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Critical considerations of sustainable teacher education in Finland

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Abstract

Blended teaching and learning, which combines face-to-face instruction with computer-mediated learning, is gaining popularity worldwide. This approach presents both opportunities and challenges for future teachers and student teachers, requiring critical considerations of pedagogy as well as careful planning and implementation to ensure effective teaching. The integration of online learning activities provides new prospects for teacher education experiences. In Finland, the national strategy for teacher education research holds great significance. In 2016, the Finnish government established a teacher education forum to guide and discuss future requirements in this field. The objective of this research is to explore how student teachers view the future of teacher education taking into consideration Finnish educational policies. The data was collected through focus group discussions with primary school student teachers in Finland (N=45), where web-based studies were predominant. The results of this study are categorized into three main themes following educational policy guidelines: *Teachers' wide basic knowledge, Teachers' expertise and creative agency,* and *Teachers' developing professional and organizational know-how*. According to the results, the importance of equipping future teachers with a broad knowledge base was highlighted as a key competency by the students. The study concludes that teacher education should evolve towards more sustainable education and pedagogy by embracing blended learning opportunities to cater to the needs of future educators.

Keywords: teacher education, pedagogy, future competencies, blended learning and teaching

Introduction

The objective of this research is to examine the perspectives of student teachers regarding the future of teacher education considering the Finnish educational policy guidelines. The aim is therefore to contribute critically to the ongoing discussions of pedagogy in higher education and especially teacher education programs across the Nordic countries. In all this the concept of pedagogy is essential. Pedagogy in educational settings has been traditionally understood as teaching and instructing students and a distinction between the pedagogy and students' self-directness and individual learning path has arisen (see Walker, 2005). However, in the Nordic countries, pedagogy is understood through a holistic approach to cover not only instructions and frontal teaching, but also learning environment, interaction, scaffolding, reflection, and professional development of both students and teachers (Kangas et al., 2021). Therefore, knowledge is exchanged between individuals and/or within groups and the understanding on pedagogy can be seen through the epistemological interaction between the stakeholders of education, the teachers and policymakers but also students and wider society as a dynamic process with ongoing development (Kangas et al., 2021). Future consideration of pedagogy in teacher education in Finland also involves broader perspectives of sustainability in social and cultural factors shaping higher education (Hays and Reinders, 2020; Rubin and Brown, 2019).

We define the concept of education for sustainable development broadly, according to UNESCO: "Education for sustainable development should equip all learners with the knowledge, skills, values and attitudes to respond to global challenges" (UNESCO, 2019). By education for sustainability, we mean education that aims to change students' behaviour by developing knowledge and attitudes that support sustainability (Michel, 2020). Education then acts as a mechanism to transform society towards a more sustainable future (e.g. Michel, 2020). Education plays an important role in creating a sustainable future (UNESCO, 2019). However, the current research-based understanding of sustainable development from an educational perspective is limited and its definition is very general (e.g. Hays and Reinders, 2020; Lemmetty and Collin, 2021). In education policy documents, teacher training and curricula, sustainability systems are narrowly reflected rather than broadly integrated into educational content and pedagogy (UNESCO, 2021). This is also the case in Finland, where sustainability and especially ecological sustainability are presented in education policy documents in a narrow and superficial way (Mykrä, 2023).

In education and adult learning research, sustainability has been analysed from the perspectives of constructivist learning, pedagogy and the andragogy of adult learning. Critical questions have been raised, for example, about how sustainability differs from constructivist conceptions of learning, which see learning as a reflective and continuous process constructed by the learner (Lemmetty and Collin, 2022). Andragogical conceptions of learning have also linked learning to the learner's attachment to lived experience, interaction and power relations - including equality and understanding others (Malinen and Piiroinen, 2023). Teacher education plays an important role in building the society of the future and teaching new generations (Juvonen and Toom, 2023). From a sustainable learning perspective, it is important to pay attention to the learning of adult teacher education students and the pedagogical

arrangements of classroom teacher education that can create a more sustainable society and the well-being of all individuals (cf. Rubin and Brown, 2020).

The epistemological perspective in this research can therefore be seen as constructivist, suggesting that knowledge is constructed through experience and reflection. This perspective is evident in the emphasis on blended teaching and learning, which combines traditional face-to-face instruction with digital learning, allowing student teachers to shape their understanding through diverse experiences. Knowledge is therefore not just received passively but actively built by the learners as they engage with both physical and virtual learning environments.

The research has been conducted in a Finnish teacher training institute specialized in blending the learning where students have both on-campus meetings and online conducted coursework modelled through blended learning approach (Graham, 2006). The textual data for this study consists of focus group discussions with primary school student teachers (N=45), divided into focus groups of 4-6 students. The topic of focus group discussions revolved around their vision of classroom teacher education in the year 2030. The textual data was analysed using abductive analysis, with the analysis approach based on a strategic policy document that outlines proposed enhancements to teacher education in Finland (Finnish Ministry of Education and Culture, 2016; 2022).

From these premises, we have formulated a research question: *how do student teachers view the future of teacher education considered through a blended teacher education program?* To answer this question, we start this paper by introducing the context of Finnish teacher education and describe recent trends in blended learning. After that, we move on to describing the Finnish strategic future objectives for both pre-service and in-service teacher education programs through the pedagogy-related approach. This framework is then used as an analysis tool in our abductive analysis. Finally, the conclusion of this paper culminates in a critical examination of the pedagogy employed in teacher education programs and an exploration of the societal factors that are influenced by our approach to teacher education.

Finnish teacher education – towards blended teacher training

In Finland, the responsibility for teacher education was transferred to universities in 1971 to strengthen the research community's confidence and promote high-quality teacher education at a master's level. The primary objective of Finnish teacher education is to cultivate inquiry-oriented teachers (Jyrhämä and Maaranen, 2012). This involves equipping teachers with a blend of theoretical and practical knowledge, allowing them to develop a personal, yet practical, theory applicable to their classrooms. While research is conducted within these programs, the emphasis on being research-based in Finland also focuses on developing teachers' pedagogical thinking and decision-making abilities, particularly in justifying their actions (Kansanen, 2006). Today, in Finland, individuals who aspire to become teachers complete a 5-year masters' program that grants teachers the official qualification to teach compulsory basic education covering grades 1 to 9 (Jyrhämä and Maaranen, 2012). These teacher education programs encompass both theoretical aspects of education and practical training periods (Kangas and Harju-Luukkainen, 2021).

Aspiring teachers are required to pass an examination as part of the admission process, done in a cooperative network of teacher education programs across the country. As the examination is rigorous, Finnish teacher education programs tend to attract older students compared to countries with similar entrance examinations (Hauschildt et al., 2015). Finnish teacher training should proactively try to adapt to global challenges by integrating sustainability, embracing multicultural and linguistic diversity, and leveraging digitalization to enhance educational practices (Harju-Luukkainen and Kangas, 2021; Maunula et al., 2023). Also, teacher shortage, especially in rural areas have raised national and international concerns and the approach of blended teacher training programs have been considered relevant when addressing these challenges. According to the Ministry of Education and Culture (2016) in Finland, all learners have the right to high-quality teaching given by the teacher, The teaching staff must therefore be qualified and pedagogically professional throughout the whole schooling path. This must be ensured in the future as well regardless of region and educational institution.

Most of the teacher education programs in Finland are using face-to-face learning. After Covid-19, blended teacher education programs have become important actors in Finnish teacher education. They combine online digital media with traditional face-to-face classroom methods, providing a flexible and accessible learning environment. This flexibility is crucial, especially in rural areas where teacher shortages are prevalent. It allows for a more inclusive approach to education, ensuring that aspiring teachers from various backgrounds and regions can receive high-quality training without the constraints of distance. Blended studying and learning are therefore both possibilities but also challenges for adult students and they require a special focus on pedagogy in both the planning and implementation of the teaching (Masie, 2006). On the other hand, online learning activities are opening up new opportunities for teacher education learning experiences (Maunula et al., 2023). The shaping of future teachers rests in the hands of teacher education programs across the country and their instructors, necessitating their evolution through ongoing, evidence-based research. In Finland, in this work, the implementation of a strategic national research agenda on teacher education is essential, as documented by Kangas and Harju-Luukkainen (2021) and Husu and Toom (2016).

Future objectives of teacher education in Finland

For the future of Finland, it's crucial to guarantee that every region has access to well-trained and competent teachers and professionals. From these premises, in 2016 the Finnish government founded a teacher education forum to guide and discuss the future needs of teacher education in Finland. The founding document of the forum defines and predicts some of the existing and future challenges of the teachers' profession and states the goals for teacher education itself: "*Teacher's work is knowledge-intensive expert work and demanding interactive work in changing contexts…For this demanding work, a teacher needs versatile pedagogical skills and content knowledge, especially capabilities related to learning and instruction, interaction, well-being and school development*" (Husu and Toom, 2016). Teacher education should provide readiness for the challenges of educational and teaching work. Some of the skills must be included in basic education (especially broad-based basic competence). In addition, it defined what kind of support and competence development is needed during the career. The Teacher Education Forum has structured future objectives (Figure 1) for all teacher education in

Finland. In this figure, future teacher competency is divided into three main themes. These are *Teacher's wide basic knowledge, Teachers' expertise and creative agency,* and *Teachers developing professional and organisational know-how* (MINEDU, 2016, p.17).

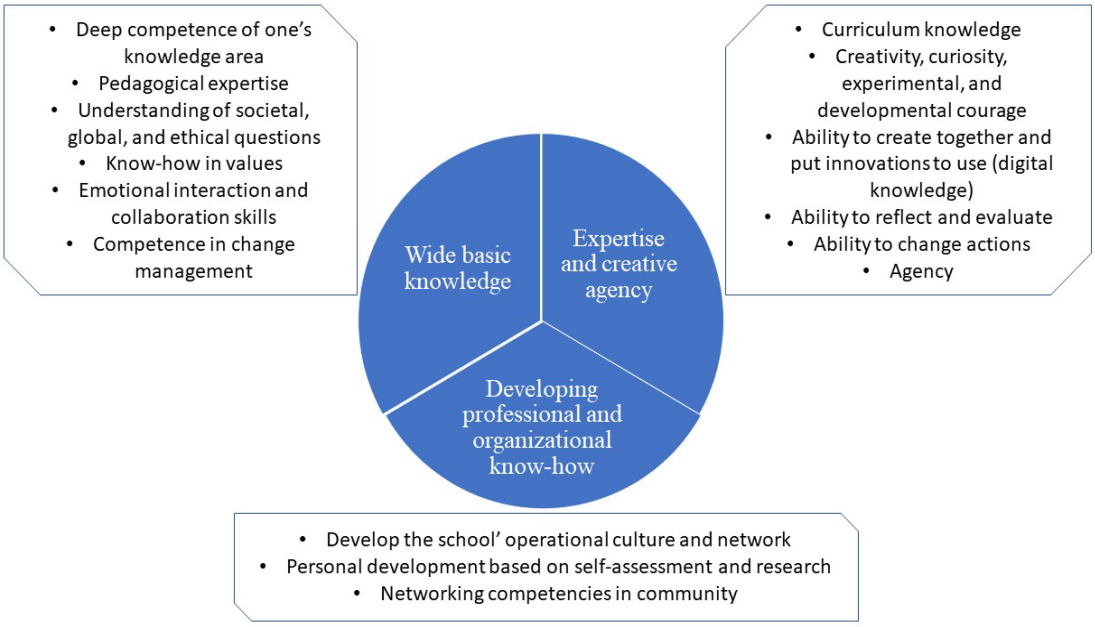

Figure 1: Objectives for future teacher competence in Finland (translated from Finnish, Ministry of Education and Culture, 2016; 2022)

The Finnish education model's main goals, set out in 2016 by the Ministry of Education and Culture in Finland, highlight the necessity for teachers to adopt a comprehensive pedagogical approach. This approach includes a broad foundational knowledge and skills that drive innovation, both individually and institutionally, along with lifelong learning abilities. Harju-Luukkainen et al. (2018), Harju-Luukkainen and Kangas (2021), and Kangas and Harju-Luukkainen (2021) provide further insights on this. In all this, pedagogy, according to Kangas et al. (2021), is shaped by theoretical disparities, values, and beliefs of teachers, as well as by the objectives and directives of policymakers found in various policy documents. This multi-dynamic perspective on pedagogy influences the teaching and learning methods in teacher training programs, contributing to the evolving nature of pedagogical knowledge. Ranta et al. (2023) describe pedagogy as both the art and science of teaching, which evolves through research and the goals of policymakers and educational stakeholders. As society shifts, so does the teaching profession. Kangas and Harju-Luukkainen's (2021) analysis of strategic policy documents on early childhood teacher education in Finland suggests that teachers are expected to increasingly embody a wider range of competencies in the future. According to the authors:

> "Teachers should, for example, be aware of the psychological, physical, and social development of children, and be competent to use this knowledge to support children individually as well as in shared interaction. Further, teachers were expected in the future not only to follow the curriculum or school operational culture but also to actively develop and change it through critical notions and analysis. Teachers should be able to lead educational teams to make the "needed" changes."

For the developmental needs of teacher education, the perspective of teacher students in the training programs could give valuable insight into the quality of programs and teachers' preparedness but also digital issues, global challenges, equity and inclusion and beyond that, the future teacher's social enhancement to the teachers' role (see Maunula et al., 2023). In this study, the students of teacher training programs are considered as a key stakeholder who could provide important knowledge based on their personal experiences and reflection of the training they have had considering the teachers' job, skills and competencies. The insights gained from this research can help inform the development of future policies and initiatives aimed at supporting the ongoing evolution of teacher education, while also ensuring that the needs and perspectives of student teachers are considered.

Data and methods

The focus of this research is to gain insights into the perspectives of student teachers on the future of teacher education. The students are key stakeholders of teacher education and they can be seen as agents and experts of their learning and study paths. Following the epistemological orientation of this study, the experiences, opinions, considerations, and critical voices of students considering their education are valuable as such and are also essential for the future development of the teacher training programs. From these premises, our research question is: **"How do student teachers view the future of teacher education?"**

To answer this research question, data was collected through focus group discussions with student teachers (N=45) at the Jyväskylä University, Kokkola University Consortium in Finland in Autumn 2022 during the final trimester of the participants' Master's degree education. Students were conducting their studies using web-based platforms in a blended training program and thus providing an ideal setting to explore their views on the future of teacher education opportunities and challenges. Through the focus group discussions, the researchers aimed to uncover students' thoughts and opinions on the changing landscape of teacher education and how it aligns with the current policy frameworks and expectations at the national level.

In the focus group discussions students were asked to exchange their views, experiences, and initiatives through considering a question: "What will teacher education be like in the future in 2030?" The shared discussions took for approximately 10-15 minutes and were recorded. The content of the students' discussions was then transcribed from the recordings, allowing for differentiation between different individuals while maintaining anonymity. As this was a focus group interview, the students were not identified by identification codes in the quotations to respect their anonymity. The choice of quotes considered the responses of the various students. Prior to the study, the students were informed about the privacy notice and provided informed consent, the researcher would not transcribe nor analyse the data before the students' graduation to prevent ethical issues concerning students' critical voices and their grades.

The research data consisted of 14 pages of transcribed text, which contained rich content allowing for a thorough exploration of the research question. The analysis of this research was theory oriented with the framework based on educational strategy about refinements to teacher education by the Finnish

Ministry of Education and Culture (2016). The data were analysed according to the three future strands of this strategy: *Teacher's wide basic knowledge, Teachers' expertise and creative agency,* and *Teachers' developing professional and organisational know-how* (MINEDU, 2016, p.17). The analysis examined the content themes that emerged from the students discussions and identified more specific content within them. The congruence of the study comes from an abductive approach through an abductive reasoning process (Kovács and Spens, 2005). In abductive analysis the theory-oriented framework and the data are intertwined through the cyclical process of analysis in which the theoretical phenomena, the future of teachers' competencies, and the practice, future teachers' considerations are combined (Kovach and Spens, 2005). In an abductive process our aim was to determine the aspects of the phenomenon of future education through the dialogue of the experiences of students and more general process of policies of such situations (Danermark, 2001; Kóvach and Spens, 2005). The combination of the focus, data collection, analysis, and finally the findings of this research is designed to form a holistic viewpoint to discuss the phenomenon of future education through the teachers' skills. In practice, the students' interview data in transcribed form and the policy tool were both read through several times, to identify the meanings of students' ideas and experiences in the light of the research question. The researcher participated in critical discussions concerning both the students' voice and the policy documents' hidden meanings and, through that, constructed the findings presented in the next part of the paper.

Research can uncover certain constraints that researchers need to acknowledge. First, it is important to note that this study involved a relatively small sample of 45 students from a single cohort. Nevertheless, qualitative research aims to provide an in-depth portrayal and comprehension of the research phenomenon, making the magnitude or quantity of data less significant in determining reliability (Patton, 2002). It should be noted, however, that the students' responses may have been influenced by the fact that their own university was the research context and that their own teachers were the interviewers. In addition, the future prospects perceived by this particular group of students may be influenced by the trajectory of their educational pursuits. Consequently, different selections could potentially yield different prognoses regarding the future of teacher education. However, the epistemological starting point for qualitative research is epistemological and ontological constructivism, whereby the research accepts that interpretation is subjective and that reaching students' experience is always interpretive. Therefore, the collection of data was guided by the aspiration to address the research question, particularly through a qualitatively comprehensive approach. Additionally, the researcher's choices throughout the research process, including the utilization of concepts and theoretical frameworks, influenced the research decisions. However, it is crucial to acknowledge that this standpoint served as an openly declared foundation for the research. Moreover, different research designs may lead to varying interpretations.

Results

The following section describes the findings divided into three categories that originate from the three contextual strands of the education policy strategy concerning teacher education goals in the future: *Teacher's wide basic knowledge*, *Teachers' expertise and creative agency*, and *Teachers' developing*

professional and organisational know-how. As presented earlier, these three categories are highlighted as objectives for future teacher competency by the Ministry of Education and Culture in Finland (Ministry of Education and Culture, 2016).

Teachers' wide basic knowledge

The Ministry of Education and Culture's teacher education development program emphasizes the need for teachers to possess wide basic knowledge as the first main objective. The categories associated with this area of competence (see Figure 1), were identified from the students' reflections: *in-depth knowledge*, *pedagogical and didactic competence* and *emotional and interactional competence*. The students perceived that a teacher education program provided narrow expertise and limited preparation for their future profession. They emphasized the need for a broader scope in teacher education and addressed the need for continuous learning for teachers and thus the sustainable professional development together with sustainability competencies needed in the future. These areas of competence can be further considered through research skills and critical thinking, sustainability skills and management of diverse learning environments including digital skills involved in the developmental project.

In terms of ***pedagogical and didactical competencies***, most of the students emphasized the practical orientation towards teaching and described successful learning contexts that involved authentic learning situations, case studies, and practical training considered the area of expertise of pedagogical and didactic competence. Most of the students felt that theoretical knowledge was overshadowed by practical exercises, and they expressed a need for support in linking theory and practice. However, the theoretical knowledge gave them tools for critical thinking towards the training program and *pedagogical and didactic competencies* were understood to develop further during the interaction and hands-on practice.

> "Even though this is a university education, there is still a desire for a more practical approach, especially in multidisciplinary studies. The integration of theory and practice is crucial."

> "We need a toolbox, understanding the different methods and possibilities to use them in schools. We get them in written form, but we should try them out during face-to-face teaching. The theoretical aspects can be learned through reading, but practical skills require hands-on experience, such as participating in group exercises."

The competence of teacher education students was also characterized by the interaction, dynamic approach, and critical thinking in crossing boundaries between praxis and theory. Expertise in pedagogy is connected to the integration of subjectively acquired tacit knowledge and theoretical knowledge. These mature students often have ample work experience from various fields. Integrative pedagogical skills and knowledge were emphasized in students' self-regulation knowledge and skills, as well as sociocultural knowledge.

> “Even though this education is university-level teaching, I still crave a more hands-on approach. Having worked in the field as a teacher, I know that it is indeed very practical and hands-on.”

Many students also emphasized the ***emotional and interactional competence*****,** and the importance of future skills, particularly emotional and interactional competence, which they considered essential for teachers in the area of knowledge of how to support diverse learners. Further on they linked the interaction competencies with digital skills and management of diverse learning environments. They highlighted the significance of emotional and interactional skills in the education of diverse learners.

> "When I accidentally enrolled in the minor subject program for early childhood education, I noticed that they focus more on the educational aspects of emotional and interactional skills. Perhaps these should be mandatory in all teacher education or other courses since they are so crucial in today's schools. We need tools for these skills… they should be mandatory."

> "Yes, I have often thought about how much easier it would be to complete some of the courses remotely. And when they have been here all along... Yes, as we talked about, there doesn't seem to be a course that can't be done remotely via the online platforms. And maybe this has been something that could be good in the future…"

The minor classes in this category were linked to educational disciplines and special education competencies, which the students also expressed considerations focusing on their current skills and professional learning needs in the future. Additionally, some of the students highlighted the issue of inequality since not all students could afford further studies due to their associated costs. This was seen as problematic from an equality perspective and affected the economic sustainability of education at both individual and broader levels.

> "Yeah. So currently, if it's just pre-primary and primary education, not everyone wants that. And if you want something else, then it becomes paid. It feels strange."

> "And it kind of narrows down the teachers' competencies… But it would be awesome if we could study freely... I mean…you can study in an open university, but it's really unfortunate that it costs 750 euros, which is also what my minor subject costs me now, so it's a bit like... It feels odd that if I want to invest in my future profession…then that becomes a paid choice. One could wish it could widen the competence of professional development. One could develop expertise on a broader scale…"

Further, this category encompasses aspects such as self-directed learning and sociocultural knowledge also in the diverse and blended learning environment. In the future, the integration of these dimensions was seen as important to be considered in teacher education programs, especially in context-related studies.

Teachers' expertise and creative agency

The second strategic area for future teacher training according to the Finnish Ministry of Education and Culture (2016) was teachers as experts and active agents. In this main category teacher students were critically considering especially their skills of renewing and interpreting the curriculum in practice and managing creative processes. The teacher's role was seen in this main category to be linked with the subcategories of socially sustainable goals as well as understanding and having skills for adjusting the blended and digital learning tools in the policy document. Most of the teacher students highlighted their

views of flexible study practices and in the subcategory self-regulation and independent study skills. They also considered critically their personal needs, situations, and goals.

> “Didn't we just have that praxis day as an example? We would have liked to have more of that kind of thing... We would have liked to be able to face the situation ourselves or act it out, go through it with detailed examples, or discuss it. Much more of that, instead of just being lectured for three hours and then given some tasks. Personally, I feel that if we don't physically get to do the thing ourselves, it doesn't integrate into our teaching practice as deeply.“

Many students reflected critically on the agency. Because most of them had already been in the workplace, some over a decade, they questioned the role of these experiences and demanded more value for them. The students’ highlighted how these experiences and sharing these would benefit their peers and show the dynamic and versatile nature of the teaching profession.

> “But I really liked this sense of community and this small group work, even though it has its own challenges. When it works, it can also work very well, but if it doesn't, it doesn't necessarily promote learning… Adding to this is the idea that even more is the education the experience that our students already have in the field is utilized. That is, it would make more visible what kind of good practices, and habits we students have already had there in working life. To let more of them go…”

One of the creative developmental ideas for future teacher education was to create with students a shared portfolio, or toolbox, where students could share their experiences and co-design with peers material for teachers’ daily work. Students contextualized that their previous working life experiences and knowledge they acquired in studies could be merged through a material package.

> "Actually, we've been thinking that we should make a common material bank. It could be one development proposal, that those methods and tools coming from the university and from each of us, considering the different subjects, but also in general to the everyday life of the school. So, the fact that, in some way, at the beginning of the studies, the entire group of students could start creating a toolkit together. Or how it would make sense to put it together, but that you could go into working life with a ready-made toolkit!”

Finally, many of the students questioned the social sustainability questions considering adult education. They raised the question of changing their life for the teacher education program and raised mental health issues and socially safe surroundings.

> “It's a pretty drastic bet to demand classroom-based learning for us coming from hundreds of kilometres away… from your family and a safe environment in a completely foreign one... Being alone in a strange city is quite a shock at first. And when the pace of studying is quite tight, you don't want to get that social network piled up there at the place of study.”

The quote reflects the fact that students are aware of the different challenges associated with studying. Mixed education can limit access to education and reduce the social dimension of learning. In the future, the development of blended teacher education needs to be critically evaluated from the perspective of students' economic and social agency.

Teachers' developing professional and organisational know-how

The third strategic area of future teacher education is development of professional and organizational know-how. In this main category, most of the students hoped that previous experience and competencies would be considered, and that the personalisation of studies would be the starting point for teacher education.

> "So that the diverse work experience and educational background of individuals are recognized even better in education. So that not only the teaching expertise is reflected in those educational backgrounds, but all the experience that adults have. That it is considered and can be better utilized, and built upon, that multifaceted competence."

Students used their personal experiences from the training program as an example to identify and justify the blended and flexible means of education. They combined regulation skills and different study techniques in the context of enabling personal schedules and goals for education. Teacher students envision the broader and more systematic utilization of previous competences as a key element of future teacher education. They felt that the appreciation of previous competence largely remains empty words and is not concretely visible in educational practices.

> "...Some [students] always go the fastest and are able to perform more efficiently. Some of them need a passing lane or a deceleration lane. And its human nature to be able to offer different options. You don't feel like you have to be able to stick to the same schedule, to graduate."

> "It is noticeable that we value prior knowledge, but when I myself have worked as a classroom teacher for 10 years, and [my peer student]- has 20 years, we don't actually benefit or gain anything from it. We do benefit to some extent; in that we can share experiences of how I have done something and so on but utilizing our own expertise and potential has been somewhat overshadowed."

In students' views at the beginning of their studies, the implementation of personal recognition and validation of skills could, at best, lead to differentiated instruction, which could also be interpreted as diagnostic assessment. In this case, thorough mapping of students' starting points could serve as a pedagogically justified basis for differentiated instruction. The curriculum, or 'schedule', was hoped to have 'room' and possibilities for choices based on personal preferences.

> "Yeah, so in that schedule, there would be space for additional subjects or extra classes. So, it would lean more towards ensuring personal competence."

As visions related to lifelong learning, we connected students' desires for shared experiences and reflections. This also relates to the aforementioned curriculum structure, as a too tight and rigid curriculum narrows the social dimension of learning.

> "This teaching work involves so much interaction... All that sharing of experiences, and what I mentioned earlier about hoping for more of that, collective reflection. So, giving more space to thoughts."

Discussion

This study focused on how student teachers in a blended learning program view the future of teacher education in Finland. This paper has taken a pragmatic approach, focusing on the application of research and policy to improve teacher education. The integration of Finnish educational policy strategy into the training process, the focus on student teachers' views, and the categorization of their experiences into themes aligned with policy guidelines all point toward an epistemological understanding of knowledge as something that is actively constructed and adapted to real-world contexts. The results of this study were divided into three thematic areas: *Teachers' wide basic knowledge, Teachers' expertise and creative agency,* and *Teachers' developing professional and organisational know-how,* according to the Finnish Ministry's strategy. The study highlighted the need for teachers to possess broad-based pedagogical competence now and in the future as well. Teacher students expressed the importance of in-depth knowledge, pedagogical and didactic competence, and emotional and interactional competence. They also emphasized the need for continuous learning and a broader scope in teacher education to address inequality in processes and ensure economic sustainability in education referring to professional learning within the holistic pedagogical approach (Kangas et al., 2021). Further, the teacher students highlighted the need for a balance between theory and practice, recognition of prior experiences, and the development of personalized and flexible teacher education programs. In the next section, we will discuss these further in connection to previous research. At the end of this section, a suggested tentative framework for the development of dynamic and sustainable pedagogy will be presented.

According to the results of this study, the vision of future teacher education expressed by student teachers aligns with the competency goals set by the Future of Teacher Education Forum (2022) as well as sustainable goals set by UNESCO 2019 (see Rubin and Brown 2019). This study addresses critically the challenges of providing a broad initial teacher education with limited time for blended training. It emphasizes the importance of integrating theoretical knowledge into authentic pedagogical situations and the need for practical and authentic learning experiences. The student teachers' vision of the future of teacher education is quite broad, reflecting the competency goals of the Future of Teacher Education Forum (Ministry of Education and Culture, 2022), related to the broad competencies of teachers, agency and creativity, and finally continuous and life-long learning. We linked these to the students' vision of broad initial teacher education, with the possibility for students to pursue a number of different minor subjects to gain wider competencies. This poses challenges for the training provider, given the short duration of blended training (Graham, 2006). A few years in teacher education cannot cover all competencies a teacher should have. In service teacher training is therefore essential in teachers' professional growth but also in developing attitudes and values concerning the sustainable nature of education.

A teacher is, every day, faced with different opportunities and challenges of teaching and interaction. Therefore, the starting point for adult teacher education programs should be competence-based, founded on students' previous learning experiences. The identification and recognition of previous experiences and competencies at the beginning of the training is pivotal. Students expressed a desire

for individualization of learning, personalized and flexible learning pathways, with dynamic practices and discussions. According to Jyrhämä and Maaranen (2012) the competency-based approach should be a focal principle of Finnish teacher education. However, according to our results its implementation in practice still needs ongoing development.

Based on critical considerations and the study's results as well as theoretical understanding of teacher education, a tentative competency framework of student teachers was developed to guide the future development of teacher education towards sustainable futures (Figure 2). The framework recognizes the interconnectedness of different components and serves as a dynamic framework for future teacher sustainable competency. Further, the figure identifies broader frameworks related to teacher education and teacher professional development, which vary in different societal contexts, but are central to both the reality of teachers' work and the starting points for teacher education. The future-oriented teacher profession in changing and diverse environments requires continuous development in sustainable ways. On the other edge of the framework, we can find societal values that are linked with education policies. Policies guide the curriculum work that is dynamic and therefore should be in constant discussion with the outer layers of this framework.

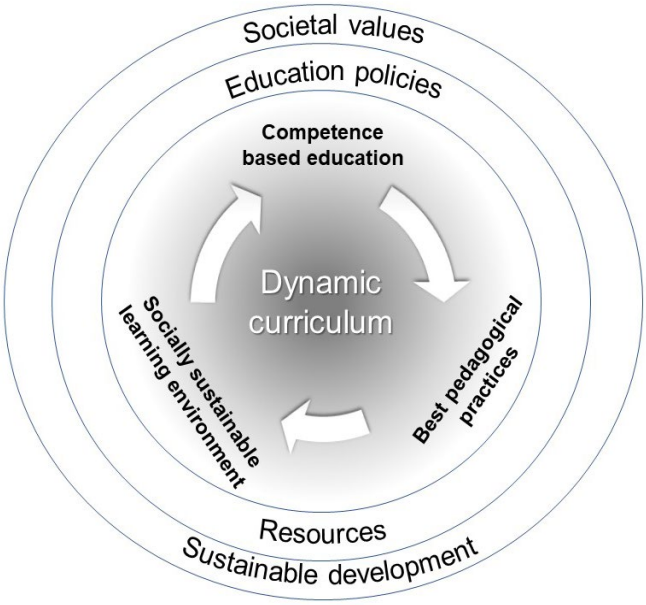

Figure 2: Teacher education for a sustainable future – a tentative framework

In many countries, there is an "ideological monoculture", a capitalist economic and social model affecting the values and objectives of the education system (Langdon, 2022). This ideological model sets high, almost unreachable goals for pedagogical quality in education, also in teacher education programs (Harju-Luukkainen and Kangas, 2021). If we, as teachers, are unable or unwilling to educate ourselves as educators of the economic and ecological realities of the costs of capitalism, we will not be able to move forward, let alone change our approaches to education towards living in harmony with each other and the world, with the planet (Langdon, 2022). However, without a critical discussion about the nature of these goals and the delivery process implemented in teacher education programs these requirements cannot be reached (Kangas and Harju-Luukkainen, 2021). These global requirements

place great demands on the pedagogy of teacher education. The desire for personalized and flexible learning pathways reflects the competency-based approach in Finnish teacher education. The study also highlights the importance of joint reflection and reflection-in-action for continuous professional development. Therefore, there should be more room for critical discussion about the objectives, quality and nature of teacher education in the future and new proposals for sustainable, dynamic and pedagogical models and tentative frameworks are needed and should be discussed through future research to identify existing gaps and answering the questions the future brings.

In conclusion, this study discusses the results with the aim of developing teacher education programs that promote sustainable education and pedagogy through the integration of blended learning opportunities (see Hays and Reinders, 2020). The discourse surrounding the development of teacher education needs to be critically examined in its connection to societal progress and the construction of the future. In future digitalized and blended learning teacher education, it is necessary to consider how to effectively integrate these dimensions to develop high-level expertise. A common effort to strengthen the sustainability perspective in the context of education seems to be to ensure the implementation of socio-cultural knowledge and interaction in reforming teacher education and to enable the development of students' self-regulation skills through different pedagogical means.

References

DANERMARK, B., (2001). *Explaining Society: An Introduction to Critical Realism in the Social Sciences*. Florence, KY: Routledge.

FINLAND. *Act on Compulsory Education*, *1921*. Finlex, Finland. Available: https://www.finlex.fi/en/laki/kaannokset/1998/en19980628

FINLAND. *Act on Pedagogical Studies and Teacher Education, 1995*. Finlex, Finland. Available: https://www.finlex.fi/fi/laki/ajantasa/1998/19980986

FINNISH MINISTRY OF EDUCATION AND CULTURE (MINEDU), (2016). *Opettajankoulutuksen kehittämisen suuntaviivoja. Opettajankoulutusfoorumin ideoita ja ehdotuksia.* [Guidelines for the development of teacher education] Opetus- ja kulttuuriministeriön julkaisuja 2016:34. https://julkaisut.valtioneuvosto.fi/handle/10024/75553

FINNISH MINISTRY OF EDUCATION AND CULTURE (MINEDU), (2022). *Teacher Education Development Programme 2022-2026.* https://valtioneuvosto.fi/-/1410845/opettajankoulutuksen-kehittamisohjelma-uudistettiin-vastaamaan-2020-luvun-tarpeita?languageId=en_US

GRAHAM, C.R., (2006) Blended Learning Systems: Definition, Current Trends, and Future Directions. In: C.J. BONK and C.R. GRAHAM, eds., *Handbook of Blended Learning: Global Perspectives, Local Designs.* San Francisco, CA: Pfeiffer Publishing. pp.3-21.

HARJU-LUUKKAINEN, H., WANG, J., and LA TORRE, D., (2019). Using content analysis to compare a US urban teacher residency to a Finnish teacher education program. *The Urban Review,* **51**, pp.247-269.

HARJU-LUUKKAINEN, H., and KANGAS, J., (2021). The Role of Early Childhood Teachers in Finnish Policy Documents: Training Teachers for the Future? In: W. BOYD and S. GARVIS, eds., *International Perspectives on Early Childhood Teacher Education in the 21st Century.* Singapore: Springer Nature Singapore. pp.65-80.

HAUSCHILDT, K., GWOSĆ, C., NETZ, N., and MISHRA, S., (2015). *Social and economic conditions of student life in Europe: 2012–2015*. Bielefeld: Eurostudent. Available: http://www.eurostudent.eu/download_files/documents/EVSynopsisofIndicators.pdf

HAYS, J., and REINDERS, H., (2020). Sustainable learning and education: A curriculum for the future. *International Review of Education,* **66,** pp.29–52. https://doi.org/10.1007/s11159-020-09820-7

HUSU, J., and TOOM, A., (2016). *Opettajat ja opettajankoulutus – suuntia tulevaan. Selvitys ajankohtaisesta opettaja- ja opettajankoulutustutkimuksesta opettajankoulutuksen kehittämisohjelman laatimisen tueksi.* Opetus- ja kulttuuriministeriön julkaisuja 33.

JUVONEN, S., and TOOM, A., (2023). Teachers' Expectations and Expectations of Teachers: Understanding Teachers' Societal Role. In: M. THRUPP., P. SEPPÄNEN., J. KAUKO and S. KOSUNEN, eds., *Finland's Famous Education System.* Singapore: Springer. https://doi.org/10.1007/978-981-19-8241-5_8

JYRHÄMÄ, R., and MAARANEN, K., (2012), Research orientation in a teacher's work. In: H. NIEMI, A. TOOM, and A. KALLIONIEMI, eds., *Miracle of Education: The principles and practices of teaching and learning in Finnish schools.* Rotterdam: Sense Publishers. pp.97–114.

KANGAS, J., and HARJU-LUUKKAINEN, H., (2021). What is the future of ECE teacher profession? Teacher's agency in Finland through the lenses of policy documents. *The Morning Watch: Educational and Social Analysis,* **47**(1), pp.48-75.

KANGAS, J., UKKONEN-MIKKOLA, T., HARJU-LUUKKAINEN, H., RANTA, S., CHYDENIUS, H., LAHDENPERÄ, J., NEITOLA, M., KINOS, J., SAJANIEMI, N., and RUOKONEN, I., (2021). Understanding different approaches to ECE pedagogy through tensions. *Education Sciences,* **11**(12). https://doi.org/10.3390/educsci11120790

KANSANEN, P., (2006), Constructing a research-based program in teacher education. In: F.K. OSER, F. ACHTENHAGEN, and U. RENOLD, eds., *Competence Oriented Teacher Training – Old research demands and new pathways.* Rotterdam: Sense Publishers. pp.11–22.

KOVÁCS, G., and SPENS, K.M., (2005). Abductive reasoning in logistics research. *International Journal of Physical Distribution and Logistics Management,* **35**(2), pp.132–44.

KUIKKA, M.T., (1988), Opiskelijoiden rekrytointi maamme kansakouluseminaareihin 1920-ja 1930-luvuilla [The recruitment of the students for our country' s primary schoolteacher colleges in the 1920s and 1930s]. In: K. JOUKO, eds., *Tutkimuspohjaista koulutusta kohti – Professori Veikko Heinosen juhlakirja 7.5.1988 [Towards Research Base Education – The yearbook of Professor Veikko Heinonen 7.5.1988].* Jyväskylä: University of Jyväskylä. pp.54–80.

LANGDON, M., (2022). An educational framework for a post-capitalist world? A review of the 2021 report from UNESCO's International Commission of the Futures of Education. *Education in the North,* **29**(2). https://doi.org/10.26203/dcm1-e019

LEMMETTY, S., and COLLIN, K., (2022). Kestävän oppimisen ulottuvuudet aikuisten oppimisen kontekstissa. In: S. LEMMETTY, and K. COLLIN, eds., *Jatkuva oppiminen ja aikuispedagogiikka työssä*. Jyväskylän yliopisto. Sophi, 150. pp.387-411. Available: http://urn.fi/URN:ISBN:978-951-39-9443-3

MÄÄTTÄ, K., UUSIAUTTI, S. and PAKSUNIEMI, M., (2013), *What are Finnish teachers made of? A glance at teacher education in Finland formerly and today.* New York, NY*:* Nova Science Publishers.

MALINEN, A., and PIIROINEN, A., (2023). Towards the essence of adult experiential learning : a reading of the theories of Knowles, Kolb, Mezirow, Revans and Schön. *Studies in Adult Education and Learning,* **29**(2), pp.19–37. https://doi.org/10.4312/as/14421

MASIE, E., (2006). The Blended Learning Imperative. In: C.J. BONK, and C.R. GRAHAM, eds., *Handbook of Blended Learning: Global Perspectives.* San Francisco, CA: Pfeiffer Publishing. pp.22–26.

MAUNULA, M., MAUNUMÄKI, M., MARÔCO, J., and HARJU-LUUKKAINEN, H., (2023). Developing Students Well-Being and Engagement in Higher Education during COVID-19: A Case Study of Web-Based Learning in Finland. *Sustainability,* **15**(4). https://doi.org/10.3390/su15043838

MICHEL, J., (2020). Toward Conceptualizing Education for Sustainability in Higher Education. *New Directions for Teaching and Learning,* **161**, pp.23-33. https://doi.org/10.1002/tl.20371

MYKRÄ, N., (2023). Ecological Sustainability and Steering of Finnish Comprehensive Schools. In: T. MARTIN, P. SEPPÄNEN, J. KAUKO, and S. KOSUNEN, eds., *Finland's Famous Education System - Unvarnished Insights into Finnish Schooling.* Springer. pp.87-104. https://doi.org/10.1007/978-981-19-8241-5_6

PATTON, M.Q., (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research,* **34**(5), pp.1189–1208.

RUBIN, A., and BROWN, A., (2019). Unlocking the Future of Learning by Redesigning Educator Learning. In: J.W. COOK, ed., *Sustainability, Human Well-Being, and the Future of Education.* London: Palgrave Macmillan. pp.235– 268. https://doi.org/10.1007/978-3-319-78580-6_7

UNESCO, (2021). *Education for sustainable development: A roadmap.* Paris, France. Available: https://gcedclearinghouse.org/resources/education-sustainable-development-roadmap

UNESCO, (2019). UNESCO: SDG 4 – EDUCATION 2030. *Education for Sustainable Development beyond 2019.* Available: https://unesdoc.unesco.org/ark:/48223/pf0000366797.locale=en

WALKER, M., (2005). *Higher education pedagogies*. New York, NY: McGraw-Hill Education.