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Transversal competencies in Finnish basic education

Abstract

The article discusses the transversal competences in the Finnish national core curriculum for basic education and how they can be implemented in daily school life. The current Finnish core curriculum for basic education (2014) contains the objectives and core content of all school subjects. In addition, it introduces seven transversal competences that are seen as especially essential for participating in today's and tomorrow's society. With transversal competences, education aims to support students' growth as human beings, enhance competences needed for participating in democratic society, and support the development of a sustainable way of living. It is also essential to support students in recognizing their own strengths and developmental possibilities and in appreciating themselves. The article also reflects on how transversal skills can be evaluated and what role evaluation plays in these competences. The basic conditions of learning transversal competences are that all partners of the school community are aware of the importance of these competences.

Introduction

Wide social, economic, and technological changes globally and locally require policymakers, educational leaders, and practitioners to reconsider the aims and implementation of education in all countries. Finland, being among the top-level educational providers in the world, also needs to meet these challenges. Even though Finland has been very successful in terms of learning outcomes and scoring high on PISA (Program for International Student Assessment; OECD, 2017) measurements, the country's future needs do not allow us to maintain the status quo. For a long time, Finnish educational policy has been based on the principle that changes in society and within different disciplines require up-dates to the national core curriculum.

The new Finnish national core curriculum for basic education was approved in 2014, and schools had two years to design their own implementation plans. In August 2016, schools started using the new national framework and their own locally based plans. In the new national curriculum, transversal competences play an important role and are integrated into all subjects and all school activities. These skills or competences are much more generic than typical subject matter-based objectives. Many terms are used to describe these kind of competences, for example, transversal skills or competences (UNESCO, 2015), generic skills (Singh & Gera, 2015), twenty-first century skills (Binkley et al., 2012), and key competences (Looney & Michel, 2014; European Commission, 2017). They all refer to the behavior and activities needed in society today and in the future. They can include, for example, critical thinking, creativity, collaboration skills, cultural competence, and information and communication technology (ICT) skills (see, e.g., Binkley et al., 2012).

In the Finnish national core curriculum for basic education, the concept of transversal competences is used for these generic school objectives.

In this article, we introduce and discuss the transversal competences in the Finnish national core curriculum for basic education and how they can be implemented in daily school life. We also reflect on how transversal skills can be evaluated and what role evaluation plays in these competences. We begin by describing the Finnish curriculum system and concentrate especially on the latest core curriculum for basic education (2014) and the transversal competences it contains. After that, we describe how transversal skills can be implemented in schools and teaching and how they are assessed in the Finnish educational system.

Curriculum system in Finland

According to the national curriculum system, in Finland all levels of the system, that is, pre-primary, basic education, and secondary education, have their own national core curricula. These curricula are reviewed and revised approximately every 10 years. The national core curricula are based on educational laws (e.g., Basic Education Act, 1998) and decrees and the value basis expressed in these documents. Core curricula describe how the basic values and aims of the educational system should be implemented for the next 10 years. In the reform process, new contextual factors are considered and core guidelines determine how schools and educational institutions should prepare students for the future. The core curricula establish broad objectives for each level of the system. They also provide guidelines for how national aims should be achieved. At the local level, schools also design their own local curricula.

The national core curriculum acts as a legal and pedagogical foundation for municipalities' and educational institutions. Local level actors build their own, more detailed, curricula in which local contexts are taken into account. These local curricula are often pragmatic, and they are created in collaboration with principals, teachers, parents, and other local partners (Vahtivuori-Hänninen et al., 2014).

The whole Finnish education system is based on certain basic values and principles. The most important aim is to enhance equity in education. This can be seen as the leading principle and basic value of Finnish education policy, covering the whole educational system from early education to higher and adult education (Kumpulainen & Lankinen, 2016). The main objective is to provide all citizens equal opportunities to receive high quality education (FNAE, 2017a). This means that all students are offered high-quality education regardless of their domicile, the school they attend, or their parents' wealth or possessions. Finnish education policy also emphasizes the philosophy of inclusion. All students are supported individually so they can complete their basic education. In addition, students with special needs are included in mainstream schooling (FNAE, 2017a).

Another essential principle in the Finnish education system is lifelong learning. The objective of education is to support students' prerequisites for participating in education and otherwise developing themselves over their lives (Basic Education Act, 1998). According to Niemi and Isopahkala-Bouret (2012), the principle of lifelong learning covers all curricula and strategic plans from pre-school to adult education. Common

objectives at different educational levels include a readiness to continue studying at the next level, learning to learn, and ensuring learners' personal growth. The principle of lifelong learning also manifests as a certain flexibility in the educational system as there is no "dead-ends" in the educational system. Instead, people can always continue studying or supplementing their education despite earlier choices. As stated by Niemi and Isopahkala-Bouret (2012), "[T]he aim of the Finnish educational system is to enable an individual's education to continue" (p. 51).

The Finnish National Agency for Education (FNAE), a national development agency subordinate to the Ministry of Education and Culture, is responsible for preparing the national core curriculum. The design process is cooperative and a wide range of experts and actors, such as researchers, teachers, teacher educators, unions, parents, and societal interest groups, are asked to participate in the development process (Vahtivuori-Hänninen et al., 2014). The national core curriculum for basic education has been revised approximately every ten years since 1970, when the first national curriculum was published (Vitikka, Krokfors, & Rikabi, 2016). Although the national core curriculum provides a common, legal basis for the work of educational providers and institutions, it is not only a one-way steering document. Instead, reciprocal interaction occurs between authorities, municipalities, the Trade Union of Education, and individual schools in forming the educational framework.

Transversal competences in the new core curriculum for basic education

New modes of and needs for knowledge creation place urgent teaching demands on schools. Fast developments in technology and various disciplines require knowledge to be continuously updated. In addition, recent research on learning emphasizes learning as an act of knowledge construction, as well as a collaborative process. (see, e.g., Lonka et al., 2015; Niemi, 2015.) Consequently, the need to reframe objectives, teachers' roles, and teaching methods is now a topic of interest in many countries (see, e.g., Ananiadou & Claro, 2009).

The multilevel changes locally and globally and future demands of work and people's lives have been recognized and create the need for a new kind of student and citizen competence in Finland. The current Finnish core curriculum for basic education (2014) contains the objectives and core content of all school subjects. In addition, it introduces seven transversal competences that are seen as especially essential for participating in today's and tomorrow's society. According to FNAE (2014), citizenship, studying, and working require competence in connecting and crossing boundaries between different subject and knowledge areas. With transversal competences, education aims to support students' growth as human beings, enhance competences needed for participating in democratic society, and support the development of a sustainable way of living. It is also essential to support students in recognizing their own strengths and developmental possibilities and in appreciating themselves. The term "transversal competence" refers to a combination of attributes that consists of knowledge, skills, values, attitudes, and will. It also refers to the ability to using knowledge and skills in a context-specific way (FNAE, 2014). Next, the seven transversal competences and examples of their aims are briefly described (FNAE, 2014; Halinen, Harmanen, & Mattila, 2015).

Thinking and learning to learn

The aim is to support students to make observations, to seek, evaluate, edit, produce, and share information and ideas; to have the courage to face unclear and conflicting information; to seek innovative answers; to reflect on and evaluate their own learning; and to find joy in learning.

Cultural competence, interaction, and expression

The aim is to support students to grow up in a world where cultural, linguistic, religious, and philosophical diversity is part of life; to respect human rights; and to learn to communicate, modify, and create culture and traditions, as well as to understand their significance for well-being.

Managing daily life, taking care of oneself and others

This competence refers to health, safety, human relationships, mobility, and transport. The aim is to support students to act in an increasingly technological daily life, to manage their personal finances and consumption, and to understand their influence on their own and other people's lives.

Multiliteracy

The aim is to promote students' capacity to interpret, produce, and make value judgments across a variety of different texts, as well as to interpret the world around them and to perceive its cultural diversity.

ICT competence

ICT competence is viewed as an important civic skill and as a part of multiliteracy. The aim is to support students' practical competence, responsibility, information management, creative work, and interaction and networking.

Working life and entrepreneurial competence

The aim is to support students to gain positive attitudes towards work and working life, to understand the significance of the competence acquired in school and in leisure time for their future careers, and to collaborate and become acquainted with different actors outside of school.

Participation, influence, and building a sustainable future

The aim is to support students to take part in planning, implementing, assessing, and evaluating their own learning, as well as to learn to work together. In addition, the aim is to practice democracy, decision-making, and responsibility, as well as to learn to recognize the significance of one's own choices and actions for oneself but also for the local environment, society, and nature. Additionally, the aim is to enhance a sustainable future.

Integration of transversal competences into teaching

According to FNAE (2014), transversal competences should be integrated into the teaching of every subject. Different cross-curricular methods are seen as essential in supporting the development of transversal competences. In Finland, the terms *holistic education* and *curriculum integration* (in Finnish: *ehyttää*) are used to refer pedagogical approaches that emphasize cross-curricular methods in exploring different themes and phenomena with students. The aim of curriculum integration is to enable an

understanding of the connections and relationships among studied issues. It also seeks to help students connect information and skills from different subjects and organize them as meaningful unities (FNAE, 2014).

Curriculum integration requires pedagogical approaches that focus on exploring real life phenomenon and themes, especially by crossing boundaries between different subjects (see, e.g., Kerry, 2015). According to FNAE (2014), duration for each issue studied and the ways content and working methods are selected can vary depending on students' needs and the aims of instruction. Integration can be implemented in teaching, for example, by simultaneously studying the same theme in two or more subjects or having theme days, field trips, or different kinds of joint events. At least once a school year, every school and every grade level must have a theme or project, namely a multidisciplinary learning module that explores a selected theme from the viewpoint of different subjects. Schools themselves decide the aims and content of the project, as well as how the activities will be organized. Essential is to engage students in planning and organizing the modules (FNAE, 2017b; Vitikka, Krokfors, & Rikabi, 2016). Figure 1 describes how multidisciplinary learning modules and transversal competences are connected with schools' aims and work.

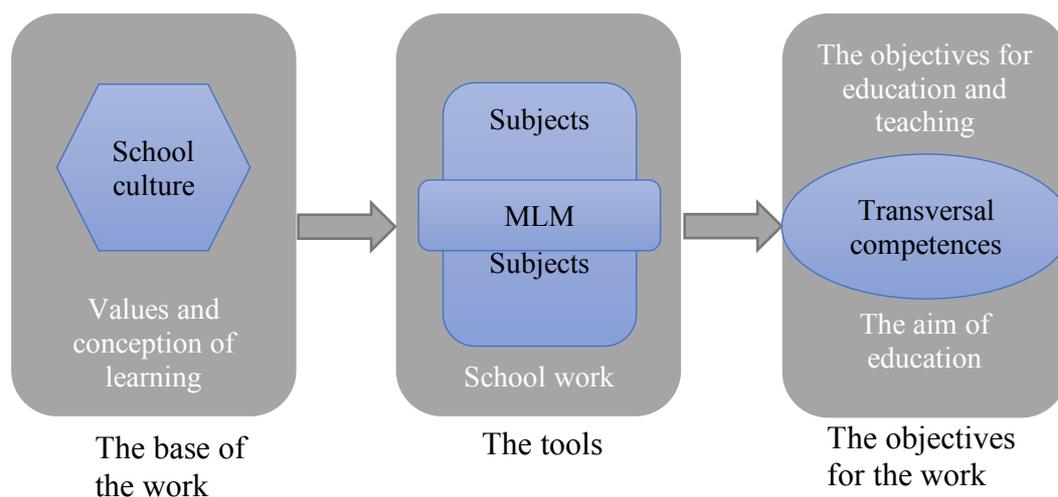


Figure 1. Multidisciplinary learning modules (MLM) and transversal competences as part of schools' aims and work (FNAE, 2014).

According to FNAE (2014), the multidisciplinary learning themes should be meaningful and interesting for students. They should help students to perceive the connections among different subject, topics, and themes and connect them to "real life" situations. Additionally, transversal competences can be practiced in various kinds of joint projects (see, e.g., Harju, Viitanen, & Vivitsou, 2014) and can enable connections with actors outside school.

In one collaborative learning project in Helsinki metropolitan, a fourth grade class collaborated with local organizations: the kindergarten, library, and a senior home. The aim of the project (see Kukkonen & Lavonen, 2014) was to network with local partners, obtain experience by participating in their daily activities, and practice transversal competences, such as ICT skills and interaction. In addition, the essential element of the

project was to explore ICT's role in supporting learning and teaching and to learn to use digital devices and applications beneficial for learning.

At the beginning of the project, the participants met, planned and organized the project. The meetings were essential for creating a joint understanding and for hearing every partners' ideas, experiences, and wishes for the project. After the framework was created, 10 mentor students from fourth grade were selected. They practiced using digital devices and applications and taught their schoolmates and teachers to use these tools. The students also visited the partner organizations involved in the collaboration. For example, at the senior home, students showed residents presentations, poems, and videos that they had made. They also played digital games on tablet devices together with the seniors. The presentations and games enabled collaboration between students and seniors and provided a basis for discussions. In addition, students interviewed the seniors. These interviews were videotaped, after which students edited the videos and showed the final versions to other students at school. By interviewing and videotaping the interviews, it was possible to share and transfer valuable cultural heritage from one generation to another. During the project, essential collaboration and interaction skills were also practiced: meetings with senior citizens taught good manners and listening skills and enabled the helping of others. Also, senior citizens found the visits pleasant. The shared moments provided joy and brought change from everyday routines. (Kukkonen & Lavonen, 2014.)

Schools as learning communities

The latest core curriculum for basic education (2014) highlights the importance of school culture in enhancing the learning and teaching of transversal competences. To support students' comprehensive learning and wellbeing, activities and working methods within the school culture have to parallel these aims. In the new core curriculum, much emphasis is thus given to the development of school culture. Schools are viewed as learning communities where every person can actively learn, explore, and participate. This requires new ways of viewing learning and teaching. The idea of schools as learning communities is essential for teaching transversal competences. These competences cannot be taught merely by describing their importance. They must have a real joint life in school communities.

Next, we discuss how the concept of schools as learning communities appears in the work of teachers, students, and school partners in connection with transversal skills.

Teachers and other school personnel

Teachers have a central role in implementing the curriculum. Even though the core curriculum gives teachers guidelines on how to develop their own pedagogical praxis (see, e.g., Vitikka, Krokfors, & Rikabi, 2016), concrete support for carrying out teaching in the new teaching environment may still be needed. Kujamäki (2014), who has studied cross-curricular teaching in Finnish basic education, notes that even though the idea of curriculum integration is seen as essential, it is still easier for teachers to carry out subject-centered teaching, as it may seem to be an easy, safe, and ostensibly effective way to teach. Cantell (2013) agrees with this. According to her, curriculum integration or student-centered, phenomenon-based working methods do not, by themselves, make

learning “new” or “sterling.” Instead, the importance of meaning, goals, thinking, understanding, and applying knowledge in learning processes should be emphasized and made more visible to the whole learning community. Thus, deeper changes to working methods and ways of perceiving learning are needed. This change also concerns how transversal skills are integrated into the daily lives of school communities.

In Finland, teachers enjoy great autonomy, and they have the freedom to make their own pedagogical choices in the classroom. As stated by Vahtivuori-Hänninen et al. (2014), teachers “decide which goals and content they emphasize, what kinds of methods and materials they choose, and how they arrange and create innovative learning environments” (p. 25). However, the current curriculum suggests that schools collaborate with every school partner. This challenges schools to plan and decide how teachers—and the whole school community—can work together and carry out this collaboration.

Students

The new core curriculum (2014) emphasizes the importance of joy and curiosity in learning processes. Teaching should be developed in such a way that it supports students to engage in the process of learning and to experience school-based learning as more meaningful and enjoyable. Active participation is also seen as important. Students should be supported to actively engage in school activities (Vahtivuori-Hänninen et al., 2014; FNAE, 2014). The core curriculum outlines that students should be invited to work with teachers to plan integrated multidisciplinary learning modules and other events in which transversal competence can be learned. Students should be supported, for example, in learning to set goals and evaluate their own competencies and learning.

Another important aim is to foster interaction between students and other partners of the school community. Students are encouraged to participate in creating and building learning environments and projects in schools. A supportive, collaborative atmosphere that includes meaningful learning content can engage students and inspire them to find joy in learning and to study their best.

School partners

Teachers’ work includes collaborating and networking with different partners. A central partner that teachers work with is parents or custodians. Parents are also asked to be involved in the process of developing local curricula and to be partners in providing forums for transversal competences (FNAE, 2014).

Much learning and teaching occur outside the classroom. Thus, local partners are also asked to join in planning and implementing of educational activities. From the perspective of promoting transversal competences, this can happen, for example, by extending teaching outside school to museums or local workplaces. School-community collaboration can support students’ sense of community and learning of transversal competences (Kukkonen & Lavonen, 2014). Although teachers can often freely decide how to expand their teaching outside the classroom, some mandatory events or learning forums are mentioned in the core curriculum. For example, students in lower secondary education must participate in a job familiarization period during which they can obtain

valuable knowledge about working life and make connections with local companies and employers (FNAE, 2014).

How to assess learning outcomes of transversal competences?

The Finnish evaluation policy is often described as an improvement-led or enhancement-led system (FINEEC, 2017; FNAE 2017b; Niemi & Lavonen, 2012). The main aim is to use evaluations as a tool for raising the quality of operational processes and seeking efficient and effective ways to achieve high outcomes in teaching and learning. In the national core curriculum, there are no standards for transversal competences—neither national assessments nor testing for transversal skills. The main responsibility for assessing learning outcomes is given to local schools and teachers. The new national curriculum states: “Based on the law for basic education, the task of student assessment is to guide and encourage students in their learning and also develop students’ ability to self-evaluate.” The purpose of assessments is to enhance students and motivate their learning. The national core curriculum also emphasizes that modes of assessments should be versatile (FNAE, 2016, p. 65).

The Finnish National Board of Education (recently the Finnish National Agency for Education) had already outlined this approach in the late 1990s (National Board of Education 1990, p. 12):

Currently, the focus is placed on the overall effectiveness of the service provider. Instead of the quality of specific products, attention is now paid to the whole organization’s capacity to produce goods and services of high quality. The interest in educational quality is not a separate or temporary phenomenon but a part of larger macroeconomic trends.

The aim of the national evaluation system is to support the local or municipal education administration and the development of schools as goal-oriented and open units, as well as to produce and provide up-to-date and reliable information on the context, functioning, results, and effects of the education system. National testing, school ranking lists and inspection systems do not exist. The Finnish National Education Evaluation Center (FINEEC) organizes sample-based learning outcome assessments among schools in order to get an overall picture on the national level in math and mother tongue, and sometimes also in other subjects matters based on national evaluation plans. It also arranges thematic evaluations covering wide aims of the educational system. Transversal competences could be this kind of a topic in the future.

The principle of the enhancement-led evaluation also concerns students’ learning outcomes and provides grounds for assessing transversal skills. The National Agency for Education (FNAE, 2014) emphasizes that student assessment and evaluation of learning outcomes are encouraging and supportive by nature. In this article, the concepts of assessment and evaluation are used synonyms even though in a British language areas they can have a different meaning depending on if grades are used and if a purpose is summative or formative. In the Finnish system, the main purpose of all assessments is formative and the schools have freedom to give grades or written feedback until the end of the 7th class. In the last years (8th and 9th) of basic education, criterion-based grades

are used in term reports (FNAE, 2014, p. 68). Transversal skills are not evaluated with grades in these reports. They are integrated parts of students' working competence and school behavior in different subject matters or wider modules.

In the schools, an enhancement-led evaluation culture should be developed (FNAE, 2014, p. 65) in accordance with the following outline:

- Providing a school climate that is encouraging and supports active efforts,
- Creating a working culture that is interactive and communicative and enhances students' participation,
- Supporting students with a purpose so they can start to understand their own learning processes, and making students' learning progress visible throughout the learning process,
- Ensuring the justice and ethics of assessments,
- Ensuring the versatility of assessments,
- Utilizing the knowledge derived from assessments for the planning of instruction and other school activities.

Most of an assessment happens through the interaction between teachers and students. It is important that students receive guidance and encouraging feedback on their progress. The national core curriculum stresses that successful experiences encourage students to learn more, but failures are also an important part of learning processes. The main purpose of assessments is to provide individual feedback that enhances student learning. It is important that students are guided to observe their own and joint learning processes and to provide constructive feedback to their peers and also to their teachers. The aim is for students to learn self-assessment skills during basic education, to develop their skills in using assessments as tools for improvement, and to learn to give and receive feedback in developing their work and learning. Close cooperation with parents and home life is also seen as very important when creating schools' assessment culture. These main national principles of assessments likewise provide outlines for assessing transversal competences. How schools and teachers assess them depends on local circumstance.

Next, some examples will be introduced. Some are related to students' self-evaluation, whereas others are focused on multidisciplinary thematic study modules.

Students' self-evaluation and transversal competences

Self-evaluation is an important ability for students to learn. The aim is that students follow their own progress on subject matter topics, but self-assessment is also important for learning transversal competences. The national curriculum (FNAE, 2014, p. 51) says that when assessing learning processes and outcomes students should learn:

- What was the purpose to be learned?
- What have they already learned?
- How they could enhance their learning and improve their performance?

Identifying and setting aims for one's own learning is an essential part of transversal competence learning, multidisciplinary study modules, and all project-based learning. The new core curriculum emphasizes the idea of a learning community in which students

and teachers together set objectives for a new project. Becoming aware of objectives provides a basis for assessing how they were achieved.

Evaluation and assessment of transversal competences is a new issue in most countries. The European research project, The Assessment of Transversal Skills 2020 Project, states, "There is an urgency for education systems to explore new approaches and to design new activities that will equip learners with core transversal skills and competences to match the demand of a 21st century society (see e.g. Danube University Krems, 2017)." The project is working to develop and test assessment approaches and practices across a range of real-life classrooms in 10 pilot countries by working with 250 schools involving 20,000 learners. The project has sought methods through which technology-based tools could support the assessment process for lower secondary students and teachers. According to the project, e-portfolios can work as important tools for identifying learning processes for transversal skills.

In Finland, e-portfolios are already in use in many schools. One example is in the city of Helsinki, where some schools want to support students to make their own learning documentation in the portfolio. New research projects also want to develop technology-based applications for students' transversal competences and self-evaluation of how they have progressed in them. The basic condition of all these applications is that students set objectives for their learning and have a good understanding what these objectives are. Teaching transversal competences requires that students are fully aware of the competences in the curriculum.

Multidisciplinary study modules and learning to give feedback

The new multidisciplinary modules are often projects in which many subject matter topics are integrated. The projects can involve any subject. Transversal skills are not separate entities but are integrated into the projects' implementation. An example of this kind of approach is Digital Storytelling (DST; Niemi & Multisilta, 2016; Vivitsou et al., 2016; Harju, Viitanen, & Vivitsou, 2014), a pedagogical method that allows students' learning to meet the needs and requirements for 21st century skills by making student-driven knowledge creation possible in school. The aim is students' active learning and knowledge creation by designing, filming and editing videos that are related to the module themes. This approach provides new ways to connect formal and informal learning environments. Students work in small groups and share their products with their peers in the same or other classes, and even globally (Niemi & Multisilta, 2016; Vivitsou et al., 2016). The pedagogical method of DST also consists of students giving feedback to other groups' products. The DST project contains several transversal competences, which are described in the following summary (Symbols T1–T7 refers to different transversal competences):

Thinking and learning to learn (T1) competences are practiced when students make observations; seek, evaluate, edit, produce, and share information and ideas; and reflect on and evaluate their own learning. *Cultural competence, interaction, and expression (T2)* are essential parts of DST because everything happens in groups, and many themes of the video products can focus on wide societal, cultural, and ethical themes (e.g., recycling, homelessness, and animal testing). The work of the DST projects can also be related to many themes that promote *managing daily life and taking care of oneself and others (T3)*.

Because students learn recording, editing, mixing, and applying various information sources, they also learn *multiliteracy (T4)* in the context of multimodality, where digital and traditional literacies are connected and integrated with *ICT-competence (T5)*. DST connects formal and informal learning settings, and it can enhance *working life and entrepreneurial competence (T6)*. Finally, the project supports *participation, influence, and building a sustainable future (T7)*, as well as supporting students to take part in planning, implementing, assessing, and evaluating their own learning and to learn to work together.

The research group that promoted DST as a pedagogical method found that teachers and students need support and tools for assessing the process and products, and it started to create a rubric of learning outcomes. The evaluation tool has to take into account multiple dimensions of learning, such as 1) students' storytelling skills, 2) the cognitive domain of learning, 3) social skills, and 4) digital competence. The rubric enables evaluation of the increasing levels of students' understanding within the four dimensions. On the other hand, by using such a rubric, students learn what is being evaluated. In this way, the rubric can also be used as a tool to deepen digital storytelling and learning.

The basic conditions of learning transversal competences are that all of a school's community partners are aware of the importance of these competences. In Finland, teachers and students are learning together to set objectives for these competences. At the local level, objectives must so concrete that they provide a basis for evaluating how well they have been achieved. Evaluating the learning outcomes of transversal competences is not a purpose in itself; it is only a means for developing education and learning for the future. For this purpose, new tools and methods are required. The work for this has been started, but there are still many open question and challenges.

Conclusions

All teachers in Finnish basic education are required to have a master's degree. In addition, teacher education is highly research based. Even though these features create a strong base for teaching, rapid changes in society and the world require teachers to have regular opportunities for learning and development. According to the newest plans in the field of Finnish education, teachers should be given tools to grow as future-oriented and innovative professionals that utilize the new learning environment and constantly develop their own competencies and work community. Emphasis is also placed on sharing. The aim is to enhance teachers' learning, which occurs more and more in school teams and networks.

To best enhance students' learning of transversal competences, collaboration within the school community is needed. This requires collaboration among teachers and connections and networking with different partners outside schools. It is also essential to support students' growth as active participants in the school community and more broadly in society. Students are encouraged to join the planning and creation of teaching and different school projects, and their viewpoints are taken into account in developing schools' learning environments. As stated by the Finnish national curriculum (FNAE, 2014), schools in Finland should be developed as safe, engaging, and supportive learning communities in which students can learn the competences, skills, and knowledge they will need in the future.

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