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2. A NEW FINNISH NATIONAL CORE CURRICULUM FOR BASIC EDUCATION (2014) AND TECHNOLOGY AS AN INTEGRATED TOOL FOR LEARNING

ABSTRACT

This chapter describes the Finnish national core curriculum reform process, its values, and how the role of technology in teaching and learning will be emphasized in it. Approximately every decade a novel national core curriculum for basic education is designed under the direction of the Finnish National Board of Education (FNBE). This design process is taking place at the same time as the writing of this book chapter. In comparison to many other countries, Finland has a very open and collaborative system for designing new curricula. A broad range of experts from different fields have been invited to join the process. Local authorities are given substantial flexibility and a great deal of freedom in Finland. The conceptualization and creative design process of the local curricula follows the national process. Moreover, the schools themselves are responsible for creating and carrying out the execution of the new curriculum. The new curriculum will emphasize 21st-century skills and cover a wide range of expertise.

Keywords: *National core curriculum, 21st-century skills, educational use of ICTs*

INTRODUCTION

A new Finnish core curriculum reform process for basic education started in 2012. The Finnish National Board of Education is responsible for the overall process, but the aim is to get many educational and societal partners to contribute to the process. The final documents will be published by the end of 2014, and several draft versions of the curriculum have been publicly available on open websites. Furthermore, dozens of working groups have drafted different parts of the core curriculum for basic education (see Figure 1).

Curriculum development is always associated with internal or external change in society. In the educational ecosystem worldwide, external reform seems to be so frequent that some teachers feel they trapped in a vortex of constant change. In this chapter we discuss the reasons for changing something that is already working reasonably well. Moreover, we will analyze the interactions between national and

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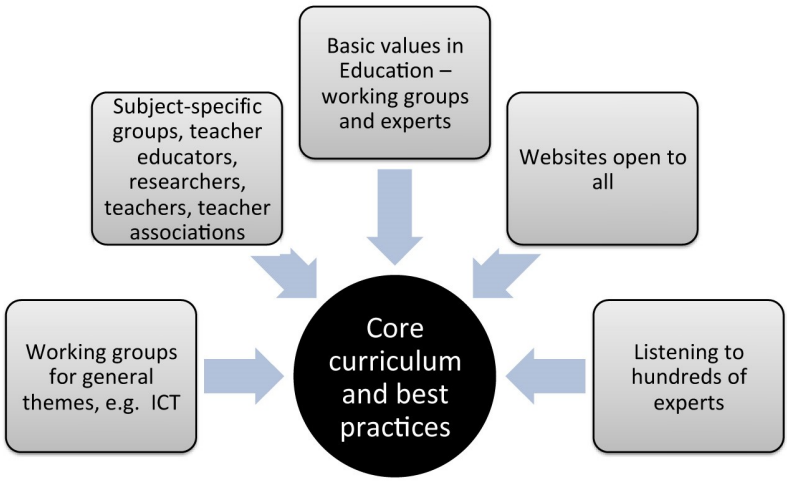

Figure 1. Actors in the Finnish curriculum reform process.

local level curricula and the sharing of review activities between these levels. Finland's curriculum cycle is approximately ten years. The previous core curriculum for basic education on which the municipalities and schools based their planning, implementation, and evaluation of teaching and learning was released in 2004.

The core curriculum is always the product of its time and reflects the current values and philosophies of the political and social situation. Different core curricula contain a variety of assumptions about knowledge and learning, which lead to different pedagogical solutions and learning environments. In curriculum theory literature, there are several viewpoints on the curriculum creation process and whether or not to centralize it or allow for wide local latitude (e.g., Beane, 1997; Pinar, 2004). Schiro (2008) introduces four curriculum ideologies: 1) scholar-academic, 2) social efficiency, 3) learner-centered, and 4) social reconstruction.

In Finland, preparing a national level curriculum has traditionally been based in the context of scholarly academic ideology, although other priorities can be seen. As Schiro (2008) states, a human's essence is summed up by her ability to think, and the curriculum's intention is to excite and stimulate children to explore the world of knowledge and intellect, so that students understand the knowledge that they acquire. The emphasis of the Finnish curriculum has been on the holistic mission of guiding schools' educational thinking. According to Vitikka et al. (2012), the current curriculum system in Finland is has three main driving factors: 1) management by goals supplied in legislation and in the national core curriculum; 2) autonomy of municipal authorities in providing and organizing education, so that local curriculum is the guiding document at the local level; and 3) the utilization of teachers as valued experts who develop the school-based curriculum

as a source of different approaches to schoolwork (FNBE, 2014; Vitikka, Krokfors, & Hurmerinta, 2012).

Values Underlying the Core Curriculum

Curriculum reform is a dynamic process that requires a broad understanding of the current social situation; mere technical modification is not sufficient (Pinar, 2004). New curriculum content development is based on a common understanding of the basic educational mission of Finnish society, and is in that sense grounded in an ongoing evaluation and development process. The values behind the Finnish core curriculum for basic education are human rights, equality, democracy, natural diversity, preservation of environmental viability, endorsement of multiculturalism, individualism (both in terms of responsibility and as part of a community), and respect for rights and freedoms. The roots of the values originate from both Western classical and new humanism, and are incorporated into subject matter and everyday activities in schools (FNBE, 2004, p. 12).

New core curriculum (2014) values will continue to be based on the Finnish tradition, but the curriculum will put a stronger and clearer emphasis on the uniqueness of every child and high-quality education as a basic right. In preparation for the new core curriculum, the FNBE acts transparently and describes a) what conception of humanity, culture, and democracy imbues basic education; b) the cultural variety of both society and the school as a resource to be treasured, with criteria like cultural values a crucial part of the new curriculum design; and c) the necessity of sustainable way of living (FNBE, 2014).

The core curriculum is defined in Finland as a national level document, which is the outcome of a broad and lively national discussion and the concrete teamwork of different stakeholders like national and local education authorities, university professors, representatives from industry groups, the union of municipalities, teachers unions, parents associations, and student unions. During the reform process, teachers and other stakeholders are asked to give feedback and comments repeatedly to the different draft versions of the curriculum. At bottom, creation of the new core curriculum is a dynamic process of interaction of various factors, as is discussed in the following section.

The national core curriculum supports equal and high quality provision of education in all parts of the country. The core curriculum has two parts: 1) the general part of the core curriculum, which describes common goals for education, such as sustainable education or students' healthy development, and 2) the subject-specific parts of the core curriculum, which outline how teaching and the learning process in a given subject will support student development towards the goals. For example, the science section describes how students are supported in learning to formulate questions or draw conclusions based on evidence.

Different pedagogical models, teaching styles, and working methods are not included in the national core curriculum, but there are guidelines on how to construct versatile learning environments and select teaching methods. Still, the final decision is left to the local level authorities and teachers. The Finnish core

curriculum does not use any type of learning outcomes' standards but it describes what are aims of learning in the basic education. .

The Finnish core curriculum can be understood as an extensive ecosystem, where different areas are linked to each other, as a teaching-studying-learning environment with myriad dimensions. It includes the very concept of knowledge itself and an understanding of the psychological basis of learning. The core curricula support teachers to understand what is the most essential in each knowledge area and how it is constructed and acquired. It provides pedagogical bases for learning like activities, structures, and methods. It also provides technological foundations for how new technological solutions can benefit education.

Curriculum reform takes into account the social impact of globalization, climate change and environmental issues, technological change, the avalanche of information, and other changes in nature, work, and society. The growth of cultural and linguistic diversity in the country plays a central role. The new draft (2014) makes essential it incumbent to consider how all these changes might impact on children's personal growth and their learning environment throughout the complete lifespan.

Municipalities as Education Providers and Curriculum Creators

Basic education in Finland is provided by local authorities (municipalities), and schools operate under their jurisdiction. The core curricula are prescriptive to the providers of education, who are obliged to draw up the local curricula based on them (Halinen & Holappa, 2013).

However, local education providers have extensive autonomy in Finland; the municipal curriculum is decided by municipal education authorities. They are responsible for planning the local curriculum, organizing assessments, and using the data obtained evaluate how well the curricular goals have been achieved. The local-level curriculum is a dynamic and flexible document, designed at the grassroots level jointly with principals, teachers, parents, and local civil society organizations like athletic and cultural groups. Empowering and involving teachers to undertake this activity and engage in profound discussions are arguably even more important than the final document, because the joint nature of the process commits teachers and stakeholders to the local curriculum. This long-term process has a central role in school improvement and development. According to the PISA 2012 (OECD) school questionnaire, Finnish teachers feel that they are genuinely responsible for broad planning, development, and assessment. Nearly all teachers feel that they are responsible for both curriculum (96.0%) and assessment (97.0%) policies, far more than is the norm in the OECD as a whole, where the averages are 80.5% and 76.9%, respectively.

Teachers as Autonomous Executives of the Curriculum

In Finland, the last 30 years of research-based teacher training devoted extensive effort into educating teachers (e.g. Niemi, 2014a, 2014b), whose expertise is now of such a high level that they are able to make creative and pedagogically relevant choices. They decide which goals and content they emphasize, what kinds of methods and materials they choose, and how they arrange and create innovative learning environments. The teacher's role is especially important in the new curriculum process. While helping to create the new curriculum, teachers share their professional views on teaching, learning, and assessment. Teachers also discuss these issues with students and parents, other professionals working at the school, and stakeholders outside the school. They simultaneously ground their work in national guidelines and take into account the local needs of their students and the special features of their municipality and school. Through school-based planning, every school is connected to municipal and national education strategies.

Finnish teachers are capable professionals, whose role the in the educational context is close to the role of a teacher in "teacher leadership" (Katzenmeyer & Moller, 2001, p. 17). Lieberman (1992) and Harris (2003) have outlined the knowledge base of this type of teacher. She is goal-oriented and has a clear vision of school development and high-quality teaching, and moreover is able to work collaboratively and in interaction with other teachers towards those goals. She is able to consume research-based knowledge and has the deep understanding of the teaching and learning process needed to act as a curriculum specialist.

CURRENT INTERNATIONAL AND NATIONAL TRENDS INFLUENCING THE DESIGN OF THE CORE CURRICULUM

Education should always promote intellectual excellence. However, Finnish society is hardly alone in having changed rapidly and radically over the last ten years. In response, researchers, national level curriculum experts, and several stakeholders have questioned whether the planning of core curriculum should rely more on the social efficiency, learner-centered or social reconstruction ideologies, rather than only the scholar-academic viewpoint**.** The new core curriculum will place heavy emphasis on the learning process, a collaborative school culture, and communal modes of studying. Several international and national trends have influenced this round of core curriculum renewal, the three most of important of which are: 1) the 21st-century movement; 2) the role of ICT in education; and 3) new environments for learning. These trends are discussed below.

21st-Century Movement

The need for 21st-century skills or competences has influenced the design of the core curriculum for basic education in Finland as in many other countries. (ATC21S, Binkley et al., 2011; Kankaanranta & Vahtivuori-Hänninen, 2011; Salo, Kankaanranta, Vähähyyppä, & Viik-Kajander, 2011; Vahtivuori-Hänninen &

Masalin, 2012). The 21st-century movement seeks to redefine of the aims of education and how learning is organized in order to meet the demands of the 21st century. According to Binkley et al. (2012), individuals need both critical and creative thinking, and should learn to use a wide range of tools, like socio-cultural (language) and technological (ICT) tools for interacting effectively with the environment, for developing a sustainable future, to engage with and interact in a heterogeneous group, and to take responsibility for managing their own lives and acting autonomously

There are several examples of how different countries have taken 21st-century skills into account in their national processes. The University of Melbourne has coordinated a large assessment project called *Assessment & Teaching of 21st-Century Skills* (ATC21S, 2011). This international and interdisciplinary project involves six countries and several large companies. The results of the project include a framework for 21st-century skills. ATC21S divides skills into four categories: 1) Ways of thinking (creative thinking, critical thinking, learning to learn, and metacognition); 2) ways of working (oral and literal communication skills, team work, and collaborative modes of working); 3) Tools for working (performance and competence, media proficiency [creative, social, critical], and ICT skills); and 4) living in the world (active global and local citizenship, participatory and active agency as a part of the community, personal and social responsibility) (see ACT21s; Finnish National Plan for Educational Use of ICTs, 2010; Vahtivuori & Kynäslahti, 2012).

The European Council has coordinated a similar competence project at the European level. The project is supported by the European Schoolnet, a network of ministerial-level education authorities from individual European governments. In 2006, Schoolnet launched the Key Competence Network project (KeyCoNet, www.europeanschoolnet.org). The project searched for the key competences of school education that students would need in the near future.

What kind of learning environments and what sort of learning ecosystem are needed to enhance the achievement of 21st century skills? According to the first draft of the new Finnish curriculum framework, it is essential that learning environments take into account that children are living in a complex and globalized world, which is filled with and modified by different ICTs, media services, and games. The draft emphasizes that the skills and competencies (critical, creative, and social) needed for the exploitation of ICTs must enable the student to grow into an active member of society. The student is treated as an active learner. It is important that students learn set goals and solve problems both independently and with others. The new curriculum emphasizes that well-being, balanced development of personality and ability to manage daily life are also important goals of learning. ICTs provide many tools for active and meaningful learning.

The Role of ICT and Media in Education

In recent years, there has been increased debate regarding the notion that ICT and media have a new role in explicitly developing children's knowledge and skills.

They clearly play a major role in the lives of children and adolescents, molding their identities and worldviews in the process (Kangas, Lundvall, & Sintonen, 2008; Kotilainen 2011, 68-70; Livingstone et al., 2011; Vahtivuori & Kynäslahti, 2012; Vahtivuori & Masalin, 2012). What is learned, how it is taught, and how schools are organized must be transformed to respond to the wired realities and social and economic needs of both students and society as we face the challenges of the 21st century.

ICT skills and media proficiency have risen to become one of the main focus areas of our time. They are already a part of modern general education and an important tool for learning. ICT is also a tool of the mind, and can transform and expand learning environments and diversify methods of working. ICT's importance is clear from the fact that students use it to learn a great deal outside of school, in their spare time. ICT and learning should be able to connect better with the content that is the focus at school. ICT also influences the school culture; at its best, it supports communication and a collaborative learning community that includes parents or experts outside of the school. In the new 2014 curriculum, ICT skills are an essential part of general education and civics. In basic education, they are crucial to ensure that all pupils have equal opportunities to develop their expertise, ICT skills, and media proficiency.

The draft (FNBE, 2014) also emphasizes that children should be guided and encouraged into independent and critical search and use of information. Students are to learn skills that employ ICT in diverse and creative ways, and need to practice working with data, information, and knowledge. The aim is that students will be capable of creating new knowledge both on their and together with others, all by utilizing ICT effectively. ICT and digital learning materials are utilized in a wide range of subjects and in boundary-crossing learning. Collaborative working skills and communal modes of studying using ICTs are supported, and the tools that support each student's personal learning pathways are introduced.

Versatile Environments for Learning

The third movement which has influenced the new national core curriculum for basic education is the movement away from closed learning systems and environments towards open systems, of which quintessential examples are social network environments and crowdsourcing, which a form of peer production that is performed collaboratively on the web. Media is no longer only a tool to enhance and intensify education, but rather part of a sustainable and ecological way of living and a collaborative working culture. There has also been an intense debate in schools about a new wave of wireless and mobile media in education; one powerful contemporary trend is the unification of informal and formal education. The use of ICT in both schools and everyday life are converging, coming ever closer to each other. Learning now happens everywhere (Kumpulainen et al., 2010). The rise of games used in education and gamification, the use of game thinking in non-game contexts, is topical. The *2013 Gartner Hype Cycle Special Report* evaluates the maturity of over 2,000 technologies and trends

in 102 areas. According to Gartner's cycle for emerging technologies, gamification is one of the trends which is now in the peak of inflated expectations; i.e., it has reached the top of the interest cycle (Gartner, 2013). At the moment, many Finnish game companies are striving together with teachers and learners to create high-quality, game-based digital learning materials, solutions, and environments. A new viewpoint in the curriculum draft is the importance of discovering the joy of learning, which has a dramatically positive effect on student motivation. Educational games could have a central role in this effort. The curriculum draft (2014) emphasizes that schools need to create learning environments in which students can use a wide range of ICT tools in ever more creative ways. ICT is clearly here to stay; it is utilized systematically in basic education in all grades, in different school subjects, and in interdisciplinary topics.

COLLABORATIVE AND ITERATIVE PLANNING OF THE NEW NATIONAL CORE CURRICULUM IN FINLAND

From 2012 through 2014, several core curriculum documents were already being designed in collaborative and iterative processes. Each process of drawing up a core curriculum document involves broad-based cooperation with educational experts and numerous stakeholders, and includes support for local curriculum development efforts. (Halinen & Holappa, 2013; FNBE, 2014).

In August 2012, the FNBE launched the first draft of the preschool and basic education curriculum. The design of the new core curriculum is expected to be completed by the end of 2014, with local curricula completed before August 2016, at which point teaching and learning are supposed to be organized along the new curricular lines. The design of the new curriculum is based on the analysis of the competences that children and young people will need in the near future in their studies, in everyday life as citizens, and in working life. One of the most important questions in the curriculum process is how to develop teaching and learning that supports students to engage in the process of learning itself and to experience school-based learning in a more meaningful, exciting, and enjoyable way. The curricula will also address how students are supported to make connections between the subject matter knowledge they learn at school and the knowledge that they need for their own lives and futures.

Based on the recently-defined values of the new core curriculum and the national goals stipulated in the *Education Act* and in the *Government Decree*, the seven areas of extended, cross-cutting (common to all school subjects) competencies based on 21st-century skills are described in the core curriculum draft. They are:

1. Thinking and learning to learn;
2. Cultural literacy, interaction, and expression;
3. Taking care of oneself, everyday life skills, safety;
4. Multiliteracy;
5. ICT competence;

6. Working life skills and entrepreneurship;
7. Participation, influence, and responsibility for a sustainable future.

These competences consist of knowledge, skills, values, attitudes and the ability to apply them in different contexts. The aim is that learners have also the will to use their competences for ethical purposes. The objectives for these competencies are described as a part of core curriculum general goals for teaching and learning, and more detailed objectives for each grade group (grades 1-2, 3-6, and 7-9). Learning is defined in the draft curriculum document as a goal-oriented behavior based on the student's prior knowledge, skills, feelings, and experiences. Objectives for competence development are also included within the objectives of every subject. Each school subject promotes the thinking and learning to learn competence or the ICT competence, for instance, in its own specific way.

In addition to learning specifics, the student develops the skills to reflect on the learning processes, experiences, and emotions and at the same time develops new knowledge and skills. At its best, learning awakens positive emotional experiences, joy in learning itself, and becomes a creative activity that will inspire the student's development of her own expertise. Learning is both an integral part of an individual's comprehensive, lifelong growth and the building material for a good life (FNBE, 2014).

The role and status of pupil assessment and evaluation of education in Finland differs radically from most other countries. FNBE 2014 defines the main purposes of student assessment is to promote learning and to encourage the learner. Students are not compared to each other. The teacher is responsible for assessment and feedback but self-assessment and peer assessment are also regarded as crucial elements. There are no national tests or assessments that cover the entire age cohort, so schools cannot be compared to each other either. National assessments of learning results are based on samples of students in two or three subjects every year. The results of these assessments are used for development purposes, not to create ranking lists of schools.

CONCLUSION

Why is the core curriculum reform important particularly now for the Finnish society? Why should a well-functioning Finnish educational system be reviewed, reformed, and renewed? The world in which schools operate has undergone major changes since the beginning of the millennium, given the increased impact of globalization and the challenges for a sustainable future. The competencies needed for society and working life have changed, requiring new values and skills to confront that future. The content of teaching, learning, and school practices must be periodically reviewed and renewed in response to the changes in the operating environment and the skills it demands.

In the new Finnish core curriculum, schools are learning organizations that form part of the broader educational ecosystem. Schools are strong communities that learn themselves while supporting their students' growth and encouraging all of their members to learn (FNBE 2014). The goal is to strengthen each student's

positive and realistic self-image as a learner. The importance of self-reflection of individuals and the whole school community is regularly reinforced. ICT will serve as a useful pedagogical tool and learning environment to achieve all of the new goals. The features of high-quality teaching and learning defined in the curricula and in the global educational ecosystem are varied working approaches, interaction and empowerment, wellbeing and safety in daily life, awareness of diverse cultures and languages, and responsibility for the environment and the future as a whole.

The ongoing curriculum process will play a key role in the reframing of Finland's educational sector for 21st-century skills and competences. Reform of the national core and local curricula provides a common framework to discuss the changes taking place in today's world and to ensure that schools have a 21st-century teaching and learning ecosystem. Education builds our future by addresses future challenges and the skills that will be needed at that time. This change requires strong strategic leadership, from FNBE experts, local authorities, school principals, and teachers of all kinds. Furthermore, extensive amounts of shared thinking and collaboration are needed. (FNBE, 2014; Halinen & Holappa, 2013) The new national core curriculum crystallizes the vision of education for the future and the necessary expertise that will be needed in Finnish society. The importance of the core curriculum is limited not only to describing what should happen in the Finnish classrooms, schools, and municipalities, but also will voice the ideals, values and endeavors that the nation will undertake in the decades to come.

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