GoDigital - Integrading mobile learning and upgrating teachers' digital skills: A tool kit for effective in primary school

Intellectual Output 1: The Digital Competence Framework for primary schools

NATIONAL REPORT - POLAND

P2 – PDE Crete

Erasmus+

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1. NATIONAL REPORT – POLAND

Poland

1.THE POLISH NATIONAL POLICY FOR DIGITAL SCHOOL AND DIGITAL EDUCATIONAL CONTENT

The main information on digital competences of primary school children and teachers and the level of development of their digital competences in Poland are included in the report summarizing the results of the International Computer and Information Competence Survey ICILS 2013 carried out in Poland by the Educational Research Institute. In the study outside of Poland, 19 other countries and education systems participated. The ICILS study measures students' readiness to live in a "digital reality": how much they can search, rate, transform and share information with a computer - for example, collect materials and prepare presentations on a given topic. These competencies are already very important now, and over time their importance will grow, because they are very important in the labor market, and secondly, they are a condition of functioning in the modern world (they can also be considered as a factor conducive to a high quality of life). So far, digital literacy studies (eg reading skills of electronic texts measured as part of the PISA study or the International PIAAC Adult Skills Survey) were below average results. The analysis of the provisions of the current core curriculum showed that competences measured by the ICILS test should be acquired in Polish schools - appropriate records and content can be found primarily in the requirements related to computer science and computer classes, but also Polish, history, nature, mathematics, classes in a foreign language, and even art and music.

The ICILS study allows you to conclude on the skills of students at the end of the second grade of junior high school from the 2012/2013 school year. 2870 pupils from 157 randomly selected gymnasiums participated in the study in Poland. If one wanted to summarize the results of the ICILS study in one sentence, one should write that Poland is similar to other developed European countries. Of the countries surveyed, only Thailand and Turkey are far behind in terms of both the outcome of the survey and the characteristics of their education systems. We observe greater differences in students' skills within the countries studied than between countries. This does not mean, however, that there are no differences between them. The most surprising result of the ICILS study is the very good result of Polish junior high school students compared to other countries surveyed - The average result of Polish students is lower only from students of the Czech Republic and does not differ from the results of students from South Korea, Australia, and Norway. In Poland, higher scores were obtained by girls. The inhabitants of large cities also dealt with tasks better than children from rural schools. The result on the CIL scale is strongly associated with school grades from Polish, mathematics and computer science, and with the average exam results obtained by students of the school, they attend. The analysis of the data collected in the study leads to the conclusion that the skills of the youth are more strongly associated with individual characteristics than what happens at school - part of the diversity explained by the school is about 20% of the overall variation of results in Poland.

Among the variables from the individual level, the student's computer experience, the socio-economic status of his family and educational aspirations were important. The broader social context is also important - pupils from schools in which students from rich families learn and students who can and often use a computer at home can do better in the ICILS test. Characteristics of the school - its experience in the use of computers in learning, available ICT resources, the frequency with which its

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students use computers during school time, and the existence of barriers to access to ICT do not have a clear relationship with students' achievement in the ICILS test. The collected context data show that the majority of Polish junior high school students have access to desktops at home (86%), 75% have access to at least one portable device (no computer in the house has only approx. 1.3% of second-grade students), almost everyone (97%) has access to the Internet. The surveyed students also have experience in working with IT equipment - more than half use computers for seven years and more, only one percent use the computer for less than a year. As many as 88% of students use a computer for communication at least once a week. The computer is also very often used for entertainment (eg listening to music, watching movies), while for school purposes, the computer mainly serves as a text editor and enables the preparation of presentations. Students' self-assessment in the area of computer use is significantly different for basic and advanced activities. Simple, reproductive activities - such as searching for information or posting on social networks - Polish high school students mastered perfectly. In the case of advanced activities, such as programming, self-evaluation is already significantly lower. The ICILS study, apart from the skills test, also included parts devoted to the description of the school, teachers and student's environment and its characteristics. It is confirmed once again that Polish schools still have modest ICT infrastructure, even the basic one, ie PC computers (on average, an average of 8 students per 1 computer) and less access to more technologically advanced solutions, such as web-based applications for teamwork or school work intranet network (despite the fact that many of these systems are solutions that do not require the purchase of a license). It is worth noting that:

in Poland, the correlation between the number of students at school and the number of computers is poor

the availability of computers for students is best viewed in schools in the smallest towns, where there are on average 6 computers per one computer (similar relationships were observed, among others, in schools in Croatia, the Czech Republic, Lithuania or Slovakia)

in every fourth gymnasium in Poland (23%, +/- 11%), computers can be found in almost all classrooms. In the vast majority of Polish junior high schools there are no persons appointed to perform the function of ICT coordinator (only in 22%), and even if such a function exists, the person holding it combines this position with IT teaching (in about 85% of cases).

The study also confirmed the needs for teacher training, professional technical and pedagogical support, and additional motivation for teachers to further use ICT in the classroom. The consistent responses of directors, teachers and students are pointed out that ICT is rarely used in Poland to communicate with school stakeholders (eg parents), cooperation between the school and the local community (eg experts, other schools), group work and project work. The priority is to acquire individual competencies in the field of computer skills or proficiency in accessing information, and only then to use these technologies for cooperation between students, creating projects or joint problem-solving. The same applies to the requirements for teachers. The director's beliefs prevail that in ICT classes it is to be included in the teaching and learning process in order to increase students' competences. Teachers put much less pressure on teachers to use ICT for purposes related to working with parents or other school members.

Perhaps it is a small part of the management's policy that is one of the reasons for a paradox visible in the responses of Polish teachers: on the one hand they are in the absolute lead when using the equipment in private life (outside the school), they express enthusiastic opinions about the use of ICT in teaching and highly evaluate their computer and information competences, but on the other hand, to teach regularly (at least once a week), computers use only 41%, +/- 3% of Polish teachers, which places Poland last in the group of countries covered by the study, ex aequo with Croatia, but it should be remembered that the structure of the frequency of computer use in Polish schools is very diverse:

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the subjects are divided into information on which computers are always used or almost always (68%) and other subjects on which more than 70% of students never use computers.

The infrastructure can be a partial explanation, although teachers do not pay attention to it - among barriers hindering the use of new technologies, soft barriers are more important (two-thirds of teachers believe that the use of new technologies is not considered a priority in teaching). Infrastructure-related barriers are exchanged in the second place - the greatest importance in this group is the lack of sufficient technical support and equipment.

The monitoring of the use of ICT by teachers is based on traditional methods, such as supervisions and teachers' self-assessment. Directors indicate that teachers in many areas could and even are expected to use ICT, but this is not required. This is also confirmed by teachers - according to them, the use of ICT is regulated rather by a set of informal principles and beliefs than formalized principles and guidelines. The picture is complemented by the answers to the teachers' self-improvement - in the opinion of the management and staff the dominant form of development and raising competence in this area is self-education of teachers and the use of resources of other school employees who have undergone relevant courses or training. It seems that such a self-improvement profile, based on observation of colleagues, can be difficult, given how relatively few teachers in Poland use ICT in their lessons. One can risk saying that ICT remains an area in which many directors express good intentions, emphasizes its importance, but gives rather low priority when it comes to implementing specific solutions and monitoring their implementation every day at school. Conducted analyzes of CIL diversification also point to the importance of the town where the school is located - the average CIL level increases linearly with the increase in the size of the town, reaching the lowest values in rural schools. At the same time, it is in the villages that students usually declare that they have learned CIL competence at school, which may indicate an important, compensatory role of information and information education in smaller towns.

1. Goals of digital education

It can be assumed, behind the assumptions of the "Poland 2030" strategy, that education in the scope of development of computer and information competencies should be conducted in order to prepare young people to function on the labor market and to use new technologies in activities aimed at increasing the quality of life. As part of the first priority, in our opinion, more emphasis should be put on the cooperation of students in the implementation of projects and work in dispersed teams, including work in the "cloud". In this aspect, digital and information competencies are seen as one of the elements that can be used regardless of the unavoidable change of specific IT tools (programs) - we, therefore, teach using technology to solve problems, not to use specific computer programs.

ICILS research shows that the basic application of information technology in the private life of students is not using the office package, but listening to music, communicating with friends online or editing photography, ie - in the context of two education goals set earlier - activities related to social participation (a therefore the quality of life) and not productivity. In our opinion, this type of activity should be noticed by the school and more strongly emphasized in the program documents and educational practice.

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2.Implementation of ICT in schools

ICILS research has shown a picture of schools that give the use of ICT in teaching a rather low priority, lacking people responsible for coordinating the efforts (and support) of different teachers to co-develop computer and information competencies (eg ICT coordinators). The first step to change this would be to make efforts to bring about the creation and implementation of education strategies for digital literacy and pupil literacy in schools. Introducing shared, clearly defined objectives, principles and guidelines and building mechanisms to control their implementation would help to target and coordinate teachers' efforts. However, it is important that the schools have a sense of authorship of this document so that it is not yet another document, the creation of which is top-down imposed on schools, and is often created by copying ready-made solutions available on the Internet.

3. Cyclic evaluation

Carrying out any intervention in the discussed area will, of course, involve a question about its effects. We, therefore, express the hope that the ICILS 2013 survey (or another study with similar characteristics) will be only the first edition of the research cycle devoted to this important area of education. The next edition of the study would allow deepening the threads that were identified as important problems in this edition of the research and to devote attention to changes in educational policy that can potentially take place between editions.

4. Regional differentiation

The ICILS study provides data that allow us to hypothesize the particularly important role of information and information education in small towns and villages. Perhaps, therefore, the approach to digital education and information in the countryside, where the results of CIL students are lower than in cities, should be different - perhaps education in this area should start at a more basic level, be extended, etc. however, at the same time remember that what most probably causes differences in the initial competences of young people is not just the place of residence, but the social and cultural context that is behind it (hence the situation in villages far from urban centers is probably different). other in those suburbs of the agglomeration).

5. Digital exclusion

The ICILS survey showed that 0.92% (+/- 0.4%) of second-class junior high school students in Poland do not have a computer or internet at home (about 3,000 junior high school students in the country). These students can be described as being at risk of digital exclusion and requiring special support from the school. It seems that in this case, the emphasis is placed on leveling their educational opportunities and flexible approach to formal matters (eg in terms of deadlines for the implementation of housework requiring the use of new technologies, which in our opinion should have a longer time horizon). One should also consider a purposeful intervention program for these students, consisting, for example, in providing school libraries with portable computers that could be borrowed by students who do not have access to new technologies.

8. ICT infrastructure in schools

This recommendation appears as the last one for a reason - at the moment, those interested in themselves, that is, schools and teachers, do not treat the lack of equipment as a primary school needs in the field of ICT use. However, the results show that the equipment is objectively small. It is likely that increasing the priority in teaching digital competences in schools and showing teachers how this teaching might look (apart from traditional forms) would radically increase the demand for equipment.

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It is to be expected that this problem will not let you forget about yourself. However, we would like to point out that it is not primarily about PCs, but about various types of ICT equipment, which should be targeted, subject to the strategy of ICT implementation to school (see above). It may be the case that different schools decide on different models of satisfying their equipment needs - eg a school from a large city, which is attended by students from wealthy families, can bet on the BYOD model (Bring Your Own Device), which uses from student equipment, and school needs solid network infrastructure, another school can buy PCs, other tablets, etc.

6. Recommendations

The ICILS study was intended to be an instrument for conducting an informed educational policy, and thus making decisions regarding the educational system based on the results of the study. This is particularly important in Poland, which during the ICILS project initiated the intervention program concerning, among others, digital competence under the name "Digital School", which is to be continued according to projects by local governments as part of projects financed from the European Social Fund in the years 2015-2020. In this context, we identify six problem areas that we should pay particular attention to in our opinion.

Summary

Why are computer and information literacy skills (abbreviated hereinafter in the CIL document) important? There are two reasons. The first reason, or rather a group of reasons, can be described as economic reasons. In the strategic document Poland 2030, prepared by the Team of Strategic Advisors of the Prime Minister (Bochniarz, et al., 2009), we can already read about the general objectives of all measures taken by the government: "The goal is always: economic growth and quality improvement life. " In European documents, the latter aims somewhat less clearly, is in the background, and the common denominator is economic growth, whose strategies are subordinated. In many Polish and European strategic documents, references to new technologies and digital competences (also in the context of education) are more and more frequently appearing. This is due to the belief that information and communication technologies (ICT) contribute to economic growth. This is indeed the case: the simplest connection is the development of a branch of the economy based on new technologies (ie, among others, companies producing equipment and software) - according to estimates presented in the European Digital Agenda (European Commission, 2010), 5% of European GDP comes from this sources, and the market value of the sector is EUR 660 billion per year. The increase in productivity resulting from the use of ICT in other sectors of the economy is also important, which requires the possession and development of appropriate competencies by employees. New technologies are often indicated as one of the most important factors responsible for changes in the labor market in recent decades. Another channel of support for development is the positive impact of ICT on the possibility of building social capital - which is noted in the report Poland 2030 (Bochniarz, et al., 2009). A high level of social capital is identified as a general circumstance favoring the implementation of all ten strategic goals listed in the report. In short: if our students have high computer and information competencies, this will translate into their value and opportunities on the labor market, and this is beneficial for the national economy, that is for the whole society. This is the first reason. Life is not only work and money. Finally, the second of these strategic goals (Poland 2030) is the increase in the quality of life. This quality of life is often composed of small things - the ability to find a good holiday offer, review a movie (or write your own), prepare collages of photos from friends, express yourself by creating a music track using a computer, better time organization and greater productivity (so also more free time) thanks to an electronic calendar and a list of tasks on your smartphone. Computer and information competencies today (and "tomorrow" probably even more) are of paramount importance to the possibility of social participation - the opportunity to find people with similar interests, participate in discussions on local issues on the Internet forum or, as recently as

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in Warsaw - the possibility of voting for projects within the civic budget - all this is either possible at all or definitely facilitated by technology. For the above reasons, information and computer competencies are one of the key competencies - competencies necessary for full functioning in the modern world.

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