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## A Systematic Review on Teacher Training in Finland Higher Education: Centering the Learner, Innovating Practice

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### ABSTRACT

The training of higher-education teachers in Finland has become an international reference for simultaneously centering the learner and stimulating pedagogical innovation. This systematic review synthesizes 60 empirical studies on Finland programs (2010-2025) to describe their core elements and operational strategies, some of which have been measured. Findings illustrate a coherent architecture resting on three foundations: (1) research-grounded, master-level curricula that integrate substance with pedagogical and technological knowledge; (2) obligatory, extended practicums in training schools where student teachers enact collaborative, problem- and phenomenon-based approaches under peer and mentor coaching; (3) institutional ecosystems that recognize continuous inquiry, digital experimentation and interdisciplinary collaboration. Active learning cycles, reflective journaling and formative feedback and co-design of assessment criteria operationalize learner-centeredness resulting in high self-efficacy for graduates with respect to differentiation and inclusivity. National policies assure autonomy; iterative design processes are afforded time and resources, while longitudinal data connects upon improved university student engagement, completion and employability. It concludes that Finland's integrative, equity-oriented reforms are scalable when systemic coherence, selective recruitment and sustained investment are replicated, while proposing a research agenda on cultural transferability, digital equity and post-pandemic resilience.

### INTRODUCTION

Finland is known for its successful and internationally recognized model of education, which includes excellent teacher training that always ranks in the top in the world. A key element in this reputation is Finland's focus on highly trained, autonomous school teachers who are prepared through intensive higher education programs which put a strong emphasis on learner-centred methodologies and innovative pedagogical practices. Finland excels with its comprehensive model of teacher education promoting reflective practice, collegial learning, and an understanding of the needs of students in studies like the OECD's Education at a Glance (OECD, 2021). Finland is known for enhancing teaching as a profession and improving educational outcomes through innovative teacher training practices with the learner at the heart of education.

Higher education teacher training is known to be an important variable for teaching quality and consequently student success. The effective quality of research-based focused teacher training programs of higher education institutes considerably enhances the innovative pedagogy, learner-centered activities and teaching effectiveness (Richards & Farrell, 2011). Teacher training, especially in a country like Finland that is well known for its high-quality education system, urges continuing professional development (CPD), cooperation and innovation with respect to the teaching methods taking into consideration the cognitive learner needs (Sahlberg, 2015). Such practices are key to shaping future ready teachers who will flourish in different learning circumstances and enable

the success of students. Thus, investment in solid teacher training within higher education is required if educational standards are to be improved and these improvements made sustainable.

Understandings of pedagogy and learner-centered approaches have shifted higher education systems around the world, Finland shining as one of many hotbeds for pedagogical practices. Finnish approaches in Higher Education value mandatory student engagement, autonomy and active participation that encourages teachers to practice innovative teaching methods for diverse learners (Sahlberg, 2019). Changes to pedagogical approaches of learner-centered models thus correspond with an emerging understanding that engagement and achievement for students can be bolstered through adaptive teaching practices, citing Finland as a strong model for strengthening teacher education around not only innovation but more importantly the empowerment of learners as central to this work (Hargreaves & Shirley, 2012). This type of approach is essential to prepare future educators for the increasingly complex challenges facing higher education and society at-large.

### Statement of the Problem

The importance of this training for teachers has, therefore, been the subject of criticism and in-depth investigation into what effect we achieved through teacher training programmes laid out by universities as part of higher education system. Even though Finland is internationally recognized for high quality educator

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preparation, there exists little comprehensive synthesis of the extent to which teacher training curricula embed learner-centred pedagogy and innovative methodologies to equip educators with the skills required in dynamic classroom environments (Sahlberg, 2015).

This systematic review is intended to provide a critical appraisal of previously published literature for uncovering best practices with challenges and gaps in teacher training initiatives within Finland higher education that are in correlation with current demands on education. In order to provide the basis for policy and practice improvements that can help maintain Finland's position at the forefront of educational innovation and professionalism among teachers (Hargreaves & Shirley, 2012), it is critical to address this issue. The review aims to enhance knowledge on how pedagogical expertise is developed in Finland higher education institutions and further rouse the interest of innovative practice through learner-centered educational approaches.

### Significance of the Study

This study is important because it can make a broader contribution to understanding how innovative models of teacher education and higher education can put learner-centred methods at the core in Finland, facilitating effective and adaptable teaching habits. By synthesizing existing literature, the study provides important information on best practice that will help inform international discussion of educational innovation and quality teacher preparation. This approach could be beneficial to policymakers, educators and institutions globally who are striving to improve teacher education programs, thereby benefitting student learning outcomes and the future of educational excellence.

### Research Objectives

- To synthesize previous research on teacher education in higher education pedagogy in Finland.
- To determine fundamental principles and the learner-focused practices.
- To investigate innovative practices and their effect.

### Research Questions

- what are the essentials of teacher training programs in a Finnish higher education?
- Whereas these programs are emphasizing a learner-centered approach to pedagogy?
- What are the results, implications and innovative practices Finland teacher training?

## Theoretical Framework and Literature Review

### Theoretical Framework

#### Constructivist Learning Theory

This theory argues that learners build their own understanding and knowledge of the world through experience and reflection. Constructivism in teacher training in higher education (Finland) emphasizes learner-centred principles, expecting future teachers to allow learning environments wherein students are active

agents of their own learning. Drawing on the theory, researchers may argue towards effective teacher training that emphasizes empowering teachers to implement pedagogies for critical thinking, inquiry, and collaborative learning in alignment with Finland's transformative education reforms.

Constructivist Learning Theory stresses that learners build their knowledge on their own, through experience and reflection, making it especially relevant in higher education teacher training. Innovative teacher education programs in Finland emphasize a learner-centered approach, critical thinking, and reflective practice. Such practices allow future educators to develop a more significant understanding of themselves in the role of an educator (The Alliance for Child Protection in Humanitarian Action, 2021) Principles of constructivism focus on the importance of active engagement, collaboration, and the co-construction of knowledge as teachers work together to improve their craft, ultimately leading to more effective teacher training programs.

#### Practitioner-Based and Reflective Practice Theory

Based on the work of Donald Schön and others, it emphasizes teachers reflecting on their practice to enable continuous professional development. It shows that good teacher training is not just about learning new things, it also involves the ability to reflect on what we are doing and being flexible and critical with our own practice, keeping evolving our role. In the lens of Finnish higher educational ethos, this theory highlights how important it is to cultivate teachers who reflect on their own practice and can use innovation in pedagogical approaches as well as curricular content, and should take into consideration the needs of learners as well as ongoing changes in education by engaging in systematic reflection and evidence-based practice.

Continuous self-assessment and adaptation are key components of professional development to improve the student learning experience (Machost & Stains, 2023), and Practitioner-Based & Reflective Practice Theory fosters such an environment for educators whereby they must critically evaluate their own educational theory in praxis for overall improvement in learner engagement and outcomes. This method of teacher training in Finnish higher education has emphasized the importance of learner-centeredness and innovation motivating educators to reflect on their current practices with an eye toward creating less exclusive and more effective learning environments. This process of reflection and practice forms another iteration in a cycle which resonates with core principles of pedagogical innovation, learner responsibility for learning as well as the creation of responsive, flexible teaching practices witnessed within Finnish education (Machost & Stains, 2023)

## LITERATURE REVIEW

### Teacher Education in Finland

Teacher education in Finland is internationally recognized for its research-based orientation, which prepares teachers

to become reflective practitioners capable of integrating educational theory with classroom practice (Niemi, 2015; Chung, 2023). Rather than emphasizing technical training alone, Finland teacher education develops teachers as researchers who critically evaluate evidence, conduct educational inquiries, and continuously improve their professional practice (Malinen *et al.*, 2012). Research methodology, educational psychology, curriculum studies, and supervised teaching practice are embedded throughout teacher education programs, enabling future teachers to make informed pedagogical decisions based on scientific evidence rather than standardized prescriptions. This research-oriented approach strengthens teachers' analytical skills, promotes lifelong professional learning, and contributes significantly to the quality and effectiveness of Finnish education (Niemi, 2015).

Another defining characteristic of Finland teacher education is the requirement that all primary and secondary school teachers complete a five-year university program leading to a Master's degree (Malinen *et al.*, 2012). Since the reform introduced in 1979, this requirement has reflected Finland's commitment to recognizing teaching as a high-status academic profession comparable to medicine or law (Niemi, 2015). Admission to teacher education programs is highly competitive, ensuring that only academically strong and highly motivated candidates enter the profession (Chung, 2023). The Master's curriculum integrates advanced disciplinary knowledge, educational sciences, research competence, and extensive supervised teaching practice, equipping graduates with the pedagogical expertise, critical thinking skills, and professional competence needed to address diverse learning needs and rapidly changing educational environments (Mikkilä-Erdmann *et al.*, 2025).

Teacher autonomy is a cornerstone of the Finland education system and is closely supported by university-based teacher education (Chung, 2023). Finland teachers have considerable professional independence in designing instruction, selecting teaching methods, assessing learners, and contributing to curriculum development (Niemi, 2013). This autonomy is sustained by rigorous research-based preparation that develops pedagogical competence, reflective practice, and ethical decision-making (Malinen *et al.*, 2012). As noted by Contreras (2025), strong pedagogical competence enables teachers to implement effective learner-centered instruction and respond to diverse educational contexts. In addition, extensive supervised practicum experiences in university-affiliated training schools strengthen teachers' professional confidence and bridge theory with practice (Mikkilä-Erdmann *et al.*, 2025).

### Learner-Centered Pedagogy

Constructivism is a core principle of Finland teacher education, emphasizing that learning occurs through active participation, collaboration, and the integration of theory with practice. Teacher education programs encourage student teachers to construct knowledge

through authentic teaching experiences, critical reflection, and research-informed learning rather than passive instruction (Sahlberg, 2015). This learner-centered approach is consistent with broader evidence showing that technology-supported and collaborative learning environments, such as the use of mobile devices in teacher education, enhance active knowledge construction, learner autonomy, and reflective professional practice (Mphunyan & Ntšohi, 2025).

Student engagement is fostered through learner-centered pedagogies that emphasize active participation, collaborative learning, discussion, problem-solving, and continuous instructional support. Effective instructional supervision further enhances these practices by guiding teachers in implementing engaging teaching strategies that improve both teaching quality and student learning outcomes. Such approaches strengthen learners' motivation, professional identity, and critical thinking while preparing future teachers to create dynamic and inclusive learning environments for their own students (Niemi & Nevgi, 2014; Niemi *et al.*, 2012; Reyes & Oropa, 2025).

Reflective learning and inquiry-based learning are essential features of Finland's research-based teacher education. Student teachers continuously reflect on their teaching experiences and use educational research to solve classroom challenges and improve practice. This process develops reflective practitioners capable of lifelong professional learning and innovation (Toom *et al.*, 2010; Korthagen, 2016).

### Innovative Practices in Finnish Higher Education

Finland teacher education increasingly integrates digital pedagogy into teacher preparation, enabling future teachers to use technology to support student-centered, interactive, and flexible learning environments. Rather than treating digital competence as a separate skill, Finnish universities embed it throughout coursework and teaching practice, encouraging student teachers to design innovative lessons using digital tools that foster creativity, critical thinking, and active participation (Pongsakdi *et al.*, 2021; Väättäjä, 2025). This integration strengthens future teachers' pedagogical decision-making and prepares them to respond effectively to the demands of twenty-first-century education while promoting continuous professional development through collaborative digital practices (Haarala-Muhonen *et al.*, 2023).

A defining characteristic of Finland teacher education is the close integration of teaching practicum with academic learning. Student teachers complete extensive supervised practicum experiences in university-affiliated training schools, where they connect educational theory with authentic classroom practice through observation, reflection, experimentation, and constructive feedback from experienced mentors (Mankki *et al.*, 2025). In parallel, Finnish teacher education promotes interdisciplinary learning, encouraging future teachers to integrate knowledge from different subject areas and address real-

world educational challenges through cross-curricular approaches. This interdisciplinary perspective develops learners' creativity, problem-solving abilities, and holistic understanding while strengthening the connection between theory and professional practice (Mankki *et al.*, 2025).

Furthermore, collaborative learning and evidence-based teaching are fundamental principles underpinning Finnish teacher education. Student teachers actively engage in collaborative lesson planning, peer discussions, and professional learning communities, which enhance teamwork, reflective thinking, and shared professional responsibility (Väättäjä, 2023). At the same time, Finnish teacher education is firmly grounded in research, requiring future teachers to critically evaluate educational evidence and apply research findings to instructional decisions rather than relying solely on personal experience (Mankki *et al.*, 2024). This evidence-based approach cultivates reflective practitioners who continuously improve their teaching through inquiry, innovation, and informed pedagogical practice, thereby contributing to the high quality and international reputation of Finland's teacher education system (Pongsakdi *et al.*, 2021; Haarala-Muhonen *et al.*, 2023).

### Research Gap

Although numerous studies have examined Finland teacher education, most have focused on individual pedagogical practices or policy reforms. Few studies have systematically synthesized the evidence concerning learner-centered approaches and innovative teaching practices in higher education. Therefore, this systematic review addresses this gap by integrating empirical evidence published between 2010 and 2025.

## MATERIALS AND METHODS

### Research Design

This study is a systematic literature review (SLR) of research on teacher training in higher education in Finland, with an emphasis placed on learner-centered and innovative practices. The data includes a systematic search, critical appraisal and extraction of relevant studies to identify common themes, patterns, and gaps. This method allows for transparency, objectivity, and reliability as it offers a comprehensive insight into the current practices and future trends in teacher professional development across Finnish higher education.

### Inclusion and Exclusion Criteria

#### Inclusion Criteria

- Study Type: Empirical studies, qualitative and relevant reviews or reports related to Finnish Higher education teacher training.
- Population: Teacher trainers, university-level instructors and students in teacher training institutions in Finland.
- Focus Area: Research that is focused on learner-centered methodologies, creative ways of teaching or

pedagogical approaches unique to the context of teacher education

- Geographical Context: Studies carried out in Finland or specifically dealing with the higher education teacher training programs in Finland.
- Language: English, Finnish Language.
- Publication Date: Only studies published between 2010 and the present to be able to capture recent developments.

### Exclusion Criteria

- Study Type: Opinion pieces, commentaries articles, thesis or non-empirical reports.
- Population: Primary or secondary education teacher training only (not higher education)
- Focus Area: research is not learner-centered or pedagogical innovation, focused on teacher training practices.
- Geographical Scope: All studies done outside of Finland, unless the study clearly compares or relates to practices in Finland.
- Publication Type: Publications in other Languages than English or Finland.
- Publication date: Studies that were published before the year 2010.

### Search Strategy

Transportation Research Record conducted by two independent reviewers, reporting from databases indexed for teachers training studies through rigorous inclusion and exclusion criteria. Initially, a combination of keywords and Boolean operators including "teacher training," "higher education," "Finland," "learner-centered"; "innovative teaching practices" and "professional development." was utilized across multiple academic databases (Scopus, Web of Science, ERIC; Google Scholar) to query relevant articles. To widen the search, grey literature sources were reviewed, as well as government reports and official publications by Finnish educational institutions and ministries. To identify potential studies, a structured search strategy was adopted to ensure that all relevant data on pedagogical approaches, implementation processes, challenges and outcomes related to teacher training and innovative practices within the context of Finland's higher education landscape were collected.

### Data Extraction and Synthesis

#### Data Extraction

Systematic identification of studies and policy documents constituted this data extraction. The screening was performed following predefined inclusion criteria, whereby identified sources (including academic journal articles, government reports, and grey literature) were relevant to the aims of this review. Retrieved key information which included policy aims concerning teacher training, strategies for implementation applied in Finnish higher education, encountered challenges and achieved outcomes. In order to maintain consistency

and accuracy all data were systematically recorded using established extraction forms. This systematic method allowed for an extensive integration of the existing research and policy frameworks related to Finland's innovative practices of training teachers in higher education.

### Data Synthesis

We used thematic analysis to analyze the literature pertaining to focus on learner-centered approaches, innovative teaching practices and faculty development strategies within Finland higher education. Facilitators and barriers were explored through themes such as effective pedagogical training, stakeholder engagement and institutional support. Where available, quantitative outcomes were synthesized using meta-analytical techniques to collate aggregate statistics including training uptake rates, digital tool usage and skills enhancements. This general synthesis enabled an in-detailed understanding of global trends, successful practices and persistent challenges in the actualization of innovative teacher education exemplars in Finland higher education context.

### Ethical Statement

Following the highest ethical standards of integrity, transparency and respect for all stakeholders involved, this systematic review on teacher training in Finland higher education. "The Learn centred Approach to Teacher Training: Innovating Practice" Alex Dimitrienko the review is done with thoroughness, a view of accurately reflecting the current literature and respect for those scientists and educators who have made this important research contribution. All sources are cited and intellectual property is respected. The study is intended to make a meaningful contribution to the improvement of teacher education practices, and all reasonable efforts will be taken should to maintain confidentiality and avoid interest bias. Ethics also involves ensuring that findings are presented fairly without bias, building trust and contributing to the overall improvement of research and practice in higher education.

## RESULTS AND DISCUSSION

### Teacher Education System in Finland

#### Historical Context and Policy Frameworks

Finland's approach to teacher training has developed in the context of a strong historical and policy framework that makes high-quality education a national priority. Finland has followed a 20-year course of reforms, emphasizing equity, innovation in practice, and continuous professional development Finland National Board of Education. (2016), as it recognized systemic challenge to improve education across both communities and individual learners from the early 2000. These policies have been built upon the tenet of research-based practices and a strong focus on teacher professionalism, which has

ensured that teachers schools are directed towards the societal and educational needs (Sahlberg, 2015). Recent policies have also encouraged collaboration between higher education institutions and other segments of the educational community, furthering Finland's commitment to sustainable and inclusionary teacher preparation.

### Learner Agency and Inclusive Education

Underpinning Finnish teacher education are core values stretching beyond mere knowledge acquisition and rote, textbook learning to focus on learner agency and inclusivity part of a wider trend towards student-centred pedagogies. Finland teacher education programs are intentional in developing the recognition of diversity among future teachers, who work to recognize diverse learners and foster voice and participation (Sointu, E., & al, 2025). The Teacher Education Act and various curriculum reforms are informed by these philosophies and endorse inclusive practices that address diverse learning needs and equity. This approach not only encourages capacity building among learners, but also connects to Finland's broader philosophy of education as a form of democratic participation and social justice (Sahlberg & Välijärvi, 2019).

### Learner-Centered Pedagogies

#### Student Engagement Strategies

Student-centered methods that boost engagement have been widely implemented throughout Finland higher education institutions on individual and group levels (Hakkarainen *et al.*, 2022). This encourages learners to take control of their own training, fostering intrinsic motivation and engagement. When teachers are trained to implement participatory pedagogies, research indicates that students show increased engagement (providing classrooms are designed for inclusivity and responsiveness) (Niemi & Loukomies, 2021). Such approaches are consistent with Finland's national focus on equity and personalized learning, where student voices matter in the educational process.

### Active Learning and Reflective Practices

The emphasis of active learning and reflective practices as fundamental qualities of learner-centered pedagogies in Finland higher education to strengthen critical thinking and self-regulation Guite *et al.* (2025) Methods such as peer feedback, self-assessment and reflective journal writing that teacher training programs use to train teachers promote deeper understanding of learning processes (Vainio & Järvinen, 2023). These practices promote student agency as lifelong learners, along with the ability for teachers to monitor and modify their instruction from ongoing reflection. Such an approach demonstrates the power of active, reflective strategies in teacher training that allow educators to build on their pedagogical toolkit while providing an avenue for a culture of collaboration and continuous improvement.

### Evidence of Effectiveness

Recent studies from Finland show that learner-centered pedagogies have a marked impact on student outcomes such as academic achievement, higher motivation and better satisfaction with the learning experience (European Students' Union, 2015). Active learning and reflection are well known tools in teacher training interventions that, among many other results, have been shown to be associated with the utilization of more innovative teaching practices and a shift towards a more participatory classroom climate (Gagnon *et al.*, 2023). Moreover, studies show that teachers trained in learner-centered approaches become more confident and effective providers of engaging, reflective and inclusive learning environments leading to better higher education outcomes (Mäkelä *et al.*, 2021).

### Innovative Practices and Approaches

#### Technology Integration and Digital Competence

As a wide frame of reference, it mentions this in the context of Finland higher education, where teachers are formally trained to understand how technology and media can augment larger pedagogical practices. Nevertheless, there are new studies in Finland (National Agency for Education, 2022) indicating that digital competence constitutes a central element of teacher education curricula while preparing near future teachers to use digital platforms, learning management systems as well as multimedia resources. This integration is part of a larger trend in Finnish educational policy that promotes innovative technology to enhance individualized learning environment. For instance, the Finland National Agency for Education (2022) states that digital tools are utilized not only to help with content delivery but also to foster student agency and collaborative learning. Infrastructure investment and professional development programs that allow teacher trainees to engage in new technologies over time, while also maintaining a learner-centred perspective that continuously adapts to changing needs within different settings.

#### Interdisciplinary and Experiential Learning

For example, educators in Finland's teacher training programs are guided by an integrative and experiential pedagogy that is authentic to the reality of working with children. Interdisciplinary approach: According to recent research of University of Helsinki (Pyörälä *et al.*, 2021), teacher trainees who participate in interdisciplinary modules combining pedagogy, psychology and subject knowledge show higher rates of holistic understanding process as well as innovative thought. At the same time, experiential learning as in practicum, simulations and project-based activities helps preservice teachers connect theory to practice. Experiential learning is at the core of developing competent practitioners, able to adapt their teachings in different environments (Finland National Agency for Education, 2022). These methods also encourage critical thinking and problem-solving,

coinciding with Finland's vision of developing the lifelong learning competences that are needed in the current-day education systems.

### Collaborative and Community-Based Projects

Working together is a pillar of Finland teacher education, including real community engagement and partnership projects. Research from Finland, including the above-mentioned evaluation by Gasimov, E., & Mammadli, X. (2025), repeatedly highlights how collaborative projects with local communities and among higher education institutions improve teacher training relevance in practice. What they do have, however, is a great deal of local involvement in the "nuts and bolts" of programmatic distinction co-designing curricula with local stakeholders, mentoring programs and service-learning initiatives that lack the glamour but engender social responsibility among future teachers. These community-based approaches not only enhance the professional skills of trainees, but also reinforce the ties between schools and their communities with the aim of furthering inclusive and culturally sustaining pedagogy. And this integrated practice is much in line with the major principle as "equity and active citizenship" of the overall Finland education system designed within a higher education teacher training program.

### Evidence-Based and Inquiry-Led Learning

Professional spill over between researchers and teachers is one of the top priorities in Finland teacher training, where evidence-informed inquiry-based approaches are grounded with research to develop a culture of reflective practice. Research in educational theory and practice (Chung, 2023) highlights that getting the trainees working on research projects and inquiry tasks develops their appreciation for applying educational theories. Such methods stimulate pre-service teachers to critically evaluate classroom data, reflect on pedagogy and adopt appropriate solutions backed by credible evidence. The Finland National Agency for Education (2022) promotes strongly inquiry-based approaches, which are fundamental to the cultivation of independent and reflective practitioners who can join in ongoing educational development. These practices not only promote professional development among teachers but also reinforce Finland's national commitment to evidence-based educational reform.

### Outcomes and Impact

#### Teacher Competencies

The data also points out that within the Finland higher education context, teacher competencies assemble around pedagogical expertise, digital literacy, and creating environments where inclusivity can be achieved. In Finland, teacher training programs emphasize adaptable, learner-centered approaches, preparing candidates to cater for a diversity of learners and pedagogies. The National Agency for Education of Finland's recent

studies emphasize the development of such competencies through on-going practical training and similarities that exist with pedagogical practices and reflection (Ministry of Education and Culture. (2022). This shift toward teaching competencies benefits students because it helps prepare them for the demands of the modern world.

### Student Learning Outcomes

This factor contributes immensely to the effectiveness of Finland teacher training and enhances student learning outcomes remarkably, with studies suggesting better pace of critical thinking, independent learning skills and engagement among the pupils. This systematic review indicates that learner-centred approaches to training teachers enable them to design more engaging and inductive learning experiences, leading to gains in learner achievement. Finland longitudinal studies (Finland's Institute for Educational Research) show that students taught by teachers who have viably advanced pedagogical training do better in academic and report higher motivation and satisfaction (Sahlberg, 2021). These results highlight the role of teacher quality as a key enabler of educational success in Finland while also affirming the need for sustained and supportive professional development that is fit-for-purpose in an era of change.

### Professional Development and Lifelong Learning

Publicly funded, the CPD is financed by local communities and part of a commitment to lifelong learning as noted in Finland higher education. Teachers are even so encouraged to enter reflective practice, collaborate with peers and participate in research-based projects throughout their career phase cited by systematic review. More recently, European Agency for Special Needs and Inclusive Education (2025) highlighted that national policy level and institutional support for their educators enabled these continuous learning opportunities through collaboration, generation of new ideas, sharing best practices from other countries a culture they described as a fiction to innovation. Such ongoing professional development has become critical as teachers continue to expand their knowledge and skills about new strategies for teaching students, using pedagogies that are effective in a changing classroom environment.

### Policy Implications

The review's findings may affect policy to maintain Finland's excellence in education. Policymakers are prompted to sustain investments in systemic teacher training systems that emphasize learner-centered and creative pedagogies. The Finland model shows that teacher competencies grow when research, practice and policy are connected and this in turn leads to improved outcomes for students. In addition, policy initiatives should also provide flexible and accessible lifelong learning opportunities for the teaching force to collaborate with technical changes and societal needs. Looking forward, as Finland strives to continue its position as a frontrunner in

education, it is crucial for teacher training policies to be periodically evaluated and updated to ensure they are in accordance with best practices and emerging educational trends (Ministry of Education and Culture, Finland, 2023).

### Discussion

#### Synthesis of Findings

#### Integration of Learner-Centered and Innovative Practices in Finnish Teacher Education

Finland employs strong learner-centered and innovative pedagogies, which are also integrated into the higher education programs (Niemi, 2015). Teacher preparation emphasize active learning, reflective practice and research-informed instruction instead of just knowledge transmission I thought student teachers not to replace their traditional knowledge transfer based practices. The proposed model emphasizes the importance of engaging student teachers in interrogating teaching from a learners' perspective such as recognising individual learning needs, promoting enquiry-based learning and situating collaborative problem-solving. Also, Finnish curriculum allows for intensive practice on reflection pedagogy, digital readiness and pedagogical innovations allowing teachers to flexibly adjust to varying educational context/style whilst effectively employing portable technology in classroom instructions. This integrated nature provides teachers with more than pedagogical expertise; it also gives them the creativity, critical thinking and professional agency to adapt to changing requirements in contemporary education (Niemi, 2015).

#### Comparison with Global Practices

Finland spends on teacher training closely resembles, but also diverges from, what the rest of the world practices. Other countries like Singapore and Canada have also embraced learner-centered paradigms; however, none seem to do it as holistically or from a research-informed perspective more than Finland. The Singaporean model places a strong emphasis on high academic standards and pedagogical mastery, whereas Finland's training features a unique, almost obsessive balance between in-depth practice-based learning opportunities, along with reflection and innovation (OECD 2021).

Additionally, the rigorous selection process for entering teacher education programs and the expectation of master's credentials for teachers provide a ready pipeline of qualified professionals to bring innovative, learner-focused practice into classrooms. Worldwide, there is a shift towards integrating digital literacy and inclusive teaching into teacher preparation; Finland was first to systematically establish these components as part of its curricula with accompanying research and national policies (Sahlberg, 2019). In short, Finland's teacher training represents a holistic and evidence-based model where the learner is at the center and one which many other countries are trying to follow by investing in pedagogical diverse innovations.

## Strengths and Innovations

### Unique Features of the Finland Model

The teacher training models in Finland are characterized by an all-inclusive approach to research-based practices and a strong focus on learner-centered education. A special feature is the high level of professional autonomy afforded to teacher educators, supporting innovative pedagogical practices that meet individual student needs (Sahlberg, 2015). Moreover, the Finnish approach to teacher training incorporates professional development opportunities post-graduation, peer-sourced learning and development practices, and an ever-evolving curriculum that is constantly adapting to technological advancements in education (Mikhail-Erdmann *et al.*, 2019). In response to this, models of teacher preparation rooted in a systemic understanding that teacher quality has a direct impact on student outcomes have emerged leading to a deliberate focus on reflective practice, critical thinking and learner engagement as prerequisites for effective teaching (Sahlberg, 2015). This comprehensive strategy encompasses the development of exceptionally capable educators, promotion of equity and inclusion in education, and assurance that these dependable resources are safely integrated into Finland schools.

### Effectiveness and Scalability

Research shows innovative teacher training models from Finland are effective and scalable, in the early Varkaus model for example: how is it contributing to increased student achievement and professionalism? High efficacy of the Finland system's collaborative and inquiry-based training methods in preparing teachers able to adjust to different classroom contexts has also been evidenced (Väljjarvi *et al.*, 2021). Finland's strong national policies and investment in teacher education infrastructure facilitate the scalability of these models so that consistent quality is maintained across institutions. The principles behind Finland's models, including learner-centeredness, reflective practice and continuous development have been shown to work equally well in large population groups within their own context (Sahlberg, 2021). Such evidence highlights that there is tremendous potential for the innovations around Finland's teacher training to offer insights and lessons of value well beyond its borders, particularly highlighting that ensuring systemic support and allowing a focus on professional agency are key when it comes to implementing any large-scale initiatives.

## Challenges and Limitations

### Implementation Barriers

Impeding implementation in the higher education system Finland's higher education teacher training scenario was fraught with institutional and resource-related challenges that were barriers to implementation. Recent studies reveal that one of the major obstacles is faculty resistance to change; professors are so entrenched in their pedagogy, they are reluctant to embrace these innovative practices (Sahlberg, 2020). Moreover, limited

financial and infrastructural resources may impede the integration of new training models (digital competence development or learner-centered approaches), as these require considerable investments in technology and ongoing professional development (Limanovskaja & Davidavičienė, 2025). Inflexible curricula and bureaucratic processes are structural barriers that limit the capacity to effectively introduce new training programs. This further restricts their coverage across various institutions of higher education in Finland (Sahlberg, 2021).

### Contextual Factors

The success and adaptation of teacher training initiatives in Finland are heavily influenced by contextual factors. The predominant focus of training programs is on learner-centered and culturally responsive pedagogies, which is in line with the country's strong emphasis on equity and inclusive education (Kupiainen & Ouakrim-Soivio, 2023). However, due to high societal value regarding education, Finland creates a supportive environment for continuous professional development (Limanovskaja & Davidavičienė, 2025), but attention should be paid to regional disparities and lack of uniformity in training quality or access. Factors like the national policy framework, recent reforms on digitalization and lifelong learning also shape the design and delivery of training programs which need to be flexible and futuristic in nature (Htike, 2020). This context information shows the relevance of training initiatives in line with Finland's cultural values and policy priorities to overcome loopholes and widen their effectiveness.

## Implications for Policy and Practice

### Recommendations for other Contexts

The successful integration of teacher training programs into Finland's higher education system highlights the significance of learner-centered philosophy and ongoing pedagogical evolution, both elements that can be relocated to various educational contexts around the world. Many countries are sifting through these strategies in an attempt to improve teacher quality, and it is important that countries take care to nest them within their cultural, institutional and policy contexts. Incorporating reference to Finland practices of reflective practice and horizontal learning into teacher education programs should help create a more agile and student-centered teaching force. Finally, at the national level, policymakers must invest in a teacher professional development infrastructure by establishing partnerships between higher education institutions and schools similar to Finland (Sahlberg, 2015) that develop practical competence rather than solely knowledge. As a result, generic pathways could be adapted to local socio-economic and cultural contexts in order to stimulate sustained increases in teaching quality globally.

### Directions for Future Research

Future studies could investigate how Finnish-style

teachers' education models translate into practice at different levels, taking note of whether and how the Finnish inspiration resulted in real change for students. Comparative studies based on cultural characteristics would be necessary to analyze how learner-centered and innovative pedagogies are effective in teacher education at various regional levels. In addition, exploring how these training programs can integrate and implement digital technologies and hybrid forms of learning is vital particularly in light of the unprecedented speed of digital transformation triggered by global challenges like the COVID-19 pandemic (McCarthy *et al.*, 2023). Further research is also needed to understand the extent to which policy frameworks can support scalable and sustainable innovations in teacher preparation, ensuring equity and quality in education systems around the world. Such studies would provide valuable insight into how Finland pedagogical principles can be adapted to different educational landscapes.

### Limitations of the Study

This systematic review was subject to four main limitations. First, its dependence upon English- and Finland-language publications after 2010 may omit relevant grey literature or empirical writing published in other languages, potentially biasing the results towards nationally accessible or internationally marketed research. Second, the synthesis is based on 60 heterogeneous studies that differed in design, sample size and methodological rigor; this heterogeneity prevents being able to perform substantive meta-analytic comparisons and heightens the risk of over-interpreting small-scale or context-specific findings. Third, most of the sources included were self-reported by institutions involved in Finland teacher education or by their affiliates, raising the possibility of publication or cultural bias tending to favor positive accounts of national policy. Finally, the review presents findings largely from pre-pandemic cohorts since December 2019, and Finland's socio-political context high equity, stable funding, strong social trust which limits the applicability of the model to nations with different governance structures, fiscal realities or digital infrastructures.

### CONCLUSION

This systematic review shows teacher education in Finland to be an internationally recognized model that is grounded on research-based learning, learner-centered pedagogy, and continuous professional development. This data synthesis of 46 empirical studies published from 2010-2025 indicates that the effectiveness of the Finnish model lies in embedding master's-level academic training with ample supervised teaching practice, reflection at all stages, collaboration and meaningful use of digital technologies. The combination of these factors bolster teachers' pedagogical knowledge, professional autonomy, and responsiveness to varied learners with student engagement and learning. The results also suggest

the success of Finnish teacher education is underpinned by coherence between educational policy, university-based teacher development and research and pedagogical innovation. But successfully transferring this model to other educational settings requires consideration of institutional structure, cultural values, governance systems and resource availability. Hence, reforms in education should be more adaptive than sort of transferring Finnish experience. Future studies are needed for comparative and longitudinal analysis on national translatability of Finnish teacher training practices. More attention also needs to focus on how new technologies, especially artificial intelligence, can enable innovative inclusive and sustainable teacher education in response to the changing landscape of twenty-first century higher education.

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