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EDITED BY
Elsie L. Olan,
University of Central Florida, United States

REVIEWED BY
Paitoon Pimdee,
King Mongkut's Institute of Technology
Ladkrabang, Thailand
Pardjono Pardjono,
Yogyakarta State University, Indonesia

*CORRESPONDENCE
Edīte Sarva

☑ edite.sarva@gmail.com

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Challenges and opportunities for the development of future teachers' professional competence in Latvia

Līga Āboltiņa¹, Gatis Lāma¹, Edīte Sarva^{1*}, Baiba Kaļķe¹, Anda Āboliņa^{1,2}, Linda Daniela¹, Zanda Rubene¹ and Māra Bernande¹

¹Faculty of Education, Psychology and Art, University of Latvia (LATVIA), Riga, Latvia, ²Rezekne Academy of Technologies, Rēzekne, Latvia

In the 21st century, characterized by the continual evolution of education and new educational needs being raised and demanded, teachers' professional competence encounters a series of challenges. In the context of Latvian education, it is highly significant to enhance the professional competence of future teachers and adapt it according to real-world challenges and opportunities. The professional competence of future teachers encounters challenges ranging from adapting to technological advancements to fostering an inclusive learning environment for diverse groups of students. In this research mixed method approach is applied, quantitative data from the self-evaluation instrument developed through the project "Development and Implementation of the Education Quality Monitoring System" (2nd round) and qualitative data from focus group discussions with education stakeholders are employed to analyze the challenges and opportunities for the development of future teachers' professional competence. Based on the analysis, challenges for the enhancement of future teachers' professional competence were identified at both institutional and individual levels among those strengthening schools as learning organizations and fostering open mindset toward change. By shedding light on these challenges and opportunities, this study contributes to the broader discourse on teachers' preparation and continuous development, ensuring their readiness to navigate the multifaceted landscape of modern education effectively.

KEYWORDS

future teacher professional competence, self-evaluation, focus group discussion, stakeholder opinions, development of professional competence

Introduction

Within the context of the Educational Development Guidelines 2021–2027, Latvia is undergoing significant transformations in its education landscape. The forthcoming education system is set to be characterized by two pivotal elements: an emphasis on personalized learning approaches and the acquisition of skill sets that are both well-balanced and tailored to meet future requirements. These aspects are closely intertwined with the proficiency of upcoming teachers, underscoring the significance of their professional competence (Izglītības un zinātnes ministrija. [Ministry of Education and Science in Latvia], 2021).

Teachers' professional competence encompasses a multitude of skills and abilities necessary for the effective and successful management of the pedagogical process (Sarva et al., 2022). Furthermore, education is in constant development, and new educational needs are always emerging. Therefore, continuous professional development is necessary – teachers need to develop new skills, adapt their existing experience, and be prepared to change. Thus, in the education of prospective teachers, it is crucial to focus on issues that would enable teachers to be more prepared for challenges in practice. This entails promoting teacher autonomy, the interactive utilization of various teaching tools, and efficient action.

Competences that teachers require must be altered and enhanced to provide opportunities for educating 21st-century learners (Caena and Redecke, 2019; Rubene et al., 2021a; Sarva et al., 2023). Teachers need to be capable of adapting their teaching style to align with the diverse needs of students and foster the engagement of all learners in the educational process (Aboltina et al., 2022). Within a classroom, there may be students from various cultures with different religious beliefs, languages, learning abilities, and so on. Teachers must be able to create an inclusive learning environment where every student feels supported and motivated. As technology has advanced, new opportunities and challenges have entered the realm of education (Rubene et al., 2021b; Sarva et al., 2023). Teachers must be prepared to learn and adapt to new technologies in order to effectively utilize digital tools and resources for lesson planning, ensuring a rich and challenging learning experience (Purina-Bieza and Sarva, 2022; Sarva et al., 2023). They should be adept at managing large classes, resolving conflicts, motivating and supporting students with diverse needs, and be ready to embrace the new curriculum framework of School2030.

Since teaching is emotionally and mentally intense, teachers should prioritize their emotional and physical well-being. This situation calls for addressing current challenges in promoting the professional competence of prospective teachers and providing suitable, research-backed solutions for the challenges they face in the classroom. This research aims to explore the development of student teachers' professional competence. Research question is: what are the challenges and opportunities for the development of student teachers' professional competence? A mixed method approach is applied to compare quantitative data from student teachers' self-evaluation questionnaires and qualitative data from stakeholders' perspectives in a focus group discussion.

Methodology

Research design

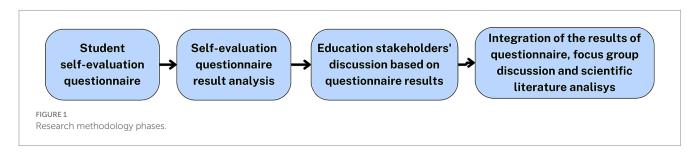
This research uses an explanatory sequential mixed methods design, where qualitative methods explain and complement

quantitative research results (Schoonenboom and Johnson, 2017). The research was conducted in two stages. First, the professional competence of future teachers was assessed by a self-evaluation questionnaire. Then, the results were analyzed and presented in a focus group discussion in which the experts discussed them. Afterwards quantitative results from the self-evaluation questionnaire and qualitative results from the focus group discussion were integrated with findings from the scientific literature to interpret the results (Figure 1).

Self-evaluation questionnaire

Quantitative data were collected via the online questionnaire platform QuestionPro. The self-evaluation tool developed in the ESF project "Development and Implementation of the Education Quality Monitoring System" (8.3.6.2/17/I/001) (Miltuze et al., 2021; Rubene et al., 2022) was used to evaluate future teachers' professional competences. The tool was developed from February 2020 to August 2021 in the project's first stage and improved in its second stage. The self-evaluation tool consists of five competences divided into 22 sub-competences, measured with 69 statements evaluated on a 7-point Likert scale (where 1 = not characteristic of me at all and 7 = completelycharacteristic of me). The content of statements pertaining to teachers' professional competences was based on the Latvian teaching profession standards (Skolotāja profesijas standarts, 2020). Future teachers' professional competences measured by the tool are as follows: Learning process planning (16 statements); learning process implementation (20 statements); professional competences development (12 statements); developing educational establishments and the educational field (11 statements); and generic professional competences (10 statements). Each competence evaluation is calculated as the mean value of the corresponding sub-competences, and each sub-competence evaluation is calculated as the mean value of the corresponding statements.

In total, 261 educational sciences bachelor-level students or first-level higher education students from teacher programs who were enrolled in their final academic year of study participated in the present research. Students represent five Latvian higher education institutions: University of Latvia (n=117), Daugavpils University (n=67), Jāzeps Vītols Latvian Academy of Music (n=30), Liepaja University (n=30), and Rezekne Academy of Technologies (n=17). Of the participants, 93% were women, and 7% were men. Participants' average age was 30 (mean=27, SD=8.41). In total, there are 1,033 educational sciences bachelor-level students or first-level higher education students from teacher programs who were enrolled in their final academic year of study (National Statistical System of Latvia, 2023). Therefore, with a 95% confidence level, the margin of error is



5.25%. Cronbach's alpha values were calculated to determine the Likert scales' reliability. An exploratory factor analysis was chosen to examine how the questionnaire functioned among master's and doctoral degree students. Data were analyzed with descriptive statistics. The questionnaire was available for completion from 7 December 2022 to 31 May 2023, and the data were analyzed using SPSS and Microsoft Excel.

Education stakeholder focus group discussion

A focus group discussion was organized to explore the views on developing educator competences for future teachers and took place on 19 April 2023. The group consisted of a professor, a lecturer who was also the dean of a university Faculty of Education at the time of the discussion, three general education school principals, two general education teachers, and a representative from the Latvian National Commission for UNESCO. To keep their identities private, they have been labeled as dean and professor (D), school principal (P1, P2 and P3), teachers (T1 and T2) and UNESCO representative (U) in this article. Participants were carefully selected to represent various perspectives, and convenience sampling was used. The discussion was moderated by one of the authors of this article, allowing participants to exchange opinions and react to each other's insights.

At the beginning of the discussion, a brief definition of educator competence was shared by the moderator of the discussion. During the discussion, participants were gradually introduced to the results of the student educators' self-evaluation questionnaire carried out during the first stage of the research. In connection with the questionnaire results, participants were asked pre-selected questions about educator competences and their development during studies based on their expertise. The discussion, which lasted 90 min, took place online and in Latvian. It was then transcribed, summarized, and analyzed to form key theses representing participants' viewpoints. The authors diligently translated the information into English while preserving the original opinions expressed by the participants. The study considered all ethical research standards in accordance with the General Data Protection Regulation (GDPR).

Results and discussion

The professional competence of a teacher is considered a holistic concept encompassing knowledge, skills, and beliefs. It manifests in

the teacher's actions and influences students' activities, forming the foundation of their future competence (Bogush et al., 2020). A teacher's competence firstly comprises their abilities, specific knowledge, and skills, and secondly, their personal characteristics, beliefs, values, and motivation (Olina et al., 2018). The necessary competences for aspiring teachers are outlined in the professional standards of the teaching profession. Various competency models exist, ranging from standards that primarily emphasize subject matter (Terhart, 2000, 2002) to standards that focus on pedagogical and psychological competences (Oser, 2001). In the Latvian context, the teaching profession standards (Skolotāja profesijas standarts, 2020) define the general knowledge, skills, and attitudes required to fulfil basic tasks and responsibilities of professional practice, thereby establishing a holistic explanation of teacher professional competence.

A self-evaluation questionnaire was used to evaluate future teachers' professional competences. In order to assess the internal consistency of the Likert scale, a Cronbach's alpha test was carried out. The results indicate that the scale's reliability (α =0.968) is considered high (Hinton et al., 2011).

The exploratory factor analysis was chosen to examine questionnaire functions among Latvian Education program students who were enrolled in their final academic year of studies. The KMO value (0.924) is >0.8; therefore, the correlation matrix is "meritorious" (Kaiser and Rice, 1974). To reduce the number of factors, the parallel analysis engine was used (Patil et al., 2017). The number of factors to retain was the number of eigenvalues (generated from the researcher's dataset) that are larger than the corresponding random eigenvalues (Horn, 1965). Therefore, seven factors were retained. For interpretation, the Kaiser-Varimax rotation matrix was used (Appendix 1). The results indicate that learning process planning competence is mostly part of the second factor. Learning process implementation is more complex and corresponds to the third, fourth and fifth factor. Professional development competence is mostly part of the first factor. Similarly, educational establishments and education field development competence is mostly part of the first factor that indicates similarity between these two competences. Teachers' generic competences of ensuring professional activity competence is mostly part of the sixth factor.

After analyzing future teachers' learning process sub-competences, it can be concluded that the mean and median values are very similar (Table 1). Students self-evaluated their learning process planning sub-competences relatively high: all sub-competences' mean and median values are over 5 on the 7-point Likert scale. These results indicate that future teachers have sufficiently developed their learning process planning competences. However, the focus group participants

TABLE 1 Future teachers' learning process planning competences.

Sub-competence	Mean	Standard deviation	Median	Skewness	Kurtosis
Competence to plan an interdisciplinary learning process	5.13	1.07	5.33	-0.57	0.53
Competence to set individualized learning goals and plan activities based on the results	5.30	0.95	5.25	-0.25	-0.31
Competence to analyze the learning process and to plan it according to the needs of the learners	5.21	0.98	5.25	-0.60	0.16
Competence to choose and develop clear and relevant assessment criteria for learning objectives to be achieved by learners	5.17	1.07	5.20	-0.52	0.00

pointed to the fact that this evaluation could be misguided; many teachers start to work in school parallel to their studies, and therefore their views on lesson planning could be based on their experiences as students rather than the latest research findings.

Many students immediately start working when they start studying. In stressful situations, they reproduce their own experiences as students rather than implement practice aligned with the latest research findings. (D).

Furthermore, focus group participants proposed the need for more monitoring of novice teachers' work to ensure the quality of it.

Teacher practice should be much more closely monitored/controlled. There are, sadly, meaningful differences in theory and how many teachers work in practice. (P3).

Taking the theoretical literature into account, the goal of teachers' academic education is not solely to acquire skills. Skills are cultivated through practical experience and then refined in subsequent stages of education (Terhart, 2002). The practice of prospective teachers fosters skills in planning, organizing, classroom management, collaboration at various levels, and creating a dynamic classroom environment. Another goal of the educational practice of aspiring teachers is to promote their commitment to becoming competent teachers, cultivating their critical understanding of social reality, and encouraging the development of rational thinking. This, in turn, ensures the unity of theory and practice, shaping their professional identity (Aglazor, 2017). Strengthening collaboration between practice supervisors in higher education institutions and mentors in preschools and schools could be one of the solutions to address this issue.

An analysis of future teachers' learning process implementation sub-competences indicates that their self-assessment medians and mean values in different sub-competences differ (Table 2).

Among the learning process implementation subcompetences, future teachers self-evaluated their competence to create an inclusive, intellectually stimulating and emotionally secure learning and individual development-relevant, collaborative learning environment (median = 6.00, mean = 5.85) as the most developed. Students also self-evaluated their competence to develop learners' social and emotional competences relatively highly (median = 5.83, mean = 5.68). This

indicates that future teachers have the necessary competences to facilitate an inclusive and emotionally safe learning environment for their students. However, they self-evaluated their competences to diagnose the needs of learners and to provide support (median = 5.00, mean = 4.85) and to assess risks associated with the use of digital technologies (median 5.00, mean = 4.90) as less developed. Therefore, it is advised to focus on developing these competences in their studies. Focus group discussion participants also highlighted the need to improve teachers' digital competence.

One of the most crucial needs is to improve educators' digital skills when working with audio, video, and computer equipment. (P3)

The situation is stable but too slow in terms of progress when it comes to technology-savvy teachers. The lack of teachers affects progress because there is no competition – we lack people who change and improve educational processes, including implementing digital solutions in education. (D)

Focus group discussion participants also stressed the need for teachers to be able to evaluate and use technologies consciously.

Technology can help with inclusion, but it can also segregate. If technology is used carelessly, learning can be negatively affected. (D)

It must be ensured that an educator can focus on the most important thing, learning, not technology. (P3).

Technology and media are merely tools within the educational process, hence the emphasis lies more on the purposeful use of technology in line with the set objectives (Bates, 2015; Olesika et al., 2020; UNESCO, 2023). The integrated utilization of technology in the learning process can enhance the effectiveness of students' activities and the quality of their outcomes, ensuring their engagement in learning activities and fostering a more positive attitude toward the learning process (Underwood, 2009; Erhel and Jamet, 2013; Schindler et al., 2017; Huang et al., 2019). Based on previous research, teachers may possess knowledge about the meaningful use of digital tools in teaching, yet their implementation in practice does not always reflect this understanding (Livingstone, 2012). By utilizing digital tools appropriately, support can

TABLE 2 Future teachers' learning process implementation competences.

Sub-competence	Mean	Standard deviation	Median	Skewness	Kurtosis
Competence to create an inclusive, intellectually stimulating and emotionally secure learning and individual development-relevant, collaborative learning environment	5.85	0.85	6.00	-0.61	-0.13
Competence to develop learners' social and emotional competences	5.68	0.88	5.83	-0.60	0.04
Competence to diagnose the needs of learners and to provide support	4.85	1.38	5.00	-0.79	0.26
Competence to collaborate with the learners' parents or guardians	5.30	1.42	5.50	-1.14	1.19
Competence to provide timely and usable feedback to learners regarding their performance, involve learners in the evaluation of their work and offer adequate opportunities and support for performance improvement	5.10	1.08	5.33	-0.63	0.29
Competence to assess risks associated with the use of digital technologies	4.90	1.51	5.00	-1.04	0.77

be provided to students who require additional assistance (Abbott et al., 2009; Lāma and Lāma, 2020). Digital solutions can make it easier to differentiate the learning process, catering to both gifted students and those facing learning difficulties, as well as students with special needs (Diass, 1999; OECD, 2020; UNESCO, 2023). Thoughtful utilisation of digital resources can promote not only interpersonal skills and collaboration but also critical thinking and leadership skills, which hold significance in the job market (Underwood, 2009; Lee and Choi, 2017). However, if not planned thoughtfully, the use of digital solutions can also cause harm, including creating or exacerbating a digital gap between students with better digital competence or access to digital solutions and those without (OECD, 2020; Daniela, 2021; Rubene et al., 2021a; UNESCO, 2023). Hence, an emphasis on cultivating digital competence becomes pivotal in the future training of teachers, ensuring a deliberate and effective implementation of digital solutions in their teaching practices.

The professional competence of teachers is intricately linked to their lifelong learning, which in turn culminates in teachers' professionalization (Polz, 2020). When analyzing teachers' professional development competence, it can be seen that all the sub-competences' self-evaluation medians are similar (Table 3). Nonetheless, focus group discussion participants emphasized the need to ensure a supportive environment for teachers' professional development.

School as a learning organization is an important concept to implement in our education system. It is crucial to make life-long learning accessible to teachers. (U)

I can't get my students to be open-minded and learn if I don't set this example. (T1)

The teacher must be ready to adapt and learn continuously. Change is happening fast, for example, Covid-19, ChatGPT. (T2)

Teachers cannot afford to be afraid to learn. Including the fact that the students might know more than them. Especially regarding digital competences. The ability to listen to colleagues and students is essential. Unfortunately, some teachers don't want to acknowledge or allow that the student might know more than the teacher. (P2)

The competence to evaluate pedagogical practices, taking into account educational outcomes, feedback provided by colleagues, teacher professional standards, and the latest developments in pedagogy (median=5.50, mean=5.18), has a slightly lower mean value and a higher standard deviation, indicating the data are more dispersed. Nevertheless, it can be concluded that future teachers have sufficiently developed their professional development competences. However, focus group discussion participants stressed that the practice of self-reflection must be used to a greater extent to ensure the quality of teachers' work.

A teacher must learn to plan their working time. Schedule time for analyzing your work, for self-reflection. To discuss the collective experience. (T1)

Furthermore, openness and willingness to experiment are sorely lacking among teachers.

Openness, the ability to experiment, and not being afraid to make mistakes and admit mistakes are important to develop among teachers. (P2)

Teachers must have a firm position whilst in constant change; it is important to get rid of perfectionist syndrome and be able to admit mistakes. (T2)

When analyzing the development of educational establishments and the educational field sub-competences, it can be concluded that students self-evaluated their competence to develop learning content and learning tools in line with their experience, innovation and the latest trends in pedagogy (median = 5.50, mean = 5.51) as most developed (Table 4). Such a high evaluation could be connected to the fact that the respondents are final-year university students and there are a lot of tasks that include the use of new and innovative learning tools and the creation of new learning content in lectures. Their high self-evaluation confirms that they think that they have managed to learn this content. However, focus group discussion participants highlighted the lack of – and therefore the need to improve – collaboration between teachers to reach institution-level goals.

TABLE 3 Future teachers' professional development competence.

Sub-competence	Mean	Standard deviation	Median	Skewness	Kurtosis
Competence to strategically assess the suitability of the methods used to promote learners' growth and to adapt the content and process of training, taking into account the information obtained in the assessment of learners	5.52	0.98	5.67	-0.32	-0.50
Competence to provide professional support by promoting the development of colleagues' teaching practices	5.65	1.02	5.75	-0.62	0.08
Competence to evaluate pedagogical practices, taking into account educational outcomes, feedback provided by colleagues, teacher professional standards, and the latest developments in pedagogy	5.18	1.25	5.50	-0.80	0.72
Competence to plan and organize professional development	5.58	1.06	5.67	-0.91	1.33

TABLE 4 Future teachers' development of educational establishments and the educational field competence.

Sub-competence	Mean	Standard deviation	Median	Skewness	Kurtosis
Competence to understand the vision for the strategic development of an educational institution and to engage in the achievement of its intended objectives	5.26	1.12	5.33	-0.46	-0.14
Competence to develop learning content and learning tools in line with experience, innovation and the latest trends in pedagogy	5.51	1.04	5.50	-0.59	-0.09
Competence to understand the strategic objectives of education policies at different levels and to participate in their implementation	5.13	1.26	5.00	-0.62	0.38
Competence to provide constructive feedback and proposals for addressing educational issues	5.04	1.27	5.00	-0.81	0.57
Competence to target and rationally use information and communication technologies (ICT) in the learning process and vocational development	5.33	1.25	5.50	-0.93	1.37

Getting along, communicating, and moving toward a shared positive result is how a teacher can give their best to their students. (P2)

Furthermore, teachers should improve their collaboration with students.

Building relationships with students – caring about how they feel, how they are doing – is the key to success. (T1)

However, the lack of time for such collaboration is also recognized.

Time for cooperation is lacking. There are many things that need to be done in terms of school priorities, instilling organizational culture and values, teaching sessions, etc. If the teacher works in several schools, it is even more challenging. (P1)

Research underscores that the ability to work together with fellow teachers and school leadership has a direct impact on students' academic outcomes. Engaging in collaborative processes allows teachers to receive feedback from peers and to self-evaluate their teaching performance (Leana and Pil, 2006; Department for Education, 2016; Kaulēns and Sarva, 2023). The intern-teacher collaboration and the synergy between teachers and school administrators, all oriented toward enhancing student learning, greatly enhance students' academic achievements and reinforce the school as a dynamic learning institution (Castaño Muñoz et al., 2021). Teachers play a vital role within the educational community and should consistently be learning and sharing experiences with their colleagues (Leana, 2011).

Students self-evaluated their competence to provide constructive feedback and proposals for addressing educational issues (median = 5.00, mean = 5.04) as less developed. The quality of feedback is largely dependent on teachers' self-reflection skills. The new approach in Latvian education emphasizes the requirement for self-reflection (Oliņa et al., 2018) as a form of professional development (Hidayaty, 2018). Three types of reflection are highlighted in theory: reflection after receiving feedback from students, reflection after receiving feedback from colleagues, and self-reflection on one's own teaching practice. Through self-reflection, a teacher identifies the root causes of problems, makes judgments, expresses emotions, analyses,

and generalizes, enriching their experience and enhancing decisions that are vital for improving the effectiveness of the teaching process (Sancar and Dervakulu, 2022). To address these challenges proactively, the training of teachers within the study process should emphasize the importance of receiving feedback from fellow students. This approach aims to reduce apprehension and social obstacles related to utilizing such assessment tools while fostering a deeper appreciation for the value of reflective practices (Erdemir and Yesilcinar, 2021). Consequently, a pivotal aspect of a teacher's professional competence is their aptitude for self-reflection and the skill set to engage in it. These attributes enable teachers to gage their teaching performance individually and foster collaborative learning among teachers (Taconis et al., 2004).

Students self-evaluated their competence to understand the strategic objectives of education policies at different levels and to participate in their implementation (median = 5.00, mean = 5.13) as the least well-developed among all the sub-competences within the development of educational establishments and the educational field competence. However, their self-evaluation medians and mean values should be considered as high. Most of the students who participated in the research (81%) are already working in schools. However, those who have not yet worked in schools have had limited experience with and opportunities to participate in implementing the strategic objectives of educational policies.

An analysis of students' generic professional competences indicates that their competence to act in accordance with the requirements of the legislation (median = 6.50, mean = 6.22) has been self-evaluated a lot higher compared to the other two sub-competences (Table 5). Moreover, this competence's self-evaluation has the highest median and mean values among all teachers' professional competences. This may be because it is considered the most important one: teachers have to act in accordance with the requirements of the legislation, and students think they have the competence to do so. However, it should be considered that students may have overestimated their competence due to the fact that they understand that they have to know how to act in accordance with the requirements of the legislation even to be allowed to work in a school.

It is worth noting that focus group participants recognize that more clarity and collaboration are needed among institutions connected to education to ensure a shared strategic vision for teachers to follow.

TABLE 5 Future teachers' generic professional competences.

Sub-competence	Mean	Standard deviation	Median	Skewness	Kurtosis
Competence to act in accordance with the requirements of the legislation	6.22	0.93	6.50	-1.07	0.44
Competence to communicate freely and correctly in the official language and to express views in another official language of the European Union	5.10	1.57	5.00	-0.89	0.43
Competence to assess the state of one's physical, intellectual, and emotional health and to take appropriate action	5.01	1.06	5.17	-0.56	0.08

It is important to agree on a common result for education. And to make sure that education, schools and teachers are seen as part of the solution. (U)

In order for the teacher and the principal to feel free and autonomous, interdisciplinary cooperation is important. For example, regarding evaluation, there are so many different visions, and the teacher feels pulled in different directions. There has to be a shared vision – where do we want to go and how? Then, schools and teachers will truly be more autonomous. (P1)

At the end of the focus group discussion, participants also stressed that teachers should have a positive attitude toward their work to be able to do it well.

The teaching profession is exciting – keep your passion and positive attitude. (D)

A positive attitude to your work is among the most important professional qualities for a teacher. (P1)

A good teacher is a happy teacher who likes this profession. (T1)

Drawing from theoretical perspectives, the well-being of teachers is closely tied to their psychological attributes and emotions (Bardach et al., 2022). As a result, the principles of self-care are integrated into both teachers' professional development and the curricula of aspiring teachers. Self-care, viewed as a conscious practice, aims to enhance teachers' overall health and maintain their well-being in their professional journey. Additionally, there is a focus on subjective well-being, encompassing the cognitive and emotional dimensions of individuals' lives (Lijadi, 2018). Given that teachers' subjective well-being is influenced by a combination of internal and external factors (Diener, 2022), the educational process highlights the significance of teachers engaging in self-exploration of their needs, interests, and aspirations.

The competence to communicate freely and correctly in the official language and to express views in another official language of the European Union (median = 5.00, mean = 5.10) and the competence to assess the state of one's physical, intellectual, emotional health and to take appropriate action (median = 5.17, mean = 5.01) were self-evaluated lower. It should be pointed out that the former competence's self-evaluations have the highest dispersion; therefore, students' competences are more polarized. Focus group discussion participants highlighted the use of foreign languages as one of the biggest concerns among educators' competences.

There are major problems with English language skills (speaking, writing, listening, working with materials). (P3)

Teachers' language skills should be assessed as an integral component of their professional competence, as these skills can foster a linguistically rich environment within educational institutions (Ascetta et al., 2019). This challenge has gained significance in the context of Latvian education in 2023, with a gradual shift toward teaching exclusively in the Latvian language (including in schools that previously taught in Russian language). The necessity for European Union language proficiency is emphasized, enabling teachers to access specialized literature in foreign languages, stay updated on global educational innovations, and seek research-based solutions to challenges emerging in educational practices (Driksna and Kalke, 2022).

This study has identified the primary challenges related to the enhancement of prospective teachers' professional competence within the context of higher education in Latvia. However, the limitations of the self-evaluation questionnaires have to be taken into consideration. As a form of evaluation, self-evaluation questionnaires are less precise compared to objective or behavioral observations or ability tests because respondents can be affected by their limited ability to remember specific examples of their behavior, distorted memories of their past behavior, and a general tendency to assess their competences higher than they actually are (Miltuze et al., 2021; Rubene et al., 2021b; Dimdiņš et al., 2022). Therefore, this research used data triangulation with responses from a focus group discussion and a scientific and professional literature analysis for a more precise interpretation of the gathered data.

Conclusion

In this research, endeavors for enhancing prospective teachers' professional competence have been derived from a self-assessment tool and a summary of expert education discussions. The self-assessment questionnaire of teachers' professional competence was developed based on the Latvian teaching profession standards (Skolotāja profesijas standarts, 2020) on the basis of their structure and the knowledge, skills, attitudes, and competences required for the execution of teachers' professional activities. An organized focus group discussion was also conducted, involving professionals from various levels (including educational institution managers, university faculty members, and a representative from the Latvian National Commission for UNESCO), with an emphasis on teachers' professional competence in learning practice. Through an analysis of the questionnaires and expert education discussions, endeavors for

enhancing the professional competence of prospective teachers have been identified at both institutional and individual levels. At the institutional level (school, university, etc.), tasks include:

- 1 Ensuring purposeful practice supervision and promoting the unity of students' professional skills between theory and practice, self-reflection, and accountability.
- 2 Fostering the development of knowledge and skills required for diagnosing students' needs and providing constructive feedback.
- 3 Strengthening schools as learning organizations.
- 4 Continuing to develop inclusive learning environments within educational institutions.
- 5 Ensuring the uninterrupted and purposeful progress of the digitalisation process.

At the individual level, tasks include:

- 1 Prioritizing emotional well-being: promoting the skill of balancing work and personal life, planning work hours, including time for self-reflection.
- 2 Embracing the willingness to learn from mistakes, acknowledge errors, and be flexible and adaptable to change.
- 3 Identifying personal and professional needs to outline the focus of professional development, utilizing self-assessment tools.

To address the challenges highlighted in the article, further research on teachers' professional development is necessary.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Humanities and Social Sciences Research Ethics Committee (Humanitāro un sociālo zinātņu pētījumu ētikas komiteju), University of Latvia. The studies were conducted in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required from the participants or the participants' legal guardians/next of kin because Participants of questionnaire were informed and agreed that the collected data will be used in summarized and anonymised format in the research. Participants of the focus group discussion agreed to broadcast discussion publicly and were informed and agreed that the content of the discussion will be used in research in anonymised format. All research participants were over the age of 18 and did not represent any vulnerable groups.

References

Abbott, I., Townsend, A., Johnston-Wilder, S., and Reynolds, L. (2009). *Deep learning with technology in 14- to 19-year-old learners*, University of Bristol: BECTA.

Aboltina, L., Baranova, S., and Kalke, B. (2022). Student preschool teachers' professional competences in planning, implementation, and evaluation of the learning process. *Interdisc. Stud. Comp. Syst.* 21, 88–99. doi: 10.31392/iscs.2022.21.088

Author contributions

LĀ: Conceptualization, Formal analysis, Investigation, Supervision, Writing – original draft, Writing – review & editing. GL: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Validation, Writing – original draft, Writing – review & editing. ES: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Validation, Visualization, Writing – original draft, Writing – review & editing. BK: Conceptualization, Formal analysis, Investigation, Writing – original draft, Writing – review & editing. AĀ: Conceptualization, Data curation, Formal analysis, Investigation, Writing – original draft, Writing – review & editing. LD: Conceptualization, Formal analysis, Supervision, Writing – review & editing. ZR: Funding acquisition, Project administration, Resources, Supervision, Writing – review & editing. MB: Project administration, Resources, Supervision, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/feduc.2023.1307387/full#supplementary-material

Aglazor, G. (2017). The role of teaching practice in teacher education programmes: designing framework for best practice. *Glob. J. Educ. Res.h* 16, 101–110. doi: 10.4314/gjedr.v16i2.4

Ascetta, K., Harn, B., and Durán, L. (2019). Comparing self-reported and performance-based online feedback on early childhood teachers' implementation of

language strategies. Early Childhood Educ. J. 47, 353–365. doi: 10.1007/s10643-019-00934-8

Bardach, L., Klassen, R. M., and Perry, N. E. (2022). Teachers' psychological characteristics: do they matter for teacher effectiveness, teachers' well-being, retention, and interpersonal relations? an integrative review. *Educ. Psychol. Rev.* 34, 259–300. doi: 10.1007/s10648-021-09614-9

Bates, A. W. (2015). Teaching in a digital age: guidelines for designing and teaching and learning. BCcampus.

Bogush, A., Kovshar, O., Kovtun, O., and Bulgakova, O. (2020). Pedagogical conditions for the formation of professional culture of future educators of preschool educational institutions. *Propósitos y Representaciones* 8:e676. doi: 10.20511/pyr2020. v8nSPE2.676

Caena, F., and Redecke, C. (2019). Aligning teacher competence frameworks to 21st century challenges: the case for the European digital competence framework for educators (Digcompedu). *Eur. J. Educ.* 54, 356–369. doi: 10.1111/ejed.12345

Castaño Muñoz, J., Vuorikari, R., Costa, P., Hippe, R., and Kampylis, P. (2021). Teacher collaboration and students' digital competence – evidence from the SELFIE tool. *Eur. J. Teach. Educ.* 46, 476–497. doi: 10.1080/02619768.2021.1938535

Daniela, L. (2021). Smart pedagogy as a driving wheel for technology-enhanced learning. *Technol. Knowl. Learn.* 26, 711–718. doi: 10.1007/s10758-021-09536-z

Department for Education. (2016). Standard for teachers' professional development: implementation guidance for school leaders, teachers, and organisations that offer professional development for teachers. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/537031/160712_-_PD_Expert_Group_Guidance.pdf

Diass, B. L. (1999). Integrating technology – some things you should know. *Learn. Lead. Technol.* 27, 10–13.

Diener, E. (2022). "Happiness: the science of subjective well-being" in *Introduction to psychology: The full Noba collection*. eds. R. Biswas-Diener and E. Diener Noba. Psychology. Champaign. Available at: http://noba.to/qnw7g32t

Dimdiņš, G., Miltuze, A., and Oļesika, A. (2022). "Development and initial validation of an assessment tool for student transversal competences" in *Human, technologies and quality of education*. ed. L. Daniela (Latvia: University of Latvia).

Driksna, M., and Kalke, B. (2022). Competences of heads of school in the current terminology of education in Latvia. *Acta Paedagogica Vilnensia* 49, 83–97. doi: 10.15388/ActPaed.2022.49.6

Erdemir, N., and Yesilcinar, S. (2021). Reflective practices in micro teaching from the perspective of preservice teachers: teacher feedback, peer feedback and self-reflection. *Reflective Pract.* 22, 766–781. doi: 10.1080/14623943.2021.1968818

Erhel, S., and Jamet, E. (2013). Digital game-based learning: impact of instructions and feedback on motivation and learning effectiveness. *Comput. Educ.* 67, 156–167. doi: 10.1016/j.compedu.2013.02.019

Hidayaty, S. (2018). Exploring novice EAP teacher's self-reflection as a platform for professional development. *Indones. J. Appl. Linguist.* 8, 441–451. doi: 10.17509/ijal. v8i2.13310

Hinton, P. R., Brownlow, C., McMurray, I., and Cozens, B. (2011). SPSS explained, London: Routledge.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. Psychometrika 30, 179–185. doi: 10.1007/BF02289447

Huang, B., Hew, K. F., and Lo, C. K. (2019). Investigating the effects of gamificationenhanced flipped learning on undergraduate students' behavioural and cognitive engagement. *Interact. Learn. Environ.* 27, 1106–1126. doi: 10.1080/10494820.2018.1495653

Izglītības un zinātnes ministrija. [Ministry of Education and Science in Latvia] (2021). Izglītības attīstības pamatnostādnes 2021.-2027. Gadam [Guidelines for Education Development 2021-2027]. Available at: https://www.izm.gov.lv/lv/izglītības-attīstības-pamatnostādnes-2021-2027gadam

Kaiser, H. F., and Rice, J. (1974). Little jiffy, mark iv. *Educ. Psychol. Measure.* 34, 111-117. doi: 10.1177/001316447403400115

Kaulēns, O., and Sarva, E. (2023). "Informal learning for creating professional support groups for teachers and school leadership teams: a case study" in *To be or not to be a great educator, 2022. Proceedings of ATEE annual conference.* ed. L. Daniela (Latvia: University of Latvia Press).

Lāma, G., and Lāma, E. (2020). Remote study process during COVID-19: application and self-evaluation of digital communication and collaboration skills. *New Trends Issues Proc. Human. Soc. Sci.* 7, 124–129. doi: 10.18844/prosoc.v7i3.5241

 $Leana, C.\ R.\ (2011).\ The\ missing\ link\ in\ school\ reform.\ \textit{Stanf.\ Soc.\ Innov.\ Rev.}\ 9, 30-35.$

Leana, C. R., and Pil, F. K. (2006). Social capital and organizational performance: evidence from urban public schools. *Organ. Sci.* 17, 353–366. doi: 10.1287/orsc.1060.0191

Lee, J., and Choi, H. (2017). What affects learner's higher-order thinking in technology-enhanced learning environments? The effects of learner factors. *Comput. Educ.* 115, 143–152. doi: 10.1016/j.compedu.2017.06.015

Lijadi, A.A. (2018). Theoretical foundations to outline human well-being: Metaanalytic literature review for defining empowered life years. IIASA Working Paper. IIASA.

Livingstone, S. (2012). Critical reflections on the benefits of ICT in education. Oxf. Rev. Educ. 38, 9–24. doi: 10.1080/03054985.2011.577938

Miltuze, A., Dimdiņš, G., Oļesika, A., Āboliņa, A., Lāma, G., Medne, D., et al. (2021). Augstākajā izglītībā studējošo caurviju kompetenču novērtēšanas instrumenta (CKNI) lietošanas rokasgrāmata [manual for the use of the competency assessment tool for students studying in higher education], Latvia: University of Latvia.

National Statistical System of Latvia. (2023). Statistical database. Available at: $\frac{https://data.stat.gov.lv/pxweb/en/OSP_PUB/}{}$

OECD (2020). A framework to guide an education response to the COVID-19 pandemic of 2020, Paris: OECD.

Olesika, A., Lāma, G., and Rubene, Z. (2020). Conceptualization of digital competence: perspectives from higher education. *Int. J. Smart Educ. Urban Soc.* 12, 46–59. doi: 10.4018/IJSEUS.2021040105

Oliņa, Z., Namsone, D., France, I., Čakāne, L., Pestovs, P., Bērtule, D., et al. (2018). Mācīšanās lietpratībai [Learning for proficiency], Latvia: University of Latvia.

Oser, F. (2001). "Modelle der Wirksamkeit in der Lehrer- und Lehrerinnenausbildung [Models of effectiveness in teacher training]" in *Die Wirksamkeit der Lehrerbildungssysteme*. eds. F. Oser and J. Oelkers (Zürich: Rüegger Chur).

Patil, V., Surendra, H. N. S., Sanjay, M., and Donavan, D., T. (2017). Parallel analysis engine to aid in determining number of factors to retain using R[computer software]. Available at: https://analytics.gonzaga.edu/parallelengine/

Polz, E. (2020). Being a teacher - a lifelong learning process. Resource 14:951.

Purina-Bieza, K. E., and Sarva, E. (2022). "Types of digital learning solutions most used by teachers in Latvia" in *Human, Technologies and Quality of Education, 2022.* Proceedings of Scientific Papers = Cilvēks, tehnoloģijas un izglītības kvalitāte, 2022. Rakstu krājums. ed. L. Daniela (Latvia: University of Latvia).

Rubene, Z., Daniela, L., Rūdolfa, A., Sarva, E., and Ļubkina, V. (2021a). "Lessons learned from pandemics in the context of digital transformation of education" in *Human, Technologies and Quality of Education, 2021 = Cilvēks, tehnoloģijas un izglītības kvalitāte, 2021.* ed. L. Daniela (Latvia: University of Latvia).

Rubene, Z., Daniela, L., Sarva, E., and Rūdolfa, A. (2021b). "Digital transformation of education: envisioning post-Covid education in Latvia" in *Human, technologies and quality of education, 2021 = Cilvēks, tehnoloģijas un izglītības kvalitāte, 2021.* ed. L. Daniela (Latvia: University of Latvia).

Rubene, Z., Dimdiņš, G., Miltuze, A., Baranova, S., Medne, D., Jansone-Ratinika, N., et al. (2022). Augstākajā izglītībā studējošo kompetenču novērtējums un to attīstības dinamika studiju periodā. I. Kārtas noslēguma ziņojums [evaluation of the competences of students in higher education and their development dynamics during the study period. Round 1 final report]. Latvia: University of Latvia.

Sancar, R., and Dervakulu, D. (2022). Editing video cases to facilitate teachers' self-reflection on their instructional decision. *Reflective Pract.* 23, 467–482. doi: 10.1080/14623943.2022.2056884

Sarva, E., Lama, G., and Olesika, A. (2023). Digital competence of higher education students in Latvia and perspective on developing them. *Sustainability* 15:9895. doi: 10.3390/su15139895

Sarva, E., Purina-Bieza, K.E., and Daniela, L. (2022). Self-evaluation instrument for measuring teachers' pedagogical digital competence. INTED2022 Proceedings. 3568–3576.

Schindler, L. A., Burkholder, G. J., Morad, O. A., and Marsh, C. (2017). Computer-based technology and student engagement: a critical review of the literature. *Int. J. Educ. Technol. High. Educ.* 14:25. doi: 10.1186/s41239-017-0063-0

Schoonenboom, J., and Johnson, R. B. (2017). How to construct a mixed methods research design. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 69, 107–131. doi: 10.1007/s11577-017-0454-1

Skolotāja profesijas standarts Teaching profession standards. (2020). Available at: https://registri.visc.gov.lv/profizglitiba/dokumenti/standarti/2017/PS-138.pdf

Taconis, R., van der Plas, P., and van der Sanden, J. (2004). The development of professional competencies by educational assistants in school-based teacher education. *Eur. J. Teach. Educ.* 27, 215–240. doi: 10.1080/0261976042000223051

Terhart, E. (2000). Perspektiven der Lehrerbildung in Deutschland. Abschlussbericht der von der Kultusministerkonferenz eingesetzten Kommission [Perspectives on teacher training in Germany. Final report of the commission set up by the Conference of Ministers of Education]. Beltz Pädagogik.

Terhart, E. (2002). Standards für die Lehrerbildung. Eine expertise für die Kultusministerkonferenz [standards for teacher education. An expertise for the conference of ministers of education]. Institut für Schulpädagogik und Allgemeine Didaktik, Westfälische Wilhelms-Universität Münster.

Underwood, J. (2009). The impact of digital technology: a review of the evidence of the impact of digital technologies on formal education. *British Educational Communications and Technology*. BECTA.

UNESCO. (2023). 2023 global education monitoring report. Avaiable at: $\frac{https://gem-report-2023.unesco.org}{https://gem-report-2023.unesco.org}$