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Educating Professional Teachers in Finland through the Continuous Improvement of Teacher Education Programmes

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Additional information is available at the end of the chapter

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Abstract

The chapter analyses teacher professionalism and how professional teachers are educated in Finland and will be educated in future. Second, successes and challenges in the Finnish educational context and the role of teachers in education are discussed. The third section examines shortly primary and secondary teacher education at the University of Helsinki as an example of a teacher education programme in Finland. The main topic concerns how Finnish teacher education is aimed to be improved through broad-based collaboration. The Minister of Education nominated 100 experts from universities, the ministry, the teachers' union, student unions and municipal union to a *Finnish Teacher Education Forum* and asked them to analyse research outcomes related to teacher education, to identify best practices based on teacher education strategies and policy documents in other countries, organise a national brainstorming process related to the renewal of teacher education and, finally, prepare a *Development Programme for Teachers' Pre- and In-service Education* (life-long professional development) in Finland. Furthermore, the forum was asked to identify key actions to undertake to improve teacher education and support the implementation of the development programme, and also to create the conditions through financing pilot projects and organising meetings for the renewal of Finnish teacher education through professional development projects.

Keywords: teacher education, education policy, professional teacher, effective teacher, strategy and strategy implementation

1. Introduction

The Finnish education system offers an interesting and internationally recognised example of a high-performing system that successfully combines high quality with widely spread equity and social cohesion through reasonable public financing [1, 2]. The Finnish system differs in several ways from most other European countries and the US.

The quality of Finnish education has been promoted through a decentralised approach since the 1990s, in all areas of governance. Following this decentralisation, only basic guidelines are prepared at a national level, such as framework curricula and teacher education strategies. Finland has never based its educational system on standardised testing, as have many countries that follow an outcome-based educational model. Providers of education, typically municipalities, have been responsible for quality assurance and the preparation of local curricula, in collaboration with local stakeholders and families.

Teachers in Finland are highly educated. All teachers at the elementary, middle and high school levels are required to have a Master's degree. In fact, the education of elementary teachers (Grades 1–6) at the Master's level has been entrenched for 35 years, while secondary teachers (Grades 7–12) have been trained at Master's-level programmes for more than 100 years. An essential characteristic of teacher education in Finland has been its emphasis on research [3]. Following this perspective, student teachers learn both how to consume and how to produce educational knowledge. This research knowledge is needed for local curriculum planning and the development of teaching and school practices, as well as for the assessment of teaching and learning. Consequently, quality is assured primarily at the teachers' level. Over recent decades, studies have indicated that local curriculum processes have inspired and empowered teachers and principals to develop the local curriculum and their own work processes and, moreover, to increase the quality of education overall. Education authorities and national-level education policymakers trust professional teachers [4, 5].

The teaching profession in Finland has always enjoyed great public respect and appreciation [6]. There are several reasons why teaching is an attractive occupation in Finland. In addition to the academic status of teachers, they enjoy collaboration with and receive support from school leaders and communities. Moreover, national education policy and its practical implementation, including the strong culture of quality and the key role of teachers in assessment activities, support the professional ethos of teachers [7]. Decentralisation allows teachers to consider local contexts and to address diversity among the students they teach. Decentralisation in education is strongly linked to the Finnish way of interpreting teacher professionalism and the status of teachers in Finnish society.

The aim of this chapter is to analyse *how professional teachers are educated in the Finnish educational context and how teacher education has improved to position the teaching profession for new and challenging contexts in the future*. First, a short overview of the research on teacher professionalism and effectiveness is introduced. Then, the successes and challenges of the Finnish educational context and the role of teachers in this environment are discussed. Third, primary and secondary teacher education at the University of Helsinki is shortly introduced as an

example of a teacher education programme. Finally, an analysis of teacher education reform will be offered, concentrating on how the pursuit of this goal has been supported through collaborative strategies.

2. Teacher professionalism as an aim in teacher education

A key goal of teacher education in all countries is to educate high-quality, *professional teachers* through a high-quality post-secondary programme and then support teachers through their career in professional development. However, different definitions and interpretations have been offered concerning teacher professionalism. Several other terms, including effective, competent, expert, or ideal teachers are used in a similar way as a *professional teacher* [8–10]. Teacher quality is typically approached by analysing (1) the knowledge base of a professional teacher (input approach), (2) the process or the interaction that occurs in the classroom between the teacher and students (process approach) or (3) the outcomes of the teaching and learning process, such as students' learning outcomes measured by national tests or graduation rates (output approach) [10]. In the first case, teachers reaching high levels of quality are typically called professional teachers and in the third case, referred to as effective teachers.

According to the 'input approach', a professional teacher is supposed to have a versatile knowledge base, allowing him or her to act as an autonomous professional. The term 'knowledge' is interpreted broadly in this context and is close in meaning to 'competence' or 'skill'. This knowledge base is supportive for the planning, organising and evaluation of teachers' own teaching, students' learning and their learning outcomes. Planning, broadly conceived, includes all steps from the planning of the local curriculum to the planning of a single lesson. Finland has followed this input type of orientation in the education of professional teachers.

Teacher professionalism does not only refer to the competence of individual teachers but also to their status. Overall professionalism depends on factors operating at the school level and on cultural and education policy as well as such individual characteristics as their knowledge base, teaching philosophy and interaction and collaboration skills [11]. Important school-level factors include the nature of school leadership, the culture of collaboration and the structure of networks and school-society-family partnerships. Cultural and education policy factors include the state-level context, including whether the country is following a more accountability-oriented educational policy or whether it trusts teachers without relying heavily on practices of inspection and testing.

2.1. Shulman's model of teachers' professional knowledge

To characterise teacher professionalism, a description of their knowledge base is the logical starting point. One well-known approach for describing this knowledge base is Shulman's work [12, 13], in which he made the distinction between different domains of knowledge for teaching, including content (subject matter) knowledge, pedagogical content knowledge and curricular knowledge [14, 15]. The level and depth of teachers' knowledge in these domains are the basis of professionalism [16, 17].

Content (subject matter) knowledge in a certain domain includes both conceptual and procedural knowledge. Furthermore, a teacher needs to understand the nature of the knowledge, that is, the underlying epistemological and ontological issues. The second knowledge category is *pedagogical content knowledge (PCK)*, which is a knowledge domain that distinguishes teachers from other subject specialists [13, 17]. PCK is the synthesis of all knowledge needed for teaching and learning a certain topic [14]. In Finnish education context, instead of PCK subject pedagogy or didactics is used as a term. The third main category of teacher knowledge is *general pedagogical knowledge (GPK)* [18]. Morine-Dersheimer and Kent [19] argue GPK consists of the following areas: (1) classroom management and organisation, (2) instructional models and strategies and (3) classroom communication and discourse. Schulman's original model has been augmented, for example, Gess-Newsome and Lederman [15] introduced the topic of teachers' *contextual knowledge* and define it as knowledge of the context of teaching.

Research on teacher knowledge typically focuses on the knowledge teachers need in classroom situations; however, they also need certain knowledge outside their classroom activities. For example, retaining and enhancing their professionalism requires competences for both networking and life-long learning.

2.2. Competence for networking and partnerships

Networking both in and out of school, and also cultivating partnerships, are important areas of competence for professional teachers. Networks allow the sharing of ideas, opinions and experiences and are also important in the creation and adoption of educational innovations [20]. In a partnership, at least two parties are engaged in collaborating in pursuit of common aims. Networks such as grade-level teams and principal teams and, moreover, networks with health-care experts are important in-school networks.

Moreover, networking and partnerships are needed in engagements with entities outside the school, including organisations and companies in the surrounding community, and especially with parents. School-family partnerships can be cultivated through school-family events and personal meetings to support communication and the clarification of shared goals.

2.3. Competence for life-long-learning

Another competence that is missing from the knowledge base initially defined earlier is the competence for life-long learning. A professional teacher is ready to learn new knowledge needed in the teaching profession. This competence is often assumed to be developed through the study of research methodology and engagement in research activity. Therefore, a professional teacher is viewed as both a critical user as well as a producer of educational knowledge [21, 22].

A professional teacher is a user of educational knowledge when theory and practical experience are combined and when educational situations are interpreted through reflection. *Reflection* refers to the process in which an experience is recalled, considered and evaluated, usually in relation to a broader purpose. Rodgers [23] describes reflection as a meaning-making process comparable to the research process and lists phases of reflection: setting aims and recognising the problem(s), observing one's own behaviour in practice, describing observations and

analysing observations and experiences. Moreover, this type of knowledge and competence is needed in planning, broadly conceived, including the preparation of the local curriculum, the implementation of teaching and learning activities and the assessment of teachers' teaching.

3. The context of Finnish education

Equality is an important value in Finnish education. Free education is available at primary, secondary and tertiary levels. Moreover, free health care, counselling and library services are available for students at all levels. Special education in Finland aims to integrate all kinds of learners into the same classrooms and prevent students from dropping out. The goal of low early school leaving (ESL) levels is emphasised in Finnish education policy documents [24]. However, the equality of educational outcomes has deteriorated according to gender, students' socio-economic status and migration background and according to the area the students live in [25].

Another characteristic of the Finnish education system is its strongly decentralised structure and its culture of trust. Trust means that educational authorities and national-level policymakers trust teachers, together with principals, headmasters and parents, to know how to provide the best education for children and youth in a particular district. Schools and teachers have been responsible for choosing learning materials and teaching methods since the beginning of the 1990s, when national-level inspection of learning materials was terminated. Education providers or municipality-level education administrators, schools and teachers are responsible for quality assurance. Teachers are valued as professionals in curriculum development, teaching and assessment at all levels. On the other hand, decentralisation poses challenges for efforts to improve educational practices and implementation of national level' initiatives.

3.1. Basic and upper secondary education

New national-level curricula for basic (primary and lower secondary) and upper secondary education were prepared between 2012 and 2014 in close collaboration with teachers, teacher educators and providers of education (municipalities) [26, 27]. Both curricula emphasise the learning of twenty-first century competences and offer support to teachers as they confront such key questions as: what will education mean in the future, how can education prepare all young people for the future, what competences will be needed in everyday and working life and what kinds of learning environments and practices or teaching methods would best produce the desired education and learning outcomes.

3.2. Recognised challenges in Finnish education context

Several challenges have been recognised recently in Finnish education. When the Programme for International Student Assessment (PISA) 2012 [26] and 2015 reported declines in the proficiency of Finnish youth, Finnish policymakers argued that the educational system is failing to promote the twenty-first century skills that will adequately prepare students for the future. Another discussion concerns the challenges linked to the impact and use of new technologies in and out of school situations [2]. The 2013 Teaching and Learning International Survey

(TALIS) [28] demonstrated several weaknesses in the operation of schools and in teacher activities. According to the TALIS, most Finnish teachers find that they have influence over the factors that promote learning. However, teachers' participation in ongoing training to support professional development appears to be declining. Moreover, the orientation of new teachers to the profession is seen to be poorly organised in Finland. Teachers feel that initial teacher education does not prepare its graduates well enough for collaboration between home and school, networks with healthcare experts, controlling disruptive behaviour in the classroom or managing the needs of more challenging students.

Because of the decline in students' learning outcomes and low engagement in learning, perceived weaknesses in teachers' competences, the weak organisation of professional development projects and the public debate suggesting gaps in crucial twenty-first century competences, several national projects have been launched in Finland since 2014, including the *Future primary and lower secondary education* [29] and a national project aiming to renew upper secondary education [30]. The preparation of national core curricula for basic (primary and lower secondary) and upper secondary education [26, 27] has been part of these endeavours. Moreover, a special teacher education development programme [33] was established in order to overcome the challenges introduced earlier. These challenges were also introduced several times to the *Finnish Teacher Education Forum* by the author of this chapter (chair of the forum) and, moreover, discussed while planning the new strategy in the forum.

4. Current teacher education practices in Finland

Several researchers have argued that the most important reason for Finnish students' relatively high success in PISA is the professionalism of teachers. In general, the positive impact of good teachers on the learning and well-being of students is widely accepted (e.g., [34]). The professionalism of Finnish teachers is interpreted according to the perspectives set out in the previous section, on teacher professionalism. For example, the 2002 *Finnish Teacher Education Development Programme* [35] stated that Finnish teacher education programmes should help student teachers to become professionals and acquire, among other things, the following:

- high-level content/subject matter knowledge, pedagogical knowledge, pedagogical content knowledge, contextual knowledge and knowledge about the nature of knowledge; social skills, such as communication skills, skills involved in cooperation with other teachers and information communication technology (ICT) skills; moral knowledge and skills, including the social and moral codes of the teaching profession;
- skills required for effective cooperation with other teachers and those involved in partnerships with the school-community (local contexts and stakeholders) and with parents; knowledge about schools as an institution and their connections to wider society;
- academic skills, such as research skills; skills needed for developing local curricula, planning teaching activities and organising the assessment of teaching and learning and the skills needed to develop one's own teaching practice and contribute to the teaching profession.

There is a long tradition in Finland of educating primary and secondary school teachers at universities in 5-year Master's-level programmes. Since the 1960s, the objective of teacher education has been to educate professionals who are able to plan, implement and assess their own teaching and their students' learning. Autonomy as a part of Finnish teachers' professionalism has contributed to teacher education being one of the most highly sought-after training programmes at Finnish universities. For example, at the University of Helsinki only 5–10% of applicants in 2016 were accepted to the programme.

4.1. Secondary teacher education at the University of Helsinki

Secondary teacher education is organised in cooperation with the departments of specific subjects at six faculties within the University of Helsinki, along with the Faculty of Education. Studies are divided into two parts: each of the subjects is studied within its own department (e.g., Physics) while pedagogical studies take place within the Faculty of Education and Teacher Training Schools. Students enrol in two subjects they intend to teach: one major and one minor subject. The Faculty of Education is responsible for organising the studies for the required 60 credit points (cp) of pedagogical studies (identified as a second minor for the degree). In addition, 20 credit points are allocated for teaching practice, giving the students the qualifications necessary for teaching positions in all types of schools, in their major and minor subjects. The students define topics for their Bachelor's and Master's theses (40 cp) and prepare the thesis under the guidance of a professor or within a research group. In addition, each student prepares a pedagogical thesis.

An essential characteristic of primary and secondary teacher education in Finland is an emphasis on research [3]. From the point of view of this orientation, student teachers learn how to both *consume* and *produce* educational knowledge within their pedagogical studies [21, 22]. Students consume knowledge based on educational research when they combine theory and experience or interpret situations during their practice teaching. Students acquire a capacity to produce educational knowledge during their courses in research methodology and while conducting their educational research projects (Bachelor's, pedagogical and Master's dissertations) [18]. The knowledge and skills they learn during these thesis projects support life-long learning practices.

Practice teaching makes up one-third of the pedagogical studies credits. During practice teaching, the students are supported to transform practitioner (practical) knowledge into professional knowledge through reflective activities and guided discussions in small groups. *Reflection* here refers to the process in which an experience is recalled, considered and evaluated in the effort to learn from practical experience. Teacher mentors who supervise practice teaching at teacher training schools support student teachers in their meaning-making process by facilitating goal-setting, self-observation and the description and analysis of observations and experiences to improve their teaching practice [23]. Supervision is critical at this stage, and trained mentors help the students to reflect on all the possible aspects of their work as teachers. During the advanced stages of practice teaching, student teachers become increasingly independent, and discussions with supervisors are expected to become deeper and more detailed. Consequently, student teachers learn from their own practice but also master the process of reflection. Such reflective skills are essential to life-long learning.

4.2. Primary teacher education at the University of Helsinki

The structure of a Master's degree for primary teachers is quite similar at all Finnish universities to the structure of subject-based degrees for secondary teaching. From the 140 cp allocated for education as the major subject, 50 cp consists of studies of the actual knowledge base, such as understanding the cultural, psychological and pedagogical features of teaching and instruction. As much as 70 cp are devoted to methodological studies. It is important that student teachers study quantitative, qualitative and mixed methods to develop a comprehensive understanding of methodological issues in the human sciences. A student in primary education undertakes a Master's (M.A.) thesis of 40 cp during these studies. Conducting one's own research process improves a student's understanding of the relationship between theoretical knowledge and practice and offers the possibility of developing the orientation of a reflective practitioner-researcher to the everyday work of teaching.

Besides the major in education, *subsidiary subject studies* (60 cp) as a first minor subject adds to the knowledge base of primary teachers. *Subsidiary subject studies* address the pedagogy of all primary school subjects, along with cross-curricular themes to be implemented in various subjects at the primary level. The aim of this minor subject is to understand curriculum theory and its relevance to the planning, instruction and evaluation of educational practice. In addition, it is important to construct meaning for the distinct characteristics of each field of knowledge behind the primary school subjects. Student teachers need to understand the link between the scientific orientation and the methods used in teaching subjects to learners in a school environment.

Besides these *subsidiary subjects studies* courses, students in primary teaching may complete an elective minor subject (60 cp) in one of the school subjects. The elective study module qualifies the student to teach this particular subject at the lower secondary level (Grades 7–9). The minor subject studies are offered by subject departments and are based on scientific knowledge of the field.

The knowledge related to the teaching of school subjects is strengthened by teaching practice modules included in the programme. One aim is to emphasise a theory-practice relationship by establishing connections between theoretical studies on campus and practice teaching at the partner school. Altogether, 20 cp are allocated to teaching practice during these studies. The multidisciplinary teaching practice module focuses especially on pedagogical content knowledge relating to various classroom subjects. Student teachers have the opportunity to practice and improve their skills in teaching different subjects based on previous theoretical studies. During the final practice teaching session, normally completed during the fourth or fifth year, the aim is to strengthen the interaction between particular school subjects and the educational aims of upbringing young children in the primary school setting.

5. Recognising new aims for Finnish teacher education through collaboration and analysis of research outcomes

As described in the previous section, several challenges were recognised in Finnish education and education ecosystem based on the PISA and TALIS survey results [25, 28]. These challenges were discussed and summarised in the forum meetings as follows:

- *student-level challenges*: lack of support for students' well-being and engagement in learning; challenges in guiding students to active learning processes; challenges in responding to the needs of individual learners and challenges in integrating formative and summative assessment;
- *classroom level-challenges*: teaching in a heterogeneous multicultural classrooms; emphasising the learning of twenty-first century competences and designing and making effective use of various learning environments;
- *school and city-level challenges*: working and planning curriculum in teams; teacher networking; evaluating current education practices; planning and implementing improvements or education reforms and using digital tools in teaching and administration;
- *society-level challenges*: supporting sustainable development; preventing drop outs; how to take into account machine intelligence and automation in education and business.

As one response to these challenges, a *Finnish Teacher Education Forum* [31, 32] was established by the Ministry of Education in February 2016 to foster the development of teacher education as a part of the national reform programme [36]. The minister nominated almost 100 experts from universities, ministry, the teachers' union, student unions and municipal union to the forum and asked them

1. to analyse research outcomes related to teacher education,
2. to identify best practices based on teacher education strategies and policy documents in other countries,
3. organise a national brainstorming process related to the renewal of teacher education and, finally,
4. to prepare a *Development Programme for Teachers Pre- and In-service Education* (on life-long professional development).

The outcomes of the previously mentioned actions 1–3 and the recognised challenges were discussed collaboratively and transformed to strategic aims in the meetings of the *Finnish Teacher Education Forum*. This collaborative analysis of the actions and challenges supported the nominated experts to become aware of these challenges and new national aims. Moreover, the nominated experts were asked to be responsible for the local level development projects and renewal of teacher education in each university.

The forum was also asked to recognise key actions to improve teacher education, to support the implementation of the development programme and to create the conditions for the renewal of Finnish teacher education through development projects. The programme was asked to describe the kinds of teacher education and continuous professional development that are necessary to ensure that teachers support students in the classroom to learn the competences (knowledge, skills and attitude) needed today, tomorrow and in future.

5.1. Outcomes of the literature review on research on teachers and teacher education

The literature review [37] on research on teachers and teacher education undertaken by the forum identified several important perspectives, which were discussed in the forum meetings

and taken into account in the planning of the development programme. In particular, research outcomes related to the role of education in a society; teaching and learning, engagement and individual differences of learners; the design and use of educational innovations, like education technology, in teaching and learning and, moreover, the research on teachers and teacher education had an impact on the work of the forum (see e.g., [38]). One important topic discussed in the meetings was the link between teachers pre- and in-service training. According to the literature review, during pre-service training student teachers should be willing and able to learn new competences continuously in their work as teachers, including competences needed to organise inclusive classrooms, entrepreneurship education, networking and co-teaching.

One outcome of the literature review emerging from the perspective of classroom interaction and learning identified best practices for professional teachers. They should:

- support learners as they integrate new knowledge with previous knowledge using effective pedagogy; anticipation and solution-oriented approaches;
- guide learning through classroom interaction;
- monitor learning and give feedback to learners;
- take into account the affective dimensions supportive of learning, including respect for pupils and a passionate attitude towards teaching and learning;
- provide suitable challenges for learners; emphasise the acquisition of learning and self-regulation skills and encourage learners to develop self-confidence and self-esteem [39].

5.2. Outcomes of the benchmarking of teacher education strategies in neighbour countries

Teacher education programmes and strategies were benchmarked in neighbour countries and discussed in the forum meetings. For example, the Norwegian 2016 elementary teacher education strategy (framework) aims to raise the Norwegian teacher education credential to the Master's level and augment expectations of teachers, in addition to traditional pedagogical competences: 'for example, *take responsibility for developing and leading inclusive, creative, safe and healthy learning environments (skill)*' in the classroom, as well as competences needed to contribute to the professional community of teachers: able to '*contribute to both colleagues and the school's professional and organisational development*' [40]. Compared to previous national strategies, the new Norwegian strategy emphasises a research orientation in teacher education—*academic knowledge and knowledge on scientific thinking and research methods*—along with improved competences in teacher collaboration, personal and whole school environment development.

In Sweden, a renewal of teacher education aims to update it to the Master's level, similar to the initiative in Norway [41]. According to Swedish documents, for the degree of Master of Arts or Science in secondary education the student shall demonstrate the competences needed to participate autonomously in the teaching profession *the knowledge and skills required*

to work autonomously as a subject teacher in the specialisation and competence needed in the development of learning environments—the capacity to create conditions in which all pupils can learn and develop (skill)—and the school environment: the capacity to plan, implement, evaluate and develop teaching and educational processes individually and together with others.

5.3. Outcomes of the national web-based brainstorming process

As one of its activities, the *Finnish Teacher Education Forum* organised a national web-based brainstorming process related to the renewal of teacher education following the concept of the ‘wisdom of crowds’ [42]. According to this principle, a large group of people is collectively smarter than a few experts and is more likely to come to wise decisions. In practice, a call to participate was sent to teacher educators in all Finnish universities, as well as to all teachers and administrative employees working in the field of education at both national and local levels. The goal of this invitation was to solicit diverse opinions related to the development of teacher education, encouraging decentralisation of idea generation and independent thinking. The participants were first guided to generate ideas about what will be important in the future of teacher education and to evaluate or rank about 10 ideas contributed by others. In the ranking, participants assigned a number (from 0 to 100) evaluating the importance of these ideas. The web-based brainstorming tool combined similar ideas and reduced the number of ideas offered for ranking. According to participants, the most important priorities for students to learn in teacher education are learning-to-learn skills, along with interaction and collaboration skills. The same skills were also emphasised in the recent Norwegian and Swedish teacher education strategy papers and emerged from the teacher education literature review. The competences involved in generating ideas, readiness for change, research-based action and collaboration in partnerships and networks are all needed so that teachers can participate collaboratively to develop classroom practices and culture in particular school contexts. Most of the top-ranked skills and competences identified are needed outside the classroom. This means that, in teacher education, participants believe that more attention should be paid to the skills and competences needed for effective teacher collaboration. Meanwhile, interaction and collaboration skills, student-centredness and the competences to meet variation, integration of school subjects, digitalisation and the use of various learning environments are skills, competences and attitudes needed by effective, professional teachers in a classroom environment.

5.4. Strategic aims for Finnish teacher education

Altogether, the forum organised eight full-day meetings of the entire forum, along with several meetings of smaller thematic groups, during 2016 and 2017. The steering committee of eight people met every month, discussing outcomes of the literature review, best practices based on teacher education strategies and policy documents in other countries and the brainstorming process and designing the *Development Programme for Teachers Pre- and In-service Education*. This development programme [31] set out holistic competence goals for teachers’ pre- and in-service education and continuous life-long professional development. According to this document, a professional teacher should have:

5.5. A broad and solid knowledge base

- Subject matter knowledge, pedagogical and pedagogical content knowledge, contextual knowledge;
- Interaction skills and skills for collaboration in different networks and partnerships (experts at school, family and society collaboration);
- Knowledge about learning and diversity among learners (including special needs and multicultural backgrounds);
- Competence to act as an autonomous professional who can plan, implement and assess his or her own practices and students' learning;
- Competence to act in various digital and physical learning environments, including digital skills and learning in settings outside the classroom;
- Professional ideology, including a shared understanding of professional values and ethics codes (e.g., expectations for ethical conduct towards (1) students, (2) practices and performance, (3) professional colleagues and (4) parents and community);
- Research skills (skills required to consume research-based knowledge);
- Awareness of the different dimensions of the teaching profession: the social, philosophical, psychological, sociological and historical bases of education as well as schools' societal connections;
- Awareness of various cross-curricular topics, including those related to human rights and democracy, entrepreneurship education, sustainable development and globalisation.

5.6. Expertise in generating novel ideas and educational innovations

- A positive attitude towards continuous change, which requires tolerance of uncertainty and new and innovative ways of thinking;
- Willingness to create a positive atmosphere supportive of creative processes and curiosity, risk-taking related to classroom teaching and learning, creation of educational innovations and, moreover, awareness of the importance of this attitude for creative outcomes;
- Competences necessary for the implementation of creative processes, the generation and evaluation of ideas related to classroom teaching and learning and the creation and adoption of educational innovations;
- Competences required to design a school-level curriculum, to implement it and continuously to evaluate and improve it;
- Research skills (skills to produce research-based knowledge).

5.7. Competences required for the development of their own and their schools' expertise

- A supportive attitude towards different occupational groups;
- Self-regulation skills and skills for control over their work (skills for self-assessment);

- Competences involved in working in networks and teams, such as networking with health-care experts at the school site;
- Competence in curriculum design and as an innovator for pedagogical approaches and learning environments;
- The ability to facilitate, coach, mentor or train other teachers;
- Competence to reflect on their own personal pedagogical views (reflection for, in, and on action);
- Competence for quality work, the competence to use assessment outcomes for school development and the ability to develop school culture through networks and partnerships with students, parents, other experts and stakeholders;
- Competence to develop their own expertise through reflective activities, research-based knowledge, mentoring, in-service training and seminars and workshops, along with the willingness to use this competence.

5.8. Implementation of the strategy

During the years 2017 and 2018, the forum has supported and will continue to support teacher education institutes to organise pilot projects according to main development areas, recognised in the development programme. In order to support the pilot projects, the forum has allocated two times 15 million euros according to the proposals submitted by the Finnish universities. The development projects were asked in the following areas:

- holistic view to teacher education,
- selection and anticipation,
- supporting the development of competences needed in generating novel ideas,
- collaboration culture and networks,
- supportive leadership,
- research based teacher education.

The experts nominated to the *Teacher Education Forum* were responsible for supporting the writing of proposals and support the starting of the development projects. Only the proposals, which were written according to the strategic aims, were funded.

Altogether, 32 development projects were funded and started. According to the content analysis conducted by the author of this chapter, the development projects were designed in collaboration between the universities and in collaboration with the providers of education (working life connection) and, moreover, they were research-oriented projects. The projects were emphasising the following topics:

- competence model to teacher education programme according to the strategic aims (21 projects),

- models for teaching and supervision in teacher education (14 projects),
- teacher leadership and leadership at school level (13 projects),
- digital environments in teacher education (12 projects),
- supervision of teaching practice (8 projects),
- multiprofessional team work, (7 projects),
- equity in education (7 projects),
- multicultural education and language education (6 projects),
- selection and anticipation (4 projects),
- special need education (2 projects).

6. New meaning and approaches to teacher professionalism

The Finnish teacher education policy and teacher education programmes have always emphasised the acquisition of a professional knowledge base, networking skills and the competence for life-long-learning, in a way similar to that emphasised in recent international research literature on teacher professionalism. The 2016 *Development Programme for Teachers Pre- and In-service Education* emphasises similar competencies. However, this new programme enhances the role of creativity and innovation in the teaching profession as new areas of competence. Teachers should become more able to generate ideas to solve problems or overcome challenges at a local level. Creativity is needed, for example, in the design of new learning environments or to organise an inclusive classroom. Second, the programme emphasises the development of the whole school context, especially versatile leadership, in addition to the competences of individual teachers.

Although new areas of competence have come to national policy attention, traditional areas of teacher knowledge are still emphasised. For example, Finnish secondary teachers in the future will continue to learn versatile subject matter knowledge in departments specialising in specific subjects. During these subject studies, student teachers become familiar with the epistemological and ontological basis of their subjects under the guidance of professors who are conducting their own research in the field. This kind of knowledge is relevant in school contexts when teachers guide students in different kinds of activities and problem-solving. Furthermore, student teachers learn pedagogical knowledge and pedagogical content knowledge during their studies, both at subject departments and at the Faculty of Education.

In addition to previous traditional domains of teacher knowledge, students will continue to learn how to critically consume and to produce educational research, as student teachers have learned since the 1960s. This research orientation in teacher education is important for the development of competences for life-long learning. The research orientation in teacher education also supports the development of competences involved in planning of teaching activities, broadly conceived, as well as versatile assessment. Finnish teachers must follow

their students' progress formatively and support the learning of their students as well as pay attention to students with special needs. Teacher effectiveness is not considered a characteristic of individual teachers; rather, it is strongly associated with the characteristics of the whole educational context, including national Finnish educational policy and the organisation of education in practice through the national and local-level curricula. These competences are needed in life-long-learning.

The professionalism of teachers in Finland is also not a property of individual teachers but, rather, it refers to characteristics of teachers as a group and depends on cultural and education policy factors at both national and school levels. The *Development Programme for Teachers Pre- and In-service Education* emphasises teachers' collaboration and the development of the whole school context; this social interpretation of teacher professionalism is emphasised more than in previous policy documents. Collaboration and the development of school culture have also recently been emphasised in Finland's neighbours, Norway and Sweden. In contrast to the top-down systems established in many other countries, the Finnish educational system is characterised by the devolution of decision-making power and responsibility to the local level: based on the National Core Curriculum, teachers plan the local curriculum collaboratively [13, 14]. In addition, teachers are responsible for student assessment and for the evaluation of their own teaching; there is no national-level testing or inspection in state-funded education. Therefore, teachers have an important and influential role in school education and teaching.

Both Finnish education policy and the Finnish education system support teachers in their professional role [11]. This role as well as the knowledge and skills (competences) needed in the teaching profession are learnt during teacher education. These competences help teachers to act as academic professionals, collaborate in school communities and continuously learn new competences. This professional orientation, including the cultivation of research skills, has recently also been emphasised in Finland's neighbouring countries, Norway and Sweden.

When Finnish education and teacher education policy and their implementation are compared to the global education trends, a couple of contrary movements can be recognised [1]. In general, Finnish education policy represents a long-term orientation and is not based on ad hoc ideas coming from the politicians. New strategies are planned collaboratively and in partnership with unions of teachers and other employees and aim at consensus in the planning process. Resources are made available for the piloting and implementation of innovations.

An important movement globally, beginning in the 1980s, was the tendency towards outcome-based education reforms. This movement was followed in the 1990s by standards-based education policies, beginning in the UK and the US, including centrally prescribed performance standards for schools, teachers and students. Nationwide testing of students' learning outcomes is another outcome-based policy. By contrast, within the framework of the Finnish national-level curriculum, teachers collaboratively create local curricula at the municipal and school levels. The local curriculum is both a process and a product. The nature of the process empowers teachers in their planning processes and increases their ownership of the curriculum. Therefore, teachers need training and preparation to work in this context and, in their teacher education, acquire the necessary competences.

In the Finnish educational context, external demands are not visible in everyday school practice to guide teachers' work, including their assessment practices. This atmosphere supports teachers in developing school environments and teaching collaboratively. Competition and rankings hardly exist in Finnish education—the educational context supports collaboration, networking and partnerships. Finnish teacher education aims to support student teachers to learn how to collaborate, as well as how to plan and assess teaching and students' learning outcomes. However, certain challenges face the development of collaboration and broader networking skills through teacher education programmes.

One global trend has been consequential accountability systems for schools. Success or failure of schools and their teachers is often determined by standardised tests and external evaluations that devote attention to limited aspects of schooling. Again, in Finnish primary and lower secondary schools another direction has been chosen: trust based on the professionalism of teachers. An important pre-condition for trust is the high quality of teacher education and a broadly supported overall strategy. A culture of trust within the education system values teachers' and headmasters' professionalism in judging what is best for students and in reporting on the progress of their learning. While heavy testing and inspection do not characterise the Finnish system, school satisfaction is not high among students. Therefore, during initial teacher education, student teachers should learn how to take full benefit of the potentials inherent in the non-consequential accountability system in Finland. There is space for increasing co-planning, project work and encouraging and motivating forms of assessment.

To conclude, the Finnish approach to teacher professionalism and effectiveness is the 'input approach', according to which a professional teacher should have a versatile knowledge base and competence for networking, developing the school culture and life-long-learning. The construction of this knowledge base begins during Finnish teachers' initial teacher education. This education supports Finnish teachers' strong autonomy in curriculum design and in choosing instructional strategies and approaches to assessment. This autonomy is also supported through Master's-level teacher education, which supports pedagogical thinking and autonomous decision-making. Moreover, autonomy is supported through the cultural respect accorded to the teachers. Third, Finnish education policy offers a supportive environment for teachers in their autonomous roles.

The influence of the new *Development Programme for Teachers Pre- and In-service Education* and implementation of the development projects is too early to evaluate. The development projects have been working only half-year when this chapter has been written. However, based on the meetings of the forum and directors of the development projects, the Finnish teacher educators are eager to make progress in teacher education. All 32 development projects have started and they are having nationwide connections and meetings. There have been two meetings between November 2017 and February 2018. Altogether four national meetings are scheduled for the rest of the year 2018. The impact of the *Development Programme for Teachers Pre- and In-service Education* will be evaluated in the end of year 2018 by the forum itself and by external evaluators, nominated by the Finnish national quality office.

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