic skills (Myllykoski-Laine et al., 2023; Tuononen et al., 2023), such as critical thinking and collaboration. Rather than being taken for granted, competency development and its manifestation should be made visible, reflected, and facilitated (Myllykoski-Laine et al., 2023; Scholkmann et al., 2025). Previous research has indicated that higher education students' perceived ability to meet the competency ideals in educational programmes strongly influences a sense of belonging and identification with the profession (Myklebust, 2020). Additionally, higher education teaching has been argued to lack a clear understanding of the role of generic skills (Myllykoski-Laine et al., 2023; Tuononen et al., 2023). Thus, understanding how student teachers argue for various competencies provides valuable material for reflective discussions between teacher educators and student teachers.

Competencies have become a focal point in teacher education discourse but teacher education programmes have faced criticism for lacking coherence. How these competencies are defined varies between countries (De-Juanas et al., 2016; Wilson-Daily et al., 2021). Comprehensive competency models also have their limitations. For instance, individual components may appear disconnected and fail to connect student teachers to the larger aims of education (Grossman et al., 2008; Metsäpelto et al., 2024). Due to the fragmentation of teacher education programmes, student teachers may have difficulties in formulating a vision of their own teaching or developing professional identities, and have an increased risk of leaving the teaching profession (Hammerness, 2014). Therefore, identifying how student teachers see the core competencies in their chosen profession is crucial to pursuing a career and to feeling suitable for teaching (Myklebust, 2020).

A coherent view of required competencies is also important when entering the teaching profession. This is crucial when teaching is a profession that is not subject to licence, and unqualified teachers are employed in many countries (e.g. Antera, 2023). It is also important considering employers' expectation that graduates have generic competencies allowing them to work independently, thus encouraging universities to adopt teaching practices promoting not only discipline-specific knowledge but also generic competences (Myllykoski-Laine et al., 2023). The latter can be applied in the wider labour market. Discussions about student teachers' competencies are further complicated by the varying alignment between the competency demands of the particular labour market domain match the competency development provided by educational programmes (Semeijn et al., 2006; Zaragoza et al., 2024). Understanding which competencies are necessary alleviates the transitions from teacher education to working life (Heikkilä & Hermansen, 2024).

To enhance student teachers' professional growth, it is essential to investigate and understand how student teachers describe competencies, which competencies they emphasise or overlook, and how they advocate for them. Competencies have recently become an increasing concern in Finnish teacher education. Teaching is regarded as a valued profession in Finland, and Finnish teachers have a great deal of agency in their work (Heikkilä et al., 2023). However, alarming observations, such as newly qualified teachers' negative experiences of classroom atmosphere (Lehtomäki et al., 2024) and increasing school segregation (Peltola, 2021), complicate teachers' professional development. This study is situated at the juncture of national and international discourse on student teachers' competencies. It aims to support the development of teacher education by addressing student teachers' own descriptions of the professional competencies they expect to need. The study uses an established framework of teacher competencies (MAP; Metsäpelto et al., 2022) to delineate the teacher competencies considered significant among a Finnish student teacher cohort while simultaneously providing valuable insights on the interconnection of education and work for other countries.

Theoretical framework: the MAP model

The teaching profession demands a diverse set of competencies. This renders teaching both challenging and knowledge intensive, while emphasising a high level of ethical responsibility (Heikkilä & Hermansen, 2024). Effective teaching requires not only a robust knowledge base but also a variety of generic skills,

such as relational skills and emotional competency (Metsäpelto et al., 2022). Teachers must adeptly integrate multiple knowledge resources and skills to address the continuously evolving practical problems they face in their work. To do so, teachers arguably draw on a diverse range of knowledge sources concerning school subjects; subject didactics; pedagogical knowledge; social relationships; organisational knowledge of the school sector and knowledge about specific student groups; students' families; and the community surrounding the school (Heikkilä & Hermansen, 2024; Shulman, 1987).

Various frameworks have been developed to articulate the diverse competencies needed in the teaching profession. Some models attempting to define knowledge, skills and beliefs in teaching focus on teacher knowledge (Baumert & Kunter, 2013). Others consider effective teaching to be a complex phenomenon encompassing internal processes, such as identity and a deep sense of purpose, as well as external behaviour in response to contextual factors (Korthagen, 2004). Understanding what makes teaching successful is important because effective teachers play an essential role in student learning and achievement (Hattie, 2008). Although certain teacher competencies – such as empathy, organisation, and resilience – are valued consistently across countries and contexts, significant variations also emerge, reflecting national and cultural differences in education (Klassen et al., 2018). To ensure a culturally sensitive analysis of Finnish student teachers' reflections, this study uses the theoretical framework underlying a context-specific model.

This study employs the multidimensional adapted process (MAP) model of teaching, which concerns teacher competencies. The MAP model was developed in Finland as a research-informed comprehensive framework for structuring and improving teacher education (Metsäpelto et al., 2022). The MAP model unifies various previously separate or unconnected elements of teacher and teaching research, thus providing a holistic understanding of the competencies needed for teaching profession (Metsäpelto et al., 2024). This holistic approach complements other models in that, while insightful, define knowledge and skills critical to teachers from a more narrow or specific view (e.g. the competences of mathematics teachers; Baumert & Kunter, 2013). The MAP model is used nationally by universities as a framework to guide the student selection into teacher education programmes, curriculum design, and in-service teachers' continuing professional development. Here, it is used as an analytical framework to examine student teachers' views of teacher competencies through reflexive texts written after their first teaching practicum. The MAP model is based on Blömeke et al. (2015) teacher competence model, which was refined and specified to represent the discourses on what teachers should know and be able to do (see Figure 1).

The study draws on the individual competencies category to classify the knowledge and skills student teachers deem important. This category encompasses underlying but evolving competencies that enable and empower teachers to act professionally and effectively in instructional situations. Such competencies include a knowledge base for teaching and learning, cognitive and social skills, personal orientations (i.e. how one manages oneself in the role of a teacher) and professional well-being (see Table 1).

Teacher competency models, such as the MAP model, offer a systematic framework for understanding the varied skill sets required by teachers. A significant portion of these skills may be found crucial by

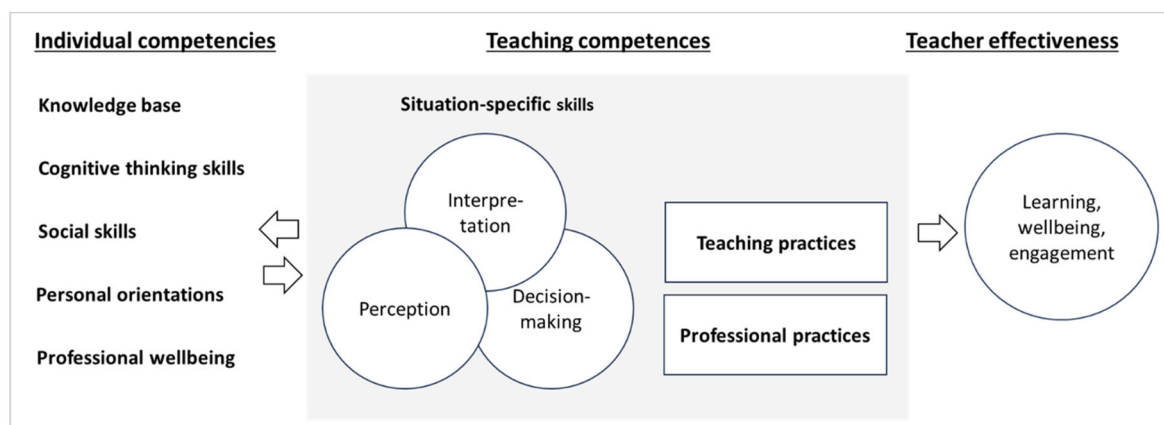


Figure 1. The MAP model.

Table 1. Description of individual competencies in the MAP model.

Individual competencies in the MAP model	Description
1 Knowledge base of teaching and learning	
Content knowledge	Knowledge pertaining to the specific subject (e.g. facts, concepts and theories)
Pedagogical knowledge	Proficiency in pedagogical principles and strategies that extend across different subjects (e.g. an understanding how to motivate learners)
Pedagogical content knowledge	Knowledge merging the content of the subject with effective teaching (e.g. the practice of differentiation)
Practical knowledge	The acumen developed through hands-on teaching experiences and the reflection upon them, often referred to as the 'wisdom of practice'
Contextual knowledge	Knowledge of the school system and the curriculum (e.g. understanding the impact of economic factors on education)
2 Cognitive thinking skills	
Higher-order thinking skills	Comparing, interpreting, analysing and applying information
Critical thinking	Analysing ideas, thoughts and arguments and employing reasoning to formulate beliefs and solve problems
Creativity	Producing unique or innovative ideas, demonstrating a willingness to assess and enhance ideas through openness to others' insights
Communication, argumentation and reasoning	Skilfully expressing thoughts and ideas and constructing persuasive arguments utilising a variety of communication methods and media
Metacognition	Knowledge and regulation of one's cognitive processes (e.g. monitoring and regulating one's own learning procedures)
3 Social skills	
Relational skills	Ability to actively listen, take turns, request help, demonstrate empathy, foster collaboration and address conflicts constructively
Emotional competency	Ability to perceive, understand, regulate and express emotions
Diversity competency	Ability to respond to diversity in a manner that promotes and respects the dignity of every child; dedication to equal and impartial treatment
Intercultural competency and interaction	Ability to navigate sensitively in multicultural settings and maintain an awareness and reflective approach regarding topics such as ethnicity and religion
4 Personal orientations	
Personal dispositions	Adaptive ways of thinking, feeling and behaving in diverse situations over time (e.g. a strong sense of responsibility, as in conscientiousness)
Self-conceptions	Beliefs and perceptions about one's self across domains of life (e.g. teacher self-efficacy)
Professional beliefs, values and ethics	Beliefs about the nature of knowledge, the process of learning and the characteristics of learners, as well as personal values, ethical standards and moral obligations linked to the teaching profession
Motivational orientation	An interest in and dedication to the teaching profession and ongoing professional development
Professional identity	A dynamic process of understanding oneself as a professional and participating in identity negotiation
5 Professional well-being	
Occupational well-being	Satisfaction with teacher education or the teaching profession, coupled with feelings of vigor, dedication and deep engagement in one's work
Stress management strategies	Managing demands and workload by harnessing personal and collective resources
Teacher resilience	Ability to overcome stressors and rebound from challenges and adversity

student teachers entering the profession. Consequently, the adoption of the MAP model assists in identifying the competencies that aspiring teachers deem essential, thereby contributing to the investigation of how teacher education programmes can serve as valuable learning environments for individuals pursuing careers in teaching. Since its publication, this model has been used for new purposes in the international literature, for example in reviewing the practices of quality teacher education (Wiese et al., 2024); in investigating teacher competencies in job advertisements for teachers (Mankki, 2025; Mankki et al., 2024); and in shaping conceptual, institutional, and systemic coherence in teacher education programmes (Metsäpelto et al., 2024).

Methods

The participants ($N = 73$) were studying in the primary teacher education programme ($n = 61$) or the special needs education programme ($n = 12$) of a Finnish university. Of these student teachers, 63 were female and 10 were male. The ages of the student teachers ranged from 19 to 49 years, with most being in their early 20s. The gender and age distribution represent a typical one in Finnish primary teacher and special needs education programmes. Student teachers in both programmes eventually qualify for a Master of Arts in education. At the time the data were collected, the students had completed their first

teaching practicum period, before which they had studied the basics of educational science. The authors of this article work in various positions within teacher education research in two universities.

We collected textual data as part of the student teachers' coursework after they had completed the practicum in the spring of 2023. The student teachers were asked for their permission for their report to be used for research purposes, but they did not know the exact topic of the research. This helped to significantly reduce bias in their answers. The response rate was 60%. The relatively low response rate may be attributed to the fact that the study was part of a larger data collection initiative, which entailed asking participants to give written consent for their reports to be used as data in several studies. This may have made the participating student teachers feel vulnerable, fatigued, or overwhelmed. Despite the relatively low response rate, the data were rich for the purpose of this study, as the participants depicted the competencies in a multifaceted way.

The study was conducted in an ethical and responsible manner in full compliance with all relevant codes of experimentation and legislation. The study complied with the ethical principles of research with human participants and the ethical review in the human sciences in Finland published by the Finnish National Board on Research Integrity (TENK, 2023). According to these guidelines, a formal ethical review statement from a human sciences ethics committee was not required for this study. A written consent for this study was requested by the participants, and participant identification codes were used for anonymity. Three authors held different positions at the university where the data were collected. Only the fourth author knew and had taught some of the participants. None of the authors had any direct interaction with the participants nor did they influence the participants and their responses during the data collection.

The student teachers were given the following guidelines for writing their reports: 'Reflect on your thoughts about the following topics and justify your views. Link your reflection to the practicum and your other studies and literature if you wish. Write in your own words'. This study used only the section of the report that included participants' reflections on the topic of teacher competencies because only this topic was pertinent to the research question. The length of these parts ranged between approximately 100 and 300 words.

The analysis followed both a deductive and inductive approach. We conducted deductive qualitative content analysis using categories derived from existing theory and previous research findings (Elo & Kyngäs, 2008). Considering our research question, our categories were specifically based on the individual competencies part of the MAP model. While we considered using other parts of the MAP model, a preliminary reading of the data indicated that participants referred to individual competencies the most. These competencies typically emerged in larger parts of the text, often consisting of an entire sentence or even several sentences. We additionally conducted an inductive analysis to allow for the possibility that the participants may describe competencies not yet represented in the MAP model or describe them in other ways. We began the analysis by reading all the sections addressing teacher competencies carefully. We colour-coded the data using different colours for each of the five domains of individual competencies, i.e. knowledge base, cognitive thinking skills, social skills, personal orientations, and professional well-being. Another colour was reserved for parts describing competencies that were not mentioned in the MAP model. Additionally, we used letter codes to identify each sub-domain of the model. For example, concerning knowledge base, we used CK for content knowledge and PCK for pedagogical content knowledge.

We performed two rounds of parallel coding using a team of three authors for a sample of ten reports to determine whether the analyses varied. The team consisted of the first, second, and fourth author of the article. We negotiated several times how to develop the most appropriate way to conduct the analysis. Thereafter, the first author analysed the entire dataset, and the analysis was subsequently negotiated by the team. The category of competencies that were not mentioned in the model raised considerable discussion. In the following sections, we illuminate the most prominent ambiguities. All the data were coded, except for sentences written at such a general level that they did not indicate any competencies.

Having identified the five domains of individual competencies, we focused on analysing each domain separately. We especially explored how the student teachers argued for certain domains and sub-domains by considering the kinds of arguments and descriptions they provided. Additionally, the

Table 2. Frequency and percentage of the domains of the MAP model in the participants' reports.

Domain of the MAP model	Frequency	Percentage
Knowledge base	54	35.3
Cognitive thinking skills	27	17.6
Social skills	48	31.4
Personal orientations	17	11.1
Professional well-being	7	4.6
All domains	153	100.0

analysis included counting the numbers of mentions for each domain and evaluating the extent of each sub-domain. These metrics of volume enabled us to critically assess the emphasis student teachers attributed to each domain and sub-domain. Finally, we collected particularly illustrative examples in a separate document.

Findings

This section presents the findings and the subsections are organised according to the five domains of individual competencies included in the MAP model. We describe the content of and number of mentions for the identified sub-domains, and discuss each using an illustrative excerpt from the data. Table 2 shows the frequency and percentage of each main domain of the MAP model in the participants' reports.

Knowledge base

Reflections on teachers' knowledge base were found in 54 reports. The sub-domains of content knowledge, pedagogical knowledge, and pedagogical content knowledge were often interconnected. Most of the student teachers did not mention content knowledge at all, although they are expected to teach several subjects, and it cannot be assumed that they have already mastered all the content. However, content knowledge was described in some reports as the most essential part of teachers' competency and, perhaps for that reason, not reflected on much. Knowledge of the curriculum was mentioned several times.

Pedagogical knowledge was the sub-domain that was most frequently referred to by the student teachers. Various themes were identified under this sub-domain. First, knowing how to support, inspire, and motivate pupils was seen as important. Second, knowing how to consider pupils' individual needs, listen to their wishes, and help them to recognise their strengths were mentioned. Moreover, classroom management and a general understanding of children's development were emphasised. The participants deemed these matters important because they described teaching as concerning not only the basic skills of literacy and numeracy but also developing competent citizens and humans. Although planning lessons and actual teaching activity were mentioned, evaluation was mentioned in only a few reports.

Pedagogical content knowledge was largely connected to specific teaching methods. That is, the student teachers wrote about the importance of taking pupils' age into account and knowing about various instructional approaches, including project learning, inquiry learning, and phenomenon-based learning. They argued that restricting teaching to content knowledge is unwise because young pupils require versatile teaching methods to remain concentrated and the content must be split into small units. Only a few reports briefly addressed the use of digital tools in teaching.

Practical knowledge and contextual knowledge were rather infrequently mentioned. However, mentions of actual teaching situations that required flexibility could be understood as addressing practical knowledge. Contextual knowledge was visible in some reports, in which student teachers wrote about the necessity of understanding pupils' backgrounds. The following example demonstrates the intertwined nature of the first three sub-domains of knowledge base in the student teachers' reports:

The expertise of the teacher includes an all-round competency in the subjects to be taught. The teacher must master the subject to be taught in a class to be able to convincingly and clearly teach a new topic to pupils.

The teacher is also capable of planning an interesting and many-sided lesson and promoting better pupil learning, which is one of the main tasks of the teacher.

During my practicum, especially in math lesson, I found myself natural and confident when I was teaching a topic familiar to me. I was keen on teaching that topic and ventured to carry out more activating tasks. When I was teaching a topic that was not familiar to me, I was much more unsure and thought that I wasn't able to help the pupils as much. (Student teacher 75)

In this excerpt, the student teacher mentions assertiveness and clarity in teaching as grounds for the need to have solid content knowledge. Pedagogical content knowledge is mentioned by highlighting the need to plan interesting and versatile lessons, which will support pupils' learning. Returning to content knowledge, the student teacher provides examples from the practicum, in which the level of content knowledge greatly affected teaching.

Cognitive thinking skills

Reflections by student teachers on cognitive thinking skills appeared in 27 texts. The sub-domains were quite equally represented, except for critical thinking. Higher-order thinking skills were seen as important in searching for reliable information and applying it in teaching. Higher-order thinking skills were also intertwined with skills that the student teachers discussed as 'theoretical' or 'scientific knowledge' skills. These terms were likely used to refer to the skills of acquiring and utilising a knowledge base and, thus, approaching the knowledge base domain.

Critical thinking was not reflected thoroughly but mentioned in a list of skills. It was nonetheless connected to knowledge base, which was seen as requiring application and creativity. Creativity was a competency that was mentioned often and explicitly. Creativity involved making decisions in changing situations, being flexible, and an ability to change one's plans according to pupils' needs. Additional competencies often mentioned in connection with knowledge base were communication, argumentation, and reasoning. These concerned presenting one's ideas clearly in the classroom and being able to argue for them in wider contexts, for example among parents. The student teachers' reflections highlighted metacognition as an important competency; the student teachers argued that developing as an expert requires reflection on one's behaviours and changing them. Pupils' needs, the field of education, and the entire society were seen as constantly changing, requiring teachers to reflect. Interestingly, this was often depicted as a social activity with teacher colleagues. In the following example, a student teacher highlights several cognitive thinking skills:

As a teacher, you never get ready, and you must learn and study new things. The content to be taught changes sometimes, and you never know what topic the pupil wants to know more about. If you don't know the answer to the pupil's question at that point, you need to learn more about the topic.

This is exactly the kind of situation that happened to me in the teaching practicum when the pupils were very interested in how Ice Ages arise and I couldn't answer it. While the pupils were doing the tasks, I searched for the answer, and at the end of the lesson, I could give them answers they were interested in. (Student teacher 86)

In this excerpt, the student teacher highlights that it is in the nature of knowledge to constantly change and pupils have varying interests. Thereby, the student teacher seems to argue for cognitive thinking skills. Higher-order thinking skills were emphasised in the example of pupils' interest in Ice Ages, as the student teacher referred to the skills of searching, interpreting, and applying information. The student teacher also implicitly referred to planning skills and effective communication by stating that it was possible to search for information during the pupils' task and provide answers to their questions at the end of the lesson. In addition, this excerpt may refer to creativity, as seen in the student teacher's purposeful handling of the situation in which pupils asked about a topic that was unfamiliar to the student teacher.

Social skills

Social skills were described in 48 reports and were thus nearly as frequently represented as the knowledge base domain. Many student teachers highlighted social skills as the most important competency

for a teacher. Relational skills and emotional competency were considerably emphasised, whereas other social skills were mentioned in only a few reports.

Relational skills were the most represented sub-domain. The highly relational nature of teachers' work was highlighted. The student teachers listed several groups of people with whom teachers work, including pupils, their parents, colleagues, colleagues via multi-professional work, all the personnel at school, and collaboration partners outside school. Student teachers reported that, to manage all these interactions, teachers should be approachable enough for people to ask questions and seek support from them. Teachers should also be able to discuss, listen, do teamwork, invent solutions, and make compromises. Simply being social and sensitive was deemed important in this regard.

Emotional competency was often intertwined with relational skills. However, student teachers wrote about emotional competency even more than when describing relational skills about listening to pupils, interpreting their emotions, and reacting to their emotions in an appropriate way. Emotional competency was also related to a teacher's ability to monitor classroom atmosphere, be sufficiently affirmational, be actively present, and show genuine care for pupils. Emotional competency was often linked to teachers' general educative work intended to increase children's well-being and self-esteem.

Although diversity competency was not widely mentioned, it seemed to be a very important competency for certain student teachers. Diversity competency was visible in descriptions of pupils as persons with individual learning paths and challenges. However, the teachers' actual ability to take all this into account in the classroom was not problematised. Intercultural competency and interaction were mentioned in a few reports that emphasised teachers' obligation to equality and equity in education (e.g. respecting all backgrounds and providing everyone the support they need if they have first languages other than Finnish). In the following example, relational skills, emotional competency, and diversity competency are connected:

In addition to mastering subjects, expertise strongly includes the sense of the situation. The teacher should be able to read different situations and act in the best way in those situations. As a teacher, you work with people, so every situation and day is different. - -

In the practicum, I observed the behaviour of the teacher and noticed that the teacher reacted differently to similar behaviour in different contexts. There were a lot of different-level pupils in the class, and they had different challenges. The teacher should remember to treat everyone as an individual and set goals for each. You cannot demand the same things from everyone. A competent teacher notices when you cannot demand more of the pupil and when to encourage the pupil. - -

A competent teacher is approachable, has authority and cares about their pupils. School is a big part of pupils' lives, so it's important that they enjoy themselves there. The teacher plays an important role in the classroom's atmosphere. In addition, the relationship between the pupil and the teacher is important to the pupil. Since we can never fully know what kind of situation children have at home, it's important that at least in school, they have a safe and caring adult. (Student teacher 75)

In the above excerpt, the student teacher linked teachers' relational skills to the highly situated nature of teachers' work. The student teacher observed both the training school teacher's and the pupils' behaviour. Relational skills are visible in the training school teacher's varied reactions depending on the particular situation with a pupil. Diversity competency is visible in the way in which the student teacher, in several sentences, stressed the need to consider pupils' individual needs. This was likely an insight gained in the practicum. Finally, emotional competency can be seen in the student teacher's arguing for the importance of being approachable, taking care of the pupils, classroom atmosphere, and emotional security.

Personal orientations

Personal orientations were identified in 17 reports. While all the sub-domains were mentioned, they were rather superficially addressed. Consequently, the domain of personal orientations was scarcely represented in the data. The student teachers mentioned the personal dispositions of being persistent, goal-oriented, systematic, independent, flexible, curious, and enthusiastic. These personal dispositions were not seen as inherent or static but rather as attributes connected to the nature of teachers' work in general. Self-conceptions were visible in mentions of a competent teacher being self-confident. This

included recognising one's strengths and weaknesses and, thereby, being able to use them in teaching and professional development.

Professional beliefs, values, and ethics were the sub-domain most commonly referred to. The student teachers deemed it inevitable that teachers would convey their beliefs and values to their pupils, rendering ethical reflection essential. The teacher was seen as a responsible role model for pupils; how one appreciated other people, what kind of language one used, and whether one followed their self-prescribed rules were important aspects to consider. In addition to recognising one's own values, appreciating others' values was emphasised. Finally, motivational orientation was identified in student teachers' reflections on experiences of encountering teachers who had been mechanically performing teaching, suggesting they appreciated maintaining an appropriate attitude towards teachers' work.

Professional identity was seldom referred to explicitly, but several mentions could be interpreted as representing identity negotiation. In the clearest examples, professional identity was visible in descriptions of efforts to find personal ways and styles of teaching, which made teaching feel the most natural and rewarding. Moreover, it was argued that one must find one's own ways to teach simply because there is no best way to being a teacher, and that opinions about what constitutes good teaching are always subjective. In the following example, the student teacher reflects on professional beliefs, values, and ethics:

In my future duties, it's important that I'm aware of how my way of teaching, beliefs and thoughts affect the pupil not only now but also in the long term. - - As part of ethical competency, it's important to reflect on our own values, as our values guide our actions. For me, important values are equality, psychological and physical well-being, honesty and self-respect.

As a future teacher, I also want to put effort into it so that every child gets a good starting point for both psychological and physical well-being. This can be done, for example, through various emotional exercises, through social situations, and just by letting the child find suitable ways to manage in different situations. (Student teacher 82)

In this excerpt, the student teacher explicitly argued for recognising how beliefs and values affect pupils and have far-reaching consequences. Additionally, reflecting on one's values was deemed an important aspect of being a teacher. The student teacher used the report to reflect on their own values and later provided examples of the means used to pursue them.

Professional well-being

Professional well-being was identified in only 7 reports, and the sub-domains were quite equally represented. Occupational well-being was visible in student teachers' writing about the necessity of managing one's resources and well-being. Teaching was depicted as a challenging profession requiring strong work engagement, and student teachers wrote earnestly about the value of their future work. However, structural matters affecting teachers' professional well-being were not mentioned. In one report, the student teacher mentioned utilising work-counselling and colleagues' support as stress-management strategies. For this student teacher, accepting one's limits was a part of teacher competency.

Teacher resilience was about flexibility in thinking about one's mistakes at work. One student teacher noted the instructive role of mistakes in their professional learning and argued for the tolerance of blunders when they do not impede children's learning or future. Another student teacher, writing explicitly about resilience, defined it as the ability to cope with the hectic and challenging everyday life of school, and as the skills needed to recover from work and guide one's professional actions in a clear direction.

In the following example, stress-management strategies and teacher resilience are discussed. Before this passage, the student teacher had written about stress in the practicum, including planning lessons until nightfall, not being able to stop thinking about everything that was going on in the classroom, and not having time to see friends and engage in hobbies. This was followed by comments on burnout:

It was seen as exhaustion and the end of social energy. I recognise myself as a perfectionist, but at what point do its positive effects become negative? Probably at that point where you cannot tell the difference between free time and work anymore. Learning from this, I noted that a teacher needs to define one's free time, and work worries are not part of it.

You also must renounce constant perfectionism because it burns a person out. There is a certain point when you must admit that this is enough. You also must learn that things don't always go perfectly and just the way you wish. It's not worth worrying about mistakes at home, but you must keep your chin up, learn from the mistakes and move on. It's important to be aware of these things because the well-being of the teacher is also reflected in the pupils. If the teacher is feeling bad, it likely affects pupil well-being negatively as well. (Student teacher 107)

In this excerpt, setting clear boundaries between work and free time was a necessary stress-management strategy. Accepting incompleteness and having a less worried attitude towards work were resources that encouraged well-being and resilience. This connected with teachers' ethics, as the student teacher reflected on the consequences of teachers' suffering for pupils' well-being.

Discussion

This study examined Finnish student teachers' views on teacher competencies after their first teaching practicums. The study adds to the discussion of teacher competencies in initial teacher education (DeJuanas et al., 2016; Wilson-Daily et al., 2021). Drawing on written reports with thematic prompts, the study focused on what student teachers wrote concerning the necessary competencies for success in the teaching profession. Their answers were analysed using categories based on the individual competencies included in the MAP model of teaching (Metsäpelto et al., 2022). This model is used in Finland as a comprehensive framework of evidence-based teacher competencies, and served this study as an analytical lens. The model unifies various previously separate or unconnected elements of teacher and teaching research, thus providing a holistic understanding of the competencies needed for teaching profession (Metsäpelto et al., 2024). This holistic approach complements other models in that, while insightful, define knowledge and skills critical to teachers from a more narrow or specific view (e.g. the competencies of mathematics teachers; Baumert & Kunter, 2013). Employing an established framework in empirical research helps to organise and integrate professional competencies, which typically remain scattered in teacher education and professional development literature.

The theory-driven qualitative content analysis highlighted student teachers' understanding of teaching as a multifaceted profession emphasising both field-specific competencies and generic skills as teacher competencies. Having a strong knowledge base and different kinds of social skills were the most salient individual competencies that participants described as important to being a competent teacher. While some models focus mainly on teacher knowledge (Baumert & Kunter, 2013), this study highlighted the knowledge base domain as conceptually multidimensional. It included both research-based propositional knowledge and practical knowledge oriented towards subject matter, students and student learning (see also Metsäpelto et al., 2022; Verloop et al., 2001).

Knowledge orientations were identified in several reports but received varying levels of emphasis, with content, practical and contextual knowledge being weakly depicted competencies. This is problematic, as practical knowledge, though idiosyncratic and contextual in nature, is important to student teachers' developing a more conscious understanding of how educational theories connect with the complexities of teaching (Meijer, 2013). Moreover, the findings suggested that the student teachers chose to focus on general and subject-specific pedagogy. This is understandable given the novelty of the first teaching practicum for their sense of self-efficacy as teachers.

Nearly completely absent from participants' reports was the use of digital tools. Technology encompasses not just tools such as computers and the internet, but also the knowledge, expertise, and techniques used to complete a task (Ali et al., 2025). Although more familiar with technology than earlier generations, student teachers now need to develop their abilities to adopt and adapt it in their teaching during their teacher education and working life (Valtonen et al., 2011). When student teachers constructively use available digital tools to stay abreast of the latest developments in their fields, they are also better able to expand their own content knowledge and pedagogical knowledge (Ali et al., 2025). Developing digital skills becomes a pressing concern when global crises, such as climate change and the COVID-19 pandemic, urge us to interpret digital skills within new frames, including sustainable entrepreneurship education and digital health literacy (Fülöp & Cifuentes-Faura, 2025).

The student teachers' reports suggested a realisation of the centrality of relational and emotional skills. Such realisation is in line with the international literature, which stresses the role of teachers' socio-emotional skills in education (e.g. sensitivity, emotional responsiveness, direct presence and the ability to build positive relationships with pupils; see Aspelin, 2019). At the same time, however, diversity and intercultural competencies received less attention, suggesting the need for education on behavioural flexibility and communicative awareness (see also Salazar & Agüero, 2016).

The student teachers wrote about cognitive thinking skills and personal orientations, although these were present in fewer reports. Several aspects of cognitive skills were mentioned, reflecting the student teachers' early experiences in a research-based teacher education programme, such as creativity and higher-order thinking skills. However, creativity was usually described as using one's pedagogical knowledge to think and act quickly in changing situations, failing to acknowledge creativity as innovation, teamwork and technological advances in teachers' work with learners (Siriphatcharachot et al., 2025). Critical thinking was less represented, which was a surprising finding considering the variety of problems that arise during a teaching practicum in real working environments and the decision-making these problems elicit. In the context of generic skills, critical thinking is often one of the most central skills mentioned in higher education (e.g. Myllykoski-Laine et al., 2023; Tuononen et al., 2023). Personal, methodological and contextual features must be considered to ensure that interventions aimed at promoting student teachers' critical thinking skills are successful (Lorencová et al., 2019). Such interventions would be useful considering student teachers' heavy focus on professional beliefs, values and ethics in their practicum reports. Critical thinking skills may ensure that professional dispositions override personal beliefs (Ruitenbergh, 2011).

Professional well-being was not a focal point in the examined reports but mentions of it highlighted the importance of drawing on colleagues as a resource and having a merciful attitude towards the professional self as a learner through practice. This finding may be due to student teachers' satisfaction because they were early in their teacher education studies or a belief that their practical knowledge was too underdeveloped (Squires et al., 2022). Earlier research has shown that interpersonal resources and socio-emotional aspects of student teachers' experiences are vulnerable areas, necessitating particular attention be paid to how practicum evaluation processes affect student teachers' learning, performance, and levels of stress (Caires & Almeida, 2005). Moreover, student teachers' understandings of failure, its connection to pupils, and considerations about how it can be prevented or handled have been found to definitively inform student teachers' professional identity and activities (Lutovac & Assunção Flores, 2021). Because stress tolerance, understood by some as a generic skill, does not automatically develop to the required level during higher education programmes (see Myllykoski-Laine et al., 2023), teacher education programmes should intentionally integrate structured opportunities to help future teachers build this crucial capacity.

Teacher competency models are attempts to outline multidimensional knowledge and skills needed in teaching and, thus, such models always shed light on some areas while overshadowing or neglecting others. For example, practice-based approaches conceptualise competence as grounded in professional actions and routines, such as planning high-quality instruction, responding to student thinking, and facilitating classroom discussions (Forzani, 2014; Grossman et al., 2009). In contrast, identity-focused approaches highlight competence as rooted in *being and becoming* a teacher – that is, in the capacity to align personal values, beliefs, and professional roles in meaningful ways (Beijaard et al., 2004).

In line with the recognition that competency models can never fully capture the breadth of competences in teaching, this study also identified competencies that were not included in the individual competencies represented in the MAP model. One of these concerned teachers' professional development. Several student teachers emphasised the importance of teachers being able to continuously develop their knowledge and skills, as this is an integral part of the teaching profession. They also noted that professional development is a collaborative effort involving colleagues. Additionally, the importance of continuous education in enhancing teacher competency was emphasised. The need for professional development and collaboration with colleagues is, in fact, mentioned in the 'teaching competences' section of the MAP model. However, the findings highlight teachers' professional development as something that requires attention already from the early years of study.

Another competency that did not fit very easily into any categorisation was a competency that several student teachers called ‘scientific’ or ‘theoretical’ skills. Participants’ discussion of scientific or theoretical knowledge was interpreted as content knowledge, pedagogical knowledge, or pedagogical content knowledge, depending on the emphasis in the text. At other times, it would be interpreted as higher-order thinking skills. In some countries, it has been challenging to convince student teachers of the value of theoretical knowledge – which is the primary contribution of universities to professional qualification (Heggen, 2008). While this seemed not to be an issue among the participants of this study, competency requirements in teacher education should be drafted in a way that considers both the similarities and differences between initial teacher education and working life. It is important to support teachers in dealing with scientific knowledge when they have graduated and entered working life, for example by providing access to research-based knowledge (Heikkilä & Hermansen, 2024) to help develop scientific or theoretical skills as part of professional development.

Parts of these ‘scientific’ or ‘theoretical’ skills did not fit into the domain of individual competencies of the MAP model but seemed to reflect something broader. The framework used in this article, along with other competency frameworks on teacher education presented here, are research-informed and designed for university contexts. Nonetheless, all competency frameworks should be approached with some critique; they were originally adopted by business consultants to enhance work performance and were initially used in vocational education and training in many European countries (Isopahkala-Bouret et al., 2011). This critique should be informed by the historical purposes of competence and ongoing discussions around it, as these may affect how researchers define concepts and notice issues in empirical data.

Although evidence-based comprehensive views of teacher competencies are beneficial in empirical research, the limitations of a competency framework in analysing and describing students’ descriptions were seen in conducting this study. Several descriptions by student teachers required a certain degree of interpretation to ascertain which competencies they concerned, and several sub-dimensions seemed to overlap. In addition, our analysis suggested that competency models may neglect the interaction between competencies, as they are viewed as independent areas. These observations can help develop the MAP model further. It is also worth questioning whether competencies provide an adequate method to describe teaching skills development. It has been argued that all teachers in a school may not need the same set of competencies and that, in some cases, it may be better to view the school as a whole and consider teachers’ combined competence that can be mobilised when necessary (Smestad & Gillespie, 2020). In addition, competence models often do not consider which competencies teachers need from day one and which of them develop over time (Smestad & Gillespie, 2020).

This study drew on data from a reflective activity that afforded student teachers the opportunity to describe teacher competencies in their own words. Further research could explore how student teachers’ reflections develop throughout their studies and working life. Future research could also investigate whether similar or different competencies are emphasised, as well as whether the student teachers’ reflections deepen through experience. More research on the factors shaping these reflections is also needed, such as the role of artificial intelligence in instructional design and professional learning.

As the MAP model describes the competencies of in-service teachers, competencies that are especially relevant for student teachers, such as dealing with scientific knowledge, are not well represented in the model. In the future, the MAP model should be revised to better reflect the different stages of teacher development (i.e. the studies in initial teacher education, the induction phase and the development of expertise at work). Similar discussions on the interrelationship between higher education and working life have been visible in research on ‘research-teaching nexus’ (e.g. Clark & Hordósy, 2019), coherence (e.g. Heikkilä & Hermansen, 2024; Myklebust, 2020), competences (e.g. Isopahkala-Bouret et al., 2011), or generic skills (e.g. Myllykoski-Laine et al., 2023). The discussion on whether the knowledge that student teachers acquire in their programmes relates to the kinds of competencies they need as professional workers, is especially visible in teacher education research (Heggen, 2008; Heikkilä & Hermansen, 2024).

Conclusion

Student teachers depicted, in their own words, several competencies included in the MAP model and revealed which competencies they deemed important. Surprisingly, some competencies included in the MAP model, such as critical thinking and all sub-domains of professional well-being, were not quite so visible in student teachers' reflections. This raises the question of whether these competencies should be more emphasised in teacher education curricula. Research-based knowledge about how student teachers describe their competencies in teaching is instrumental in not only fostering a better alignment between teacher education and working life but also shaping programme development and curriculum design within educational programmes. Beyond teacher education, the findings suggest the need for higher education to develop competency descriptions while considering the similarities and differences between professional education and working life.

Authors contributions

Heikkilä: Conceptualisation, Methodology, Analysis, Writing – original draft, Writing – review and editing, Mankki: Conceptualisation, Methodology, Analysis, Writing – original draft, Writing – review and editing, Varis: Writing – original draft, Writing – review and editing, Iiskala: Methodology, Analysis, Writing – original draft, Writing – review and editing, Metsäpelto: Writing – original draft, Writing – review and editing, Mikkilä-Erdmann: Writing – original draft, Writing – review and editing. All the authors have read and approved the final version of the manuscript.

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Data availability statement

The participants of this study did not give written consent for their data to be shared publicly, so the research supporting data is not available.

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