Development of the idea of an innovative school in Latvia: A case study

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Abstract

This paper analyzes Latvian school experience within the Innovative School program organized by Microsoft Latvia. A research has been done in one of the schools in Latvia, Kurzeme Region with the aim to find out the understanding and willingness of teachers, students and parents to implement innovative school ideas at their school. The quantitative method of data collection questionnaire has been used to do the research. The survey revealed that the focus in creating the innovative school model should be on the improvement of teachers' qualifications, their foreign language and information technology skills; 47% of students' parents consider it appropriate to introduce teaching of the third foreign language at elementary school to improve the learning content/curriculum.

Keywords: Innovative school, school of the future, essential guidelines for innovative school development.

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1. Introduction

The education sector has entered the 21st century and is facing new challenges: the world is changing very rapidly; students are in need of interactive knowledge and skills providing more than just achievements in a particular subject. Throughout the world, there is a constantly growing number of children browsing the internet, downloading music, uploading their own videos, communicating in chat rooms, writing about their current life events in their blogs, reading books online. In such a highly integrated world, young people are expecting the information services and products to be tailored to individual needs and here lies the 21st century education's challenge. It is to create an approach in the educational process and its content, which is binding and interesting, easily adaptable, associated with youths' after-school life and with acquisition of skills with a view to find employment in the future.

Innovative schools originated in Philadelphia, in the United States, when Philadelphia School Administration in collaboration with Microsoft experts implemented the first major project in 2006. Microsoft experts were ideologically involved at all stages of schools establishment creating "innovative school's" prototype, which could then be used as a model for education reforms in other schools around the world. The interior of the school was completely refurbished to comply with the requirements of modern technology. All parts of the building, including cafes, corridors, and foyer were made suitable for learning. All learning materials in the school were only in digital form, each student was assigned a portable computer. A special commission of cooperating teachers, local university, and business representatives was set up to develop the syllabus for the School of the Future. One of the basic principles of the syllabus is based on the individual work through interdisciplinary projects instead of traditionally accepted individual disciplines. (Murray, 2006)

Despite the fact that the School of the Future in Philadelphia did not give the expected results, which can be explained by both various technical problems and difficulties in selecting syllabus (Stansbury, 2009), the students, however, mastered the most important 21st century skills in one-year time. These included critical thinking, cooperation, information, and communication skills, ability to navigate through the world's events, problem solving, and civil society skills (Stansbury, 2011). Introduction of reform and innovation is a great challenge in any field, we have to agree with Schleicher (2015) though that "innovation in education is not just a matter of putting more technology into more classrooms; it is about changing approaches to teaching so that student acquire the skills they need to thrive in global competitive economies" (p.61).

Education staff has always sought and will seek ways to make the learning process more accessible, attractive, and relevant to the current era and demand. An innovative approach to learning is developing with various initiatives in Latvia. This case study is related with implementing innovative ideas into Latvian schools.

Schools are using new teaching methods, modern technology is being used increasingly, and school life is becoming more open, although technology alone does not solve the problems of modern education. One needs to understand how to use technology as a specific solution in a particular situation. One of the allies in this process of change is Microsoft, which has been a partner for schools willing and capable of change for several years. (Pļaviņa, 2011)

Using Philadelphia's School of the Future project's experience gained, Microsoft has developed a reform methodology for innovative school establishment ("Creating Innovative Schools: Microsoft's World Tour School program", n.d.), which is used in several pilot schools in different countries of the world ("Creating Innovative Schools: Microsoft's World Tour School program", 2013). Based on the experience of these schools school communes and centers are created, which are characterized by an interest in changing current models of schools, syllabus and learning process.

Updating innovative school system need in Latvia, in 2010 a custom research project "Innovative School System Structure Implementation Challenges and Opportunities" ("Inovatīvas skolu sistēmas struktūras īstenošanas izaicinājumi un iespējas, 2010) Microsoft implemented in Latvia. Based on the experience of other countries and taking into account the current situation in the Latvian education, description of the structure of the innovative school system was developed, revealing at the same time the essential guidelines for innovative school development:

- Integrated information and communication technologies incorporated in teaching and school everyday life. All information about the learning process and the necessary learning materials are available at the school site, which can be used by all teachers and students and parents' in all-round communication.
- The integration of technology in all subjects where each teacher integrates information technology into their classes and as a result, pupils learn computer skills in the teaching process as a whole. Students perform tasks on personal computers individually preparing digital presentations. Students submit homework and teachers correct those digitally. Students cooperate with their peers from other countries and create joint projects, etc. with the help of communication technologies.
- Access to the latest technology as motivation. School provides students the access to the latest technologies and by renting on a regular basis or by using local businesses available. Classes are equipped with interactive whiteboards and computers; wireless Internet access is available throughout the school. There are also scanners and printers, students are given laptop computers, access to the Internet is ensured at home.
- Practical, interdisciplinary, internationally open educational process where instead of traditional disciplines schools introduce interdisciplinary subjects and ask students to conduct interdisciplinary practical work incl. based on project drafting principles.
- International development: competitiveness of students is increasing in the labor market based on open international syllabus implementation, making it possible for students to keep up with world events in all subjects.
- Democratic and open educational administration where all key decisions are taken at school through a dialogue between the administration, teachers, students, and parents. (Inovatīvas skolu sistēmas struktūras īstenošanas izaicinājumi un iespējas, 2010)

2. Method

The case study carried out in one of the Kurzeme (region of Latvia) secondary schools in the period from September to November 2014. The study used a quantitative method of data collection survey, which was attended by 53 schoolteachers, 126 students and 103 parents with a view to find out their views on the possible introduction of innovative ideas in this high school. There are three innovative school indicator thematic blocks selected for the case study. They are based on innovative school conceptual guidelines (D.Van Damme, Stransbury, etc.) and empirical research in the context of the innovative school analysis, foreign experience of education innovations, the results of Latvian implemented research project "Innovative School System Structure Implementation Challenges and Opportunities", as well as current information and communication technologies practice in secondary schools involved in the case study:

Content of education:

- research work, project work in the classroom, creating presentations, creating videos, international projects;
- finding, selecting and analyzing the information necessary to evaluate the selected information's credibility, accuracy, planning time, the allocation of work, creative thinking;
- introduction of new subjects - creativity lesson, dance-sport, a third foreign language to learn in elementary school, programming, logics, interest education related to the lessons.

Learning process:

- use of a variety of learning materials - digital, printed, virtual, classmates and own created, each student to create his/her own blog with a timetable and study materials for each lesson of the new themes available at e-class or another digital e-platform, developing learning materials in cooperation with other countries' students on specific topics, teaching certain

subjects in a foreign language;
- students work with their laptops or tablet pcs, smartphones, interactive whiteboards, touchscreens with pens throughout all the lessons;
- learning process is organized in any other institution, organization, not attending school, using Skype at home, via distance learning, all learning materials are received via any email platform, outdoors, at parents' workplace.

Teachers' Qualifications:

- to use the latest ICTs in the learning process, to develop interdisciplinary links, to engage students in international projects;
- to organize the teaching process closer to real life, for example, in a company, another institution, to lead lessons via Skype, while working in a number of schools, creating teachers' blogs;
- to make study materials available on an e-platform, to develop educational games in the respective subject, to use digital learning materials in the learning process, to run an international blog on the subject with foreign counterparts, to develop digital materials and providing a link on the Internet;
- to teach their subjects in a foreign language.

3. Results and Discussion

Comparing the views of students, teachers and parents on the organization types of the educational process in high school (Fig. 1: Types of Learning), the difference is observed in students and teachers' attitudes towards research work and creating videos during the learning process. Interestingly, in contrast to the students and parents, teachers currently do not support the international project work as a type of learning. There is also a split in students and teachers' opinions on teaching materials: Students prefer to use digital learning materials, while teachers stick to their own developed (See Fig. 1: Learning Materials).
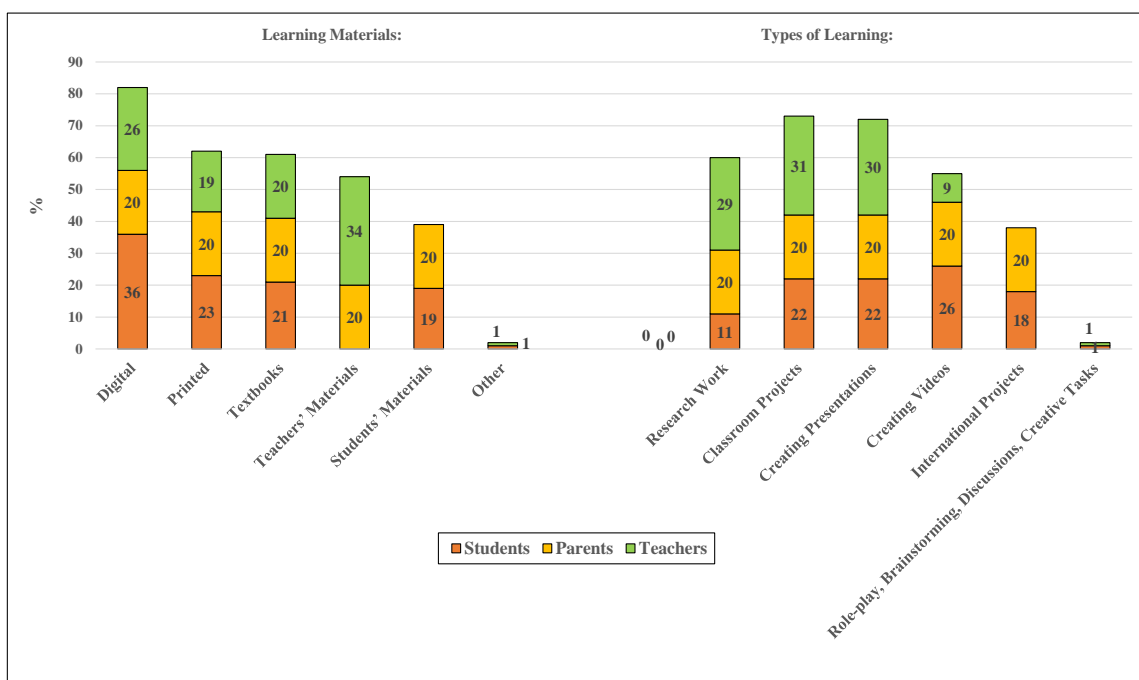

Figure 1. Students, parents, and teachers on types of learning and learning materials

Assessing students and parents' answers on improvement the syllabus, it is evident that the majority of parents would like to see a third foreign language to be learned by the students at the elementary level (47%) and interest education should be linked to the lessons, hence, academic knowledge to be compiled with art, music and sports (33%) (Fig. 2). Compared with their parents, students' opinion is not so clear-cut: the students would like to improve the content of education in creativity lessons and media studies (16%), logics (18%), and a third language acquisition (17%) (Fig. 2), however, despite the rapid development of information technology and the professionals in demand in the labor market, only 10% of the students consider programming as a learning process development element (See Fig. 2).
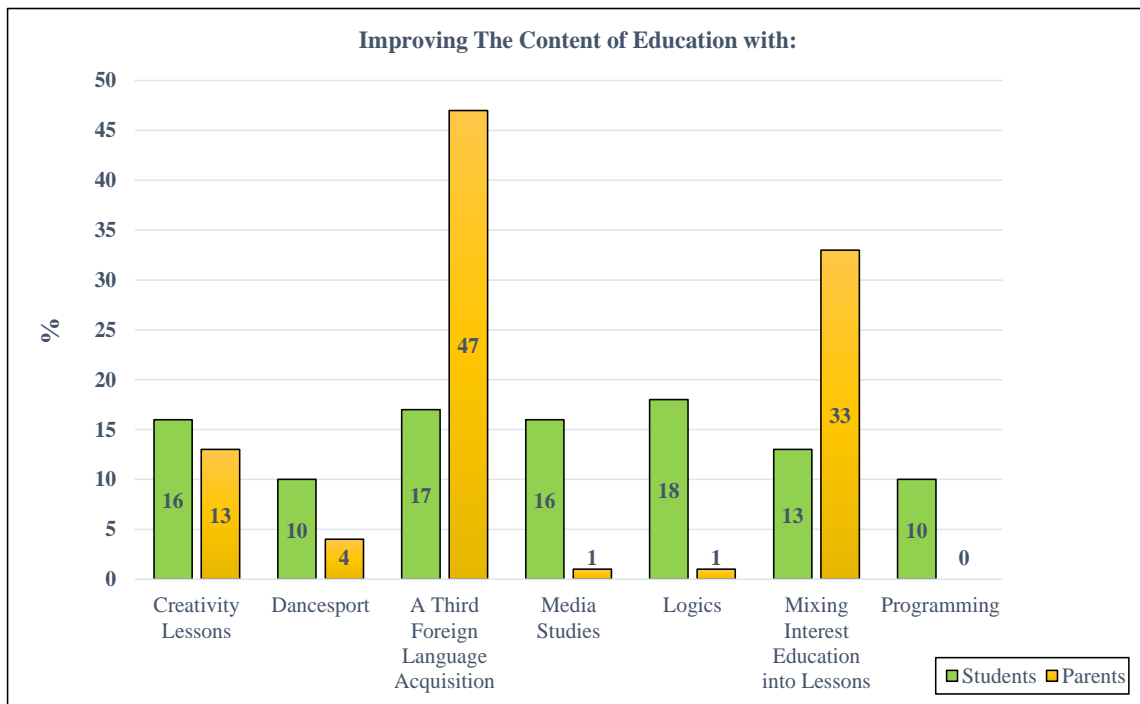

Figure 2. Students and parents on improving the content of education

Evaluating the use of new technologies in the learning process, it can be concluded that teachers and parents are largely in favor of the usual IT tools – a computer, a projector, while the students in addition to the projector (28%) seem to prefer topical interactive whiteboards (33%) in the learning process. (Fig.3). In the teacher's opinion, tablet PCs, touchscreens or stereoscopic displays would not be a factor contributing to students' motivation. However, parents, in contrast to students and teachers, find tablet PCs (17%) as IT tools to be motivating in the study process. (See Fig.3).
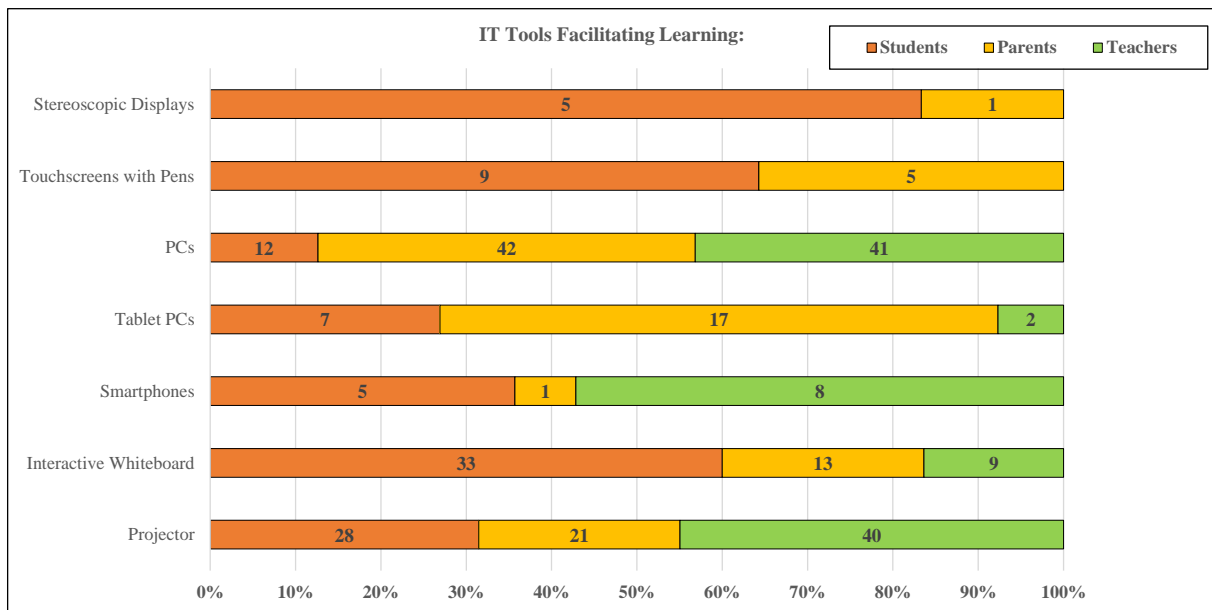
Figure 3. Students, parents and teachers on using IT tools in order to facilitate learning

Students were surveyed about the factors contributing to learning in the educational institution where students indicated that they would like to have new theme's materials in each subject to be available at e-class or another digital e-platform (34%). There are also those willing to cooperate with foreign students acquiring study content (18%), and those eager to receive learning materials digitally and virtually (24%). The results unfortunately do not indicate the desire of students to work more independently searching for information and creating presentations during the studies (8%). (See Fig.4)
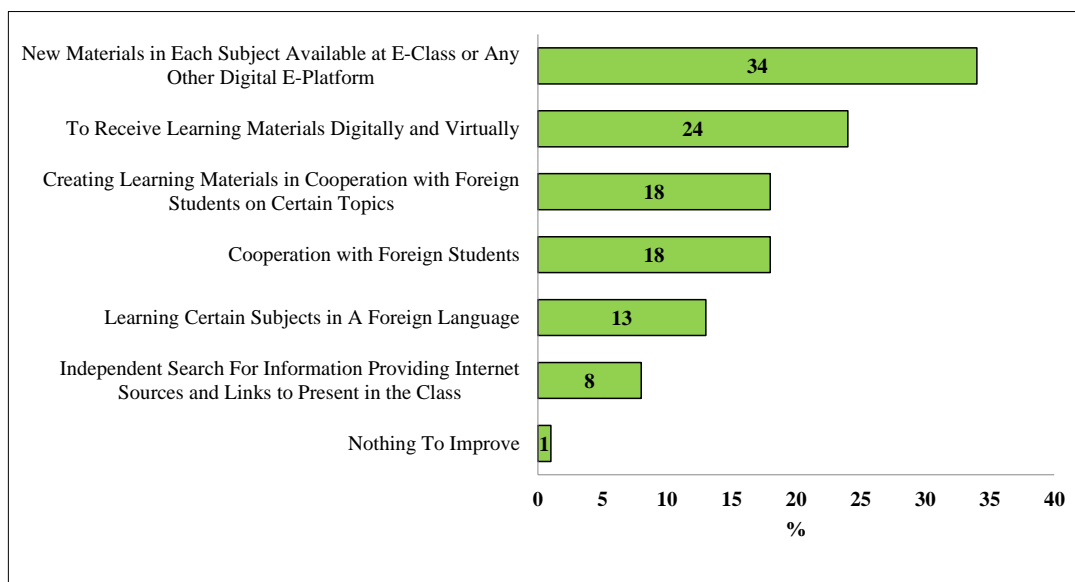

Figure 4. Factors contributing to learning: students' take

In the innovative school development, it is significant to bring the process of learning and real life together, so the study determined students and teachers' attitudes towards alternative types of learning organization. The research results show that there are students willing to change their usual school learning environment for an industrial company (22%) or other organizations (19%), even in the open air (26%) and at distance (16%). (See Fig.5: Students)
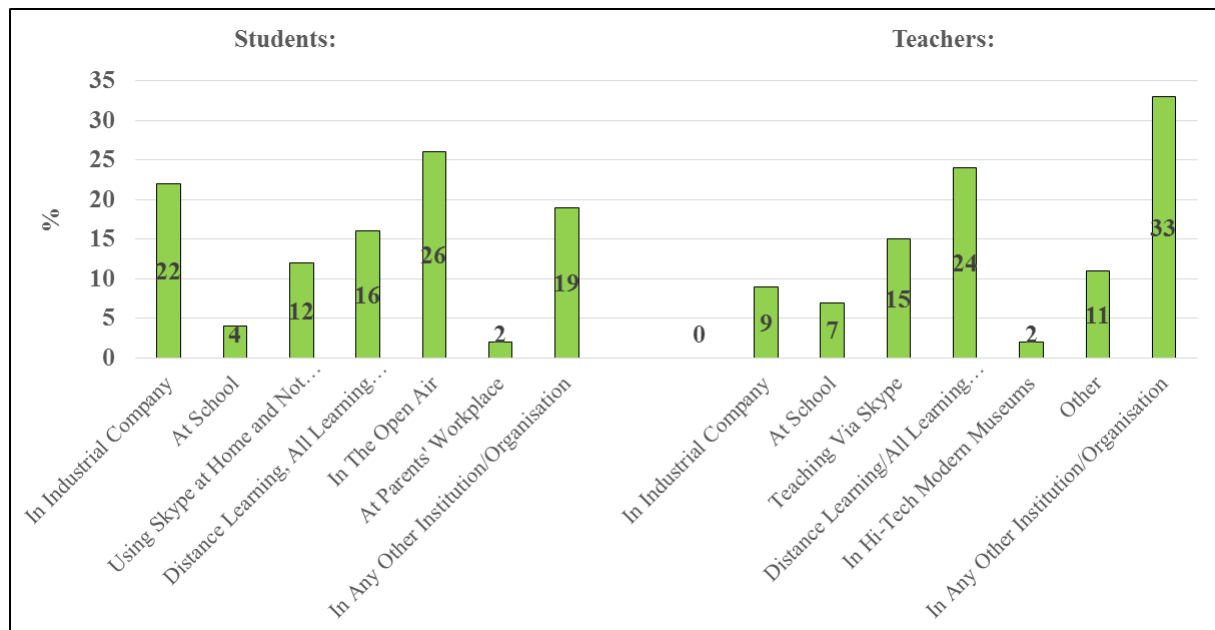
Figure 5. Students and teachers on opportunities to implement learning process outside school

Despite teachers agreeing with students in terms of the implementation of the learning process in another organization (33%), teachers emphasized distance learning as the future approach (24%).

4. Recommendations

1. Implementing an innovative school model one should expect that it will be a long-term project, so a school should develop its own model, plan it's creating steps, develop the content of education methodology in collaboration with universities and company representatives.
2. Perhaps the most difficult will be to develop project-based educational principles, because school is still working on interdisciplinary links.
3. None of the groups of respondents (students, parents and teachers) is attracted by role-playing, brainstorming, and creative tasks in the learning process and the same time students aren`t interested to work more individually.

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