Finland

Country Report on ICT in Education

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TABLE OF CONTENT

1. THE EDUCATION CONTEXT

1.2 Key educational challenges and priorities

Currently, the key educational challenges for Finland are the following:

- Growing inequality between schools and school areas (neigborhoods)
- Digitalisation of schools and learning resources
- Renewals at all levels of education system; but especially large reforms in early childhood education and care and in vocational education

Current priorities according to the Government Strategic Programme and Government's key projects during 2016-2018:

- The development program to reform teacher education
    - The main aim for the program is the development of teacher training as well as strengthening teachers' skills. Sense of community and networking are key elements for the development and modernisation of teacher training. Peer support and mentoring improve teaching and teacher collaboration. The program is part of the key project and reforms defined in the Strategic Government Programme. The implementation of the development program is supported by 60 million euros over three years.
- Measures will be required that support earlier start of working life. Transition within and between different levels of education will be made as flexible as possible. Faster graduation and earlier transition to working life will be encouraged.
- The entrance examination procedure to higher education institutions will be renewed.
- Cooperation between the upper secondary level and higher education will be increased.
- The learning methods and environments especially in basic education will be updated to meet the challenges posed by the latest developments.
- Cooperation between higher education institutions and business life will be strengthened to bring innovations to the market.
- Youth guarantee towards community guarantee: cooperation between the public, private and third sectors in efforts to support young people will be intensified. Young people's life management skills and employment will be supported by means of strengthening social welfare and health care services as a part of the youth guarantee.

1.2. Education Reforms

National curricula reforms

Renewal of the core curricula 1) for pre-primary and basic education (2014), 2) for general upper secondary school (2015) and 3) for early childhood education and care (2016) have been completed. The curriculum for early childhood education and care is the first of its kind in Finland. New local curricula that are based on core curricula for pre-primary and basic education and for general upper secondary school were implemented in schools from August 2016 and for early childhood education and care from August 2017.

The national core curricula are national regulations issued by the Finnish National Agency for Education. The renewal processes involved all stakeholders, particularly education providers and education personnel. The aim was to encourage also parents and pupils/ students to participate in the processes and to utilize the findings of latest research and development efforts.

For more information:

- Early childhood education and care:
- Pre-primary education:
- Basic education:
- General upper secondary education

2. DIGITAL EDUCATION POLICY

2.1. National/ regional digital education policies

New comprehensive education

The Government's key project aims to renew comprehensive education, learning environments and teachers' competence. The goal is to update the comprehensive school system to the 2020 requirements to make Finland the number one country of inspiring learning and education.

The reform focuses on three things:

- new pedagogy,
- new learning environments and
- Digital learning.

The objective is to improve learning results, respond to future competence needs, renew pedagogy through experimentation and turn learning into an

inspiring life-long process.

The key project supports schools and municipalities to make it easier for them to apply solutions that promote digital learning. Experiments on new pedagogy, digital learning and new learning environments will be launched. The New Comprehensive School action plan provides the guidelines for the support and implementation of the new core curricula for Finnish basic education. Local solutions, creativity and experimentation will be encouraged. The objective is to turn the Finnish comprehensive school in to a learner-centred education system with the most competent teachers in the world and an open and collaborative school culture.

Digital learning and new learning environments outside the classroom require a new kind of pedagogical approach. In order to support teachers' ability to take advantage of this new approach, continuing professional education and training will be provided. All digital materials and services in schools must be pedagogically appropriate and stimulate the children's learning. Teachers are encouraged to innovate, and best practices will be shared.

2.2. Responsibilities

No information provided
The Finnish education system is completely decentralized. It is local municipalities that are completely responsible for ICT in schools.

2.3. Specific digital education initiatives

Area	Short description
Student identity management and School management systems	Learning analytics group (run by the Ministry of Education and Culture). The task of the group is to promote co-operation between various actors in the field of learning analytics; to promote interoperability in learning analytics; to track and anticipate legislation on learning analytics. MPassID - authentication solution, Single sign-on (SSO): http://www.mpass.fi/en/ (national level implementation in process)
New learning spaces	Oppimaisema – a portal of modern learning spaces and school architecture: https://oppimaisema.fi/
Game based education	national level digital education initiatives concerning game based education at the moment
Implementation of **computing, coding, computational thinking initiatives**	Innokas, a national network to promote robotics, coding and the use of ICT in education http://www.innokas.fi/en. Funded by the Finnish National Agency for Education. The Innokas Network guides and encourages students, teachers, school administrators and other stakeholders to be creative and innovative using available technology.
Self- or peer assessment tools/frameworks for teachers and students digital competence including certification	National tools for digital competence self-assessment TRIM - Tampere Research Center for Information and Media • Headmasters: http://ropeka.fi/en • Teachers: http://opeka.fi/en • Students: http://oppika.fi/ (not available in English) Research Unit for the Sociology of Education (RUSE) • Teachers and students: https://rosa.utu.fi/taitotesti/ (not available in English)
Tests (ICT or non ICT based) for teachers and students to test their digital competence	Research Unit for the Sociology of Education (RUSE) The ICT Skill Testing Service is intended for the evaluation of primary and secondary teachers' and pupils' digital skills. Students and teachers get a personal competence profile according to their performance. The organization (school, school provider etc.) receives a summary report on its staff and students. Teachers and students: https://rosa.utu.fi/taitotesti/ (not available in English)

2.4. Digital education priorities

Area	High priority	Medium priority	Low priority	Reference to policy action measure (if any)
A: Digital Competence Development				
Developing measures to support digital competence of **future teachers**	*X*			*Government's key projects*
Developing measures to support digital competence of **in service teachers**	*X*			*Government's key projects*
Developing measures to boost youth **employability and entrepreneurship**		*X*		*Vocational school reform*
ICT for **accessibility** and **inclusion**: early school leavers, migrants, special educational needs etc.	*X*			*Government's programme*
B: Curricula and Assessment				
Developing **digital competence/media literacy** of students	*X*			*National curriculum*
Developing computer/programming skills/**computational thinking skills**	*X*			*National curriculum*
Developing **key competences** [1]				*National curriculum*
Developing **21st century skills** (critical thinking, problem solving, communication, collaboration, creativity and innovation)	*X*			*National curriculum*
Assessing with ICT/ICT based exams				*Digital Matriculation Examination project*

[1] See EC Key competences for lifelong learning: digital competence, math science technology, communication in mother tongue, communication in foreign languages, learning to learn, social and civic competences, sense of initiative and entrepreneurship, cultural awareness and expression. http://europa.eu/legislation_summaries/education_training_youth/lifelong_learning/c11090_en.htm

C: System-wide innovation				
Developing measures to support **school leaders** in the integration of ICT		*X*		
Piloting and validating innovative uses of ICT	*X*			*Government's key projects*
Mainstreaming ICT in schools	*X*			*Government's key projects*
Monitor and research digital learning in schools		*X*		
Learning analytics (using digital technologies and data to support learning)	*X*			*MoE's measures and Agency's projects*
D: Mobile Devices				
Use of tablets			*X*	
Use of mobile phones		*X*		
Bring Your Own Device	*X*			
Cloud computing/services	*X*			
E: Use of digital learning resources				
Developing educational content repositories/metadata		*X*		
Supporting the development of open educational content and resources		*X*		
Supporting the development of educational content/resources provided by publishers	*X*			
Promoting teachers' use, creation and sharing of educational resources		*X*		
F: Learning environments				
Developing/adapting flexible learning spaces	*X*			
Linking formal, non-formal and informal learning using ICT		*X*		
Providing equitable access to ICT (infrastructure, devices and content)	*X*			
Providing a safe learning environment to students and teachers	*X*			

3. INTEGRATION OF DIGITAL TECHNOLOGIES IN THE CURRICULUM

3.1. Digital technology based assessment

The **Digabi project**, started by the Matriculation Examination Board in 2013, deals with adoption of information and communication technology in the matriculation examination. The number of tests to be taken electronically will be increased step by step. The first tests were arranged electronically in autumn 2016 (philosophy, geography and German). In spring 2019 examination, all tests will be arranged electronically.

Users (= teachers and students in the general upper secondary schools) have the opportunity to explore the "Abitti" test system to be used in the electronic matriculation examination. The test system to be used in the matriculation examination is being developed on the basis of experiences received from the Abitti course exam system (available in Finnish and Swedish).

3.2. School improvement with ICT

There are no national inspections etc. for schools in Finland. However, some web based self-evaluation tools are offered to schools and school providers (usually free of charge):

TRIM - Tampere Research Center for Information and Media
- Headmasters: http://ropeka.fi/en
- Teachers: http://opeka.fi/en
- Students: http://oppika.fi/ (not available in English)

Research Unit for the Sociology of Education (RUSE)
Teachers and students (not available in English)

3.3. The curriculum framework

No available information
The national curricula are done, once the local authorities and schools designed their own.

3.4. Digital technologies in the curriculum

ICT is not a subject of its own in the Finnish national curricula but it is one of seven transversal competences which should be included in all subjects. The goals of ICT skills should be described and included in all subjects in the local curricula. The use of ICT is systematically embedded throughout the 9 years of

general basic education, in different subjects, for integrative/thematic studies, and other forms of school work.

3.5. Students' digital competence

The developing of ICT competence is divided into four main areas (in the national curriculum of basic education):

1. Pupils are guided to understand the main functional principles, concepts and user logic of ICT, and develop their ICT skills by delivering their own outputs.
2. Pupils are instructed to the safe and responsible use of ICT, and ergonomically sound working methods.
3. Pupils are taught to use ICT for managing information, and inquiry-based and creative forms of work.
4. Pupils get experience and practice on using ICT for interaction and networking purposes

The pupils' opportunities to be active learners and work creatively, finding their own learning paths and learning styles, is important for all of the four areas. Of importance is also the joy of learning and working together, which affect learning motivation. The use of ICT offers pupils means to voice their thoughts and ideas in various ways, which develops thinking and learning skills.

Pupils are guided to learn about different ICT applications and purposes of use, and take note of the significance of ICT in everyday life, interaction between people, and as an overall means to influence. There is room for discussions on why ICT is needed in studies, in working life and society at large, and how ICT skills have become part of general working skills. The pupils are taught to measure the impact of ICT from the point-of-view of sustainability, and to act as responsible consumers. During the years of basic education, the pupils are also offered opportunities to interact in an international environment. They gain an understanding of the impact of ICT in the globalized world, the opportunities it offers and the risks involved.

All ICT competencies are described in more detail for grades 1-2, 3-6 and 7-9 in the curriculum.

3.6. Assessment of digital competence

ICT competences are assessed as a part of subject based assessment. No separate grades or certificates are given.

4. DIGITAL LEARNING RESOURCES AND SERVICES

4.1. Digital content development

Developing e-content is mainly the responsibility of commercial publishers. Some major companies produce both traditional books and digital materials, some new smaller publishing companies are specialised only in digital contents. The share of digital learning materials is growing gradually in the basic education but faster in upper secondary education.

Finna is a modern platform for harvesting material of museums, archives and museums. The platform is state-of-the-art as comes to technology and can be used use in several innovative ways, for example as a publishing platform for OER and a GIS-based platform for user generated content. For more information

4.2. Content sharing and creation

Linkkiapaja (linkkiapaja.edu.fi) is a national open portal for sharing of learning resources. It contains selected and categorized online learning materials for teaching and learning needs. In addition to the actual learning materials and learning objects, a selection of appropriate line drawings and pictures of teaching are selected. Linkkiapaja is maintained by The Finnish National Agency for Education.

The Edustore (edustore.fi) of Finnish municipalities is a trading venue and distribution channel for mainly commercial electronic learning materials. Edustore has got commercial digital learning materials from 29 publishers. Using the Edustore platform the users can also share the content they produce themselves either within their own organization or nationwide.

4.3. Accessibility for learners with disabilities and social inclusion

Several digital learning materials for immigrants are produced by the Agency, large production projects for adult education (mainly immigrants) on the way.

4.5. Learning Platforms

The learning platforms are chosen by the local educational providers. The most common ones are: Pedanet, Moodle, Optima, Its learning and Claned. Nowadays, the digital learning materials are quite often linked directly to learning platforms through interfaces. This allows transferring data flexibly from the learning material to the learning platform, and vice versa. In addition to this many new digital learning material platforms include many learning platform features: tools for evaluation, communication and feedback etc.

5. TEACHER EDUCATION FOR DIGITAL LEARNING

5.1. Assessment Schemes

There aren't any national assessment frameworks in use at the moment.

5.2. School leader support

Some training organisations organise such training for school leaders. Leadership training is targeted to leaders and principals at different skill levels of leadership. Contents of training are as follows:

- change management
- human resource management, recruitment and orientation
- strategic management, structural change and economic management
- the management of development and innovation activities

This kind of training is most often financed by The Finnish National Agency for Education.

5.3. Digital technologies in initial teacher education

The initial teacher education is renewed as part of the new comprehensive education. The Teacher Education Forum has prepared, in cooperation with teachers and other stakeholders, a Teacher Education Development Programme. The strategic guidelines of the Programme determine the direction of teacher education in Finland and development of competence during the teaching career, for more information.

5.4. ICT in in-service teacher education

ICT related training for in-service teachers is not compulsory. Various training organisations (local and regional authorities, university training centres etc.) offer such trainings.

In autumn 2016 the Finnish National Agency for Education launched a national tutor teacher programme, which aim is to train a tutor teacher for each basic school in Finland. The tutor teacher's task is to support and train their colleagues locally, for example how to use ICT pedagogically. The organizers of basic education have been granted state subsidies for tutors' training and tutors' work. In 2017 the total sum of grants will be about 10 million euros.

5.5. Training the Teacher Trainers

The tutor teacher programme (see question 5.4. above) aims to train 2 500 tutor teachers in 2016-2018. They will be working as peer-to-peer trainers in the pedagogical use of digital technologies. The training of teacher trainers is carried out by various training organisations. The ministry of education and culture is also preparing a MOOC for this purpose.

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