

Review of the subject curriculum – The TEACHING SUBJECT TECHNICAL EDUCATION

1. Are the learning outcomes and educational content appropriate for the developmental age of students?			
1 – inappropriate	2 – appropriate to a certain extent	3 – mostly appropriate	4 – completely appropriate
Please explain what should be modified if Your answer is 1, 2 or 3.			
<p>The learning goals are very ambitious in relation to the student's age, learning background and the number of lessons. As a subject, technical education is well justified and important subject which naturally combines different disciplines. If other integrated subjects cover the subject matters at the same time, this works well. This requires effective and competent guidance and effective teaching arrangements as well as the student's self-guidance.</p>			

2. Are the learning outcomes and educational content appropriate for the number of lessons?			
1 – inappropriate	2 – appropriate to a certain extent	3 – mostly appropriate	4 – completely appropriate
Please explain what should be modified if Your answer is 1, 2 or 3.			
<p>The description of this subject adds up to a demanding set. The two-hour lessons are functional, because in practice, time for classroom activities is needed when learning skills. Probably the learning outcomes will be limited to the knowledge-level. Hands on training and repetition needs a long time and enough lesson hours in different grades. The learning goals seem to be too demanding for this age group. The subject is combining the aims and content of various subject areas as well as many every day related skills and phenomena. The practical measures are extremely demanding for this age level. Perhaps at high school level these goals could be reached in such a short time. Gifted students may be able to partly reach the described learning level. Achieving a level of expertise requires dedication, additional courses and after-school activities.</p>			

3. Are the learning outcomes and educational content relevant and based on scientific knowledge of the subject area?			
1 – no	2 – to a certain extent	3 - mostly	4 – completely
Please explain what should be modified if Your answer is 1, 2 or 3.			
<p>Content and goals are appropriate as such, but the learning goals are a bit too demanding for younger students at this level. For example, Finland does not have a corresponding subject or goals for this age group. In Finland, these more demanding objectives and issues belong to upper grades in basic education and are included in several subjects. In Finland, the goals are mentioned mainly in natural sciences; Physics and Chemistry (electronics at least as a theoretical entity). In the subject of Crafts, these things are learned in hands on activities, especially in Technical Crafts. It is good that the matter is studied both from a scientific and a practical point of view.</p>			

4. Are the domains that are necessary for the subject area well represented?

1 – no	2 – to a certain extent	3 - mostly	4 – completely
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Please explain what should be modified if Your answer is 1, 2 or 3.

Subject / curriculum is described very broadly, featuring a different curriculum culture compared to the Finnish. Necessity and importance of the subject is widely justified. This is probably good because the subject is completely new in Croatia?

In Finland Health Education is taught as an independent subject. This topic could also have some health-related parts and hence the potential for learning well-being. In some areas, it would also be good to consider how technology affects people and human well-being.

5. Does the curriculum contain an adequate ratio of the breadth and depth of knowledge, skills, and attitudes in the subject area?

1 – no	2 – to a certain extent	3 - mostly	4 – completely
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Please explain what should be modified if Your answer is 1, 2 or 3.

Well done, concrete and clear entity.

One interesting thing: This is a complete set for the school-level. Means have also been described and they are very demanding. Implementation requires a great deal of material and knowledge resources at the school level. Implementing the curriculum is also an economic issue. It requires good financial resources - tools, materials, teachers' knowledge, etc.

6. Does the curriculum, especially as regards the proposals in chapters F and G (Learning and teaching, Assessment), enable the acquisition of the listed learning outcomes?

1 – no	2 – to a certain extent	3 - mostly	4 – completely
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Please explain what should be modified if Your answer is 1, 2 or 3.

Double lessons are an appropriate way to implement the syllabus in teaching.

Assessment-thinking is very modern and multidisciplinary. The four-tier criterion is descriptively written. The scale is very useful.

Some freedoms are given locally, among others guidance is given to forming the groups. The group size seems to be appropriate. The school offers activities where the student achieves development levels.

The teacher's task is to consider the student's own interest and know-how. This is just the right starting point and requires the teacher's experience of the subject, teaching arrangements and a good touch of the student's knowledge.

Teachers create a curriculum for the activities – the teachers support and guide pupils to adopt knowledge and skills.

7. Are the proposed learning outcomes and other elements of the curriculum in line with the European and global recommendations?

1 – no

2 – to a certain extent

3 - mostly

4 – completely

Please explain what should be modified if Your answer is 1, 2 or **3**.

The content in the description is in line with the recommendations. The exception is the age of pupils. The curriculum is in line with, for example, American recommendations. In Finland, there is not exactly a corresponding level of technical education although goals and content can be found in different subjects and in upper grades. The requirement level might be high for students of this age. Electrical safety is probably appropriate for this age. It is not possible to understand, for example, the complexity of electricity in home. Teachers competence and teacher training are important for this subject. In this document, it would also be good to include the issues that are decided locally. Which aspects should be decided and described in the local or school level curriculum? (The required cooperation, division of duties and responsibilities, how is the implementation of the task monitored and developed)

8. Are the learning outcomes and educational content comparable with those in Your country?

In Finland, we don't have the same subject. There is similarity in many subjects, especially in the fields of Crafts and ICT, as well as the subject of Natural Sciences (Mathematics, Physics, Chemistry, Home Economics). Crafts and Home Economics as school subjects have the same kind of principles in applying knowledge to practice.

Teaching of Crafts began in 1862 in Finnish schools. Finland has been the first country in the world having Crafts as a school subject thanks to Uno Cygnaeus. Also, in the end of the 1800s, both the boys and girls were initiated in the field of Home-economics that gave readiness for everyday-life that promotes well-being. So, Finland has a long tradition of activity based learning and application of knowledge to skills. The need for Crafts and Home economics emerged from everyday needs both at work and at home. In Finnish schools, artistic and practical subjects and manual skills are still important. Skills are taught to all pupils throughout the basic education because manual and everyday skills are important for everyone.

9. Please suggest other modifications if You consider them necessary.

Certain segments develop in different age groups in different grades. Could the target level be decreased and matched the development of the competences? Could the learning path be described throughout the whole school education? It would be good to describe where the other subjects integrate this knowledge and skills into the pupil's learning path.

Could it be possible to start studying certain issues earlier, when this curriculum would be lightened in some parts? It would be important to put things into perspective earlier and create orientation for deeper learning.

An example: Continuum of the pedagogy in Home Economics/Basic education, Finland

The process of learning and the importance of defined skills are emphasized. The continuum of the Home Economics education from pre-school education to the primary education is a learning path for cumulative learning challenges, where in pre-school the typical activities of Home Economics are introduced through everyday routines and play.

Pedagogy in Home Economics is guided by what, how and why - issues with priorities ranging from age to age. Learning challenges, responsibility, independence and creativity are growing in the different stages of the learning path. Growing accountability for self-study gradually takes place as well as perceiving pupils own learning process. Responsibility, independence and creativity are growing through the studies.

HOME ECONOMICS:

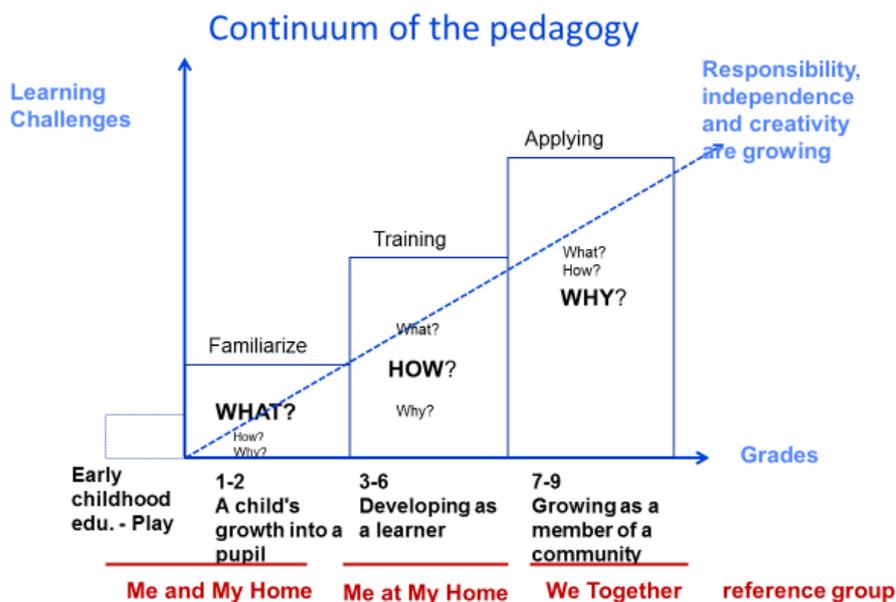
Grades 1-2. To Familiarize at school: Me and My Home. Pedagogy – WHAT? -level, Concept/notion

Grades 3–6: Developing as a learner: Me at My Home. Pedagogy – HOW? – level, Training

Grades 7–9: Growing as a member of a community: We together: – WHY? – level, Applying knowledge

Grades 7-9 is to strengthen growth as a member of the community and family, to support the completion of studies in basic education and to develop the skills needed in studying, working life and society. Care is considered to create good conditions for postgraduate studies as well as for student guidance and encouragement for postgraduate studies. Students are encouraged to understand their own development and to accept themselves and to take responsibility for themselves and their own studies, friends and the surrounding environment. The versatility of working methods as well as the expansion and diversity of the learning environment will strengthen student motivation.

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10. Your conclusion about the proposed curriculum.

The structure is good, complete and professional. Of these three curricula presented, the curriculum for Technology is perhaps the most explicit and adaptable for teachers. The goals of the subject and student's competence are ambitious. The total number of lesson hours is few, if there is teaching for 35 lesson hours per year for 4 years. The goals are very ambitious in relation to the amount of lesson hours and the age of pupils.

It is important to define who is teaching this wide-ranging and pedagogically demanding subject in Croatia. The whole chain of knowledge should be considered simultaneously if it is a new subject. Appropriate teaching staff must be provided with basic and in-service training of teachers. Subject teacher needs good professional skills and co-operation with the other subject teachers to complete a demanding set-up. It's good to have a plan on how the subject teachers are committed to the new goals of the subject. There could be also a plan to train principals / school leaders to evaluate the implementation of the curriculum.

School work could be organized in the way that working together and sharing the workload is possible. Co-operation helps to achieve school's educational goals. Successful and respectful cooperation between adults - including collaborative teaching - works as a model for pupils.

This curriculum opens new paths, it is bold and necessary. There are many global problems that can be solved. In these global phenomena, the role of technology and knowledge is essential. This description of the teaching subject of technical education has a modern and solution-centered mindset and, above all, relevant practical elements.

The national core curriculum for basic education has been reformed in Finland. The new curricula for compulsory basic education are implemented in all municipalities and schools as of 1 August 2016. The Finnish National Agency of Education introduced the National Core Curriculum in 2014. The national curriculum is determined always by the Finnish National Agency of Education. It includes the objectives and core contents of different subjects, as well as the principles of the pupil assessment, special-needs education, pupil welfare and education guidance. Life-long learning is in focus and learners should experience success and joy of learning. The new curriculum will assist to build the sustainable future together.

In the Finnish curricular reform reflection on the changes in the surrounding world and their effect on children and young people, learning school work and life skills played an important part. The school must take proactive role in building the future. The school also have an important role in defining what kind of future they should be involved in constructing. Answers were sought to the question how to best promote learning. The active involvement of pupils, meaningfulness, joy of learning and school cultures that promote enriching interaction between pupils and teachers are at the core of the new curriculum.

In Finland, Curriculum Reforms are implemented through extensive stakeholder cooperation. The main principle is to build the future of education together – the reform is partnership-based and transparent planning process. The new reform for basic education was built through the open process and long-term partnerships with local stakeholders, national ministries and education authorities. The curriculum reform included experts in the field of research, teacher training and teaching, as well as key expert organizations and authorities. This provided a broad knowledge base and a team of experts to commit and influence the contents of curricula. Everyone were closely involved in the planning process.

The core curriculum was outlined by multidisciplinary working groups supported by online consultation groups. Teachers were represented in each working group. Education providers were asked to provide feedback via three surveys. Key stakeholders provided their official opinions on the new national core curriculum during the process.

In Finland, the practical implementation of the curriculum is done by the education providers, mainly municipalities. The education provider is responsible for making a local curriculum describing local implementation, disseminating objectives and core content for different grades, and describing the learning environment, key methods for guidance and classroom work as well as evaluation / follow up.

Curriculum reform is presumably a national process in Croatia, so the curriculum is national and evaluated nationally. Thus, this curriculum is sufficient for implementing. The central question is how all steps in the reform process support the implementation of this curriculum.