CROSS-NATIONAL ICT POLICIES AND PRACTICES IN EDUCATION AND THEIR APPLICATION IN DEVELOPING COUNTRIES

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Abstract

In this paper we are exploring the various ICT policies and practices in the educational systems of the following European countries: Austria, Belgium, Denmark, Estonia, Ireland, Lithuania, Malta, Norway, Portugal, Turkey, Hungary, Finland, France, the Czech Republic, Switzerland and Spain. The author uses data and facts from the latest reports of the European School Network (Schoolnet), the most of which are written in 2017 or 2018.

The Network activities encompasses three strategic areas:

a) Providing concrete evidence and data in the area of innovation in education on which to base the policy recommendations, b) Supporting schools and teachers in their teaching practices, and c) Developing and sustaining a network of schools engaged in innovative teaching and learning approaches.

Representatives from each member state of the Network are obliged to submit a detailed report each year on the identified situations in the field of ICT. As a result of the insight in those reports and the established policies, the Network, in cooperation with the European Commission Consortium for Projects, could propose appropriate new projects for certain country/countries, or to recommend their inclusion in the existing projects. DigCompEdu, MENTEP, TeachUP, E-Twinning and Scientix are some of the ongoing projects in which the Network member states actively participate.

First, we give a brief overview of the Network, including its basic information: organization, vision and mission, goals and objectives, and cooperation.

The main focus of this exploration is on the following areas:

a) The ongoing projects,

b) Digital content development, content creating and sharing, educational portals and repositories,

c) Systems and platforms for learning management,

d) Digital competencies of students and their certification,

e) Implementation of digital games in education, and

f) Availability of digital materials for students with disabilities.

The paper includes comparisons between the countries in the above-mentioned areas. Finally, we are deriving conclusions and recommendations that may be applied in the field of ICT by professionals in the educational sphere in our country and in other developing countries who are not Network members.

The author emphasizes the need to regularly monitor the situation in these areas in the developed countries. These findings should be further shared with all relevant national entities and used in the process of preparing, planning and creating educational policies and reforms. It is also necessary to regularly monitor all relevant digital education policies, initiatives, projects and strategic documents in Europe and beyond and to consistently comply with the European and world standards and recommendations in the field of education and information technologies.

Educational institutions, scientists, experts and teachers in our country and in other developing countries should be up to date with the latest achievements in the science world and in the new technologies. They should also be aware of the importance and the need for continuous improvement of 21st Century skills among students.

Keywords: ICT policies and practices, European School Network, digital content, competencies and certification, digital games, learners with disabilities.

1 EUROPEAN EXPERIENCES IN THE FIELD OF ICT IN EDUCATION

The European Schoolnet Schoolnet (http://www.eun.org) is a network of ministries of education and / or key national ICT education institutions in 34 European countries, almost half of which are observer countries, with headquarters in Brussels. Its purpose as a non-profit organization is to bring innovations in the field of teaching and learning, and to collaborate with the ministries of education, schools, teachers, researchers and industry partners. The network (Figure 1) supports the transformation of the 21st Century digital society education processes by identifying and testing innovative practices, sharing the evidence of their impact and supporting contemporary teaching and learning practices in line with the 21st Century inclusive education standards. Since its establishment in 1997, the Network has been using it's links with national ministries to help schools become more effective in pedagogy using techology, and teachers and students to acquire the skills needed to succeed in a digital society.

Figure 1 European School Network website.

The European School Network has established partnerships with a range of organizations from Europe and beyond, including schools, universities, business entities, associations and federations, NGOs, governmental and intergovernmental institutions. The partnership is built through a variety of forms, ranging from the European Union Consortium of Projects to large-scale projects with groups of stakeholders. The European School Network is active in all important education, research and technology programs of the European Commission.

The Network's activities include three strategic areas: providing concrete evidence and data in the field of innovation in education on which the policy recommendations will be based, supporting schools and teachers in their teaching practice, and developing and maintaining a network of schools in which innovative approaches of teaching and learning will be applied;

Supporting the professional development of teachers and of the school leadership, disseminating (spreading) good practices and exploring new teaching and learning models and providing ICT-based services, content and tools for the members and partner networks are part of the Network's main goals.

The representatives of the Member States of the Network are obliged to submit a detailed report on the state of affairs in the field of ICT each year. As a result of the insight into these reports and the findings, the Network in cooperation with the European Commission's Project Consortium may propose appropriate projects or to recommend the inclusion of Member States of the Network in the projects. In the part that follows we will briefly present the projects in which the Network Member States actively participates: DigCompEdu, MENTEP, TeachUP, E-Twinning and Scientix.

"The European Framework for Digital Educators Competence" (DigCompEdu) aims to develop digital competences of educators in all levels of education, ranging from pre-school to higher education and the education for adults, including the general and vocational education and training, the education for people with special needs and the informal school contexts. The purpose of the Framework is to

encompass and describe the specific digital competences of educators by proposing 22 elementary competencies organized in six areas: professional engagement, digital resources, learning and teaching, assessment, enhancing students' abilities, facilitating the digital competencies of the students.

The Mentoring Technology-Enhanced Pedagogy (MENTEP) project is a partnership project of 13 countries: Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Italy, Lithuania, Norway, Portugal Slovenia and Spain. It aims to develop an online tool which allows the teachers to determine their own level of ICT proficiency in promoting learning, which enables them to control the evolution of the learning in this area and to identify the training needs.

In the framework of the TeachUP project, online courses have been developed for future teachers within their university education and for active teachers within their continuous professional development on topics related to their new role: collaboration between teachers, personalization of learning, formative assessment and creativity.

E-Twinning is a school community in Europe which offers a platform for the school staff (teachers, principals, librarians and others) through which they are able to communicate, collaborate, develop projects and share materials. This community offers opportunities for free and continuous online professional development of educators.

The Scientix project promotes teaching materials from STEM (Science, Technology, Engineering and Mathematics) research projects and supports the cooperation between the mathematics and science teachers, policy makers and other STEM education professionals from the European countries.

Based on the data from the most recent reports of the 17 members of the European School Network (the reports from 14 countries refer to the ascertained states in 2017 or 2018), in the following part we will summarize the facts from the reports related to: a) developing and sharing digital schoolbooks contents and repositories, b) learning management systems and platforms, c) students' digital competences and assessment, d) the use of digital games in education, e) access to digital learning materials for students with disabilities. Social inclusion in the abovementioned countries.

1.1 Developing and sharing digital school content, educational portals and repositories

We present an overview of the successful projects in the field of creating digital textbooks, educational portals and repositories in several European countries.

✦ *Austria*

The most famous educational portals in Austria are Eduthek and eTapas. Eduthek is a portal for teaching and learning (studying) materials. It includes a range of content and media available through a single central access point. The content includes teaching and learning materials, pedagogically recommended applications and games, and innovative tools for contemporary teaching formats. The cases of the application of the model show pedagogical examples of how they can effectively integrate digital media into their lectures.

ETapas is a project that provides electronic access to various didactic teaching tools. The digital content is developed by teachers and intended for the teachers. The sharing between teachers is subject to the Creative Commons license. These are short, specific textbook sequences with a didactically digital inclusive script. eTapas also enables the teachers who submit materials to the system to receive feedback on them. The eTapas Initiative is accredited and financially supported by eEducation Austria.

The digi4school initiative in Austria has been active since 2016. It provides digital versions of educational resources such as textbooks and training materials. One of the goals of Austrian education in the coming years is to unify all the available teaching and learning materials and school platforms which are actively used in its schools.

✦ *Belgium (Flanders)*

The Klascement Education Portal site (www.klascement.be) serves as a multipurpose electronic knowledge center and is a central access point for educational information and support. It is intended for multiple target groups and it involves developing and offering materials and examples of good practice. It supports the teachers in the sharing and the delivery of the teaching facilities, and also

offers access to effective digital teaching aids (e-learning opportunities) in an accessible and structured way.

✦ *Denmark*

On a national level, the Danish Ministry of Education, through the National Agency for IT and Learning, manages a number of services in order to facilitate the supply and the sharing of open educational resources. The Danish educational portal "EMU.dk" and the Web site "Materialenplatformen" are the most successful platforms for teachers which gives them access to sharing and creating learning materials

EMU.dk is a national portal for knowledge and learning that offers free inspirational resources for kindergarten teachers and pedagogues. Every month EMU.dk has over half a million different(distinct) users. It incorporates several independent services: a collection of content files, a repository of learning resources and a homework service with interactive tutorials and instructional videos. The requirement for the inclusion of learning resources in this portal is to meet the quality and compliance criteria.

Materialenplatformen is a national educational web repository. One part of it serves as a catalog of all school resources for Danish schools, and the other part is a national repository of open educational resources produced by teachers for teachers.

✦ *Estonia*

In recent years, several pilot projects have been implemented to develop and support the development of digital textbooks. Since May 2015, the new regulations state that the publishing houses' have the obligation to make the textbooks they create available in the digital format as well. The most popular repositories for digital textbooks are: "Educational resources for preschool and general education" (http://www.koolielu.ee), "Vocational and secondary education resources" (www.e-ope.ee) and "Teaching materials" for preschool, primary and secondary education "(koolielu.ee/waramu).

Nearly every school uses some kind of a study information system to manage and automate study-related information and processes, such as: eKool.ee and stuudium.com used in primary and secondary schools; Ois.ee, which is used in 13 schools of applied education, universities and vocational schools, and Siseveeb.ee, which is used is used by 21 vocational schools.

✦ *Malta*

For the needs of the students in grades three through eight digital curriculum resources have been designed for a variety of subjects (Maltese language, Mathematics, English, Natural Sciences, Social Studies, Geography and History), in line with the objectives of their respective curricula. The "ilearn" virtual school environment (https://www.ilearn.edu.mt) allows teachers to share content that is their own work. The number of teachers using this content sharing platform is constantly increasing.

✦ *Norway*

The National Digital Learning Arena (NDLA) is a portal for high quality digital learning resources for several subjects in the second cycle of the secondary education in Norway. Most of the resources on this portal are freely available to all participants in the educational process. Teachers and students are encouraged to develop new resources and enrich the existing fund. An editor is responsible for the quality of the resources allocated to each subject.

The national centers play a key role in the development of the education in various fields, such as mathematics, natural sciences, reading and foreign languages. The centers offer freely available digital resources, such as:

- Natural Science Teacher Resources (http://naturfag.no);
- Web-based natural resources textbook resources for grades 8-12 (http://viten.no);
- Cyp Foreign language learning resources (http://www.fremmedspraksenteret.no);
- Website for students and teachers in primary and secondary education (http://kraftskolen.no);
- Mathematics education resources (http://www.matematikksenteret.no);

The Norwegian Center for ICT in Education is the founder of the portal "ICT in Practice", which aims to encourage teachers to share resources and practices.

"Kart i skolen" is a free service that offers up-to-date Norwegian maps (maps) from many public agencies and research communities, as well as data tailored to schools.

✦ *Portugal*

E-content in Portugal is mainly developed by educational publishers:

a) Porto Editora runs the Virtual School portal through which it sells multimedia products and maintains a large collection of commercially interactive online resources for all subjects in Portuguese education; b) One of the most important Portuguese textbook publishers, LeYa, developed the "Platform 20", which provides access to textbook resources, such as digital textbooks, videos, animations, games and interactive tests; c) The project "House of Science", funded by the Calouste Gulbenkian Foundation, encourages the creation of digital resources by high school teachers with the support of university professors. The project maintains a large repository of digital learning resources and aims to increase STEM education.

Since 2011, the Ministry of Education has been offering an online distribution service for digital textbooks that can be used under the terms of a Creative Commons license.

✦ *Hungary*

The central educational website for students and educators in Hungary is Sulinet (http://www.sulinet.hu/). This website allows users to create and share their own content (crosswords, jigsaws, etc.). Sulinet offers a new platform (http://junior.sulinet.hu/hu) designed for young primary school users.

The Institute for Educational Research and Development (OFI) aims to develop harmonized textbooks and digital content within the project "Developing Textbooks, Equipment, Digital Content and Public National Education Portal". The institute plans to achieve "full coverage" with digital content for all teaching subjects and students of all age groups.

✦ *Finland*

The development of e-content is mainly responsibility of commercial publishers. Larger publishing companies produce books and digital materials, and smaller ones mainly specialize in digital content.

Linkkiapaja (linkkiapaja.edu.fi) is a national open source learning resource portal. It contains carefully selected and categorized online learning materials for the needs of teaching and learning. The Finnish National Education Agency is responsible for maintaining the Linkkiapaja portal.

The Edustore (edustore.fi) is a trading place and is a distribution channel mainly for commercial electronic study materials. Through this platform, users can also share content that they create themselves.

Finna is a modern platform for museums and archives. The platform is made using the latest technology and can be used in a variety of innovative ways.

✦ *Czech Republic*

The Czech Republic is stimulating the creation of open source educational resources. The "Open Education Alliance" is an informal association of individuals, institutions and companies whose aim is to promote the principles of open education in the public and encourage the application of those principles in the Czech education system. It's website has links to freely available teaching materials and other resources that can be used for educational purposes.

The National Domino Competition (DOMINO) supports the effective use of digital education resources. Kindergarten educators, elementary and high school teachers present activities related to the use of digital resources.

The National Teacher Portal (http://dum.rvp.cz) enables content sharing among teachers in a variety of forms - through articles, discussions and a repository of digital textbooks. The Repository of Digital Textbooks is open to all teachers who can upload and share their own digital textbook resources. The requirements for publishing these resources are their quality and the following of copyright rules. The

repository contains nearly 10,000 textbooks created by teachers. This repository is affiliated with five other national repositories.

✦ *Spain*

The Procomún platform is a national repository of digital content that integrates the content across regional platforms (Educamadrid, Educantabria, Aularagón, LliureX, Educarm, Averroes, Educa, Medusa, Eskola 2.0 and others) and contains over 90,000 educational resources. The platform enables more than 27,600 teachers to share knowledge, experience, digital materials and resources across diverse communities which are created, organized and managed by the users of this platform. The platform also provides access to the national repository of open educational resources.

The following tables show the existing learning management systems and platforms (Table 1), ways of acquiring and certifying digital competences (Table 2), the application of digital games in education (Table 3) and the availability of digital learning materials for students with disabilities, and their social inclusion (Table 4) in several Member States of the Network.

1.2 Learning management systems and platforms

Table 1. Learning management systems and platforms.

Austria	In 2007, the Ministry of Education launched the Initiative Futur(e)Learning to support new forms of teaching and learning using ICT in education. Futur(e)Learning supports modern approaches to learning. This initiative includes central services for the use of educational portals and learning platforms (MOODLE, dotLRN, Ilias) and the sorting and allocation of resources and software (proprietary and open source software). The "Edumoodle" program provides free MOODLE instances for all school locations for free. The Learning with System (LMS) website has over 10 million accesses per month. This platform offers textbook modules for teachers who are in line with competency-oriented teaching.
Belgium	The most commonly used platform in Flanders schools is the local commercial platform "Smartschool" (www.smartschool.be). The tool contains 16 modules. Open source software products such as MOODLE and Dokeos / Chamilo are less used.
Denmark	The User Portal Initiative (BPI) unites the students' academic products, test results, achievement of goals and progress. As a part of this initiative, it is envisaged that different school platforms will be extended to all public public schools.
Estonia	In Estonia the most commonly used platforms in educational institutions are: moodle.hitsa.ee (used by about 200 primary and secondary schools, universities and vocational schools) and viko.edu.ee (used by primary and secondary schools).
Lithuania	The main learning platform used in Lithuanian universities and schools is MOODLE. The Center for Information Technology in Education (CITE) mainly uses MOODLE to create ICT courses for teachers.
Malta	All public and secondary schools in Malta use the iLearn platform. The number of its users is increasing every year, especially in primary schools.
Norway	Almost all primary and secondary schools in Norway use some kind of school platform. The most commonly used platforms are Fronter and itslearning, while PedIt, Canvas and Microsoft's Learning Gate-way are the least used. Integrating information and resources and using them in a simple way is a challenge for each platform. One of the successful examples in this field is the "Virtual School of Mathematics", developed by the Norwegian Center for ICT in Education and designed for the first cycle of secondary education.
Portugal	In Portugal since 2006, all students in grades 5 through 12 have access to the MOODLE learning platform. A national study of this initiative shows that over 98% of participating schools use MOODLE.
Hungary	Learning management systems such as MOODLE and Ilias are rarely represented in public schools in Hungary. One possible reason for this is the lack of administrative staff needed to maintain them. Some teachers use free online platforms, such as the translated version of NeoLMS, or in addition to the learning platforms they use free file sharing sites, such as Google Drive or OneDrive. The recommended platform for learning is the social networking service Sulinet Community.

Finland	The most commonly used educational platforms in Finnish schools are: Pedanet, MOODLE, Optima, Its learning and Claned. Today the digital learning materials are often directly linked to learning platforms through interfaces. This allows for a flexible two-way data transfer between the learning materials and the learning platform.
Czech Republic	According to the Czech School Inspectorate's thematic report, learning management systems (MOODLE, Google Classroom and others) and cloud services (Google Apps / G Suite, Microsoft Office 365 and others) are used by approximately 20% of small elementary schools (up to 150). students), about a third of major elementary schools and more than 60% of high schools and tertiary vocational schools.
Spain	The most widely used online teacher training platform is MOODLE. The number of schools using MOODLE for internal use is constantly growing. Most teachers and schools also have virtual learning environments through which they share resources with students.
Switzerland	On January 1, 2018, the educanet2 platform was used by 3,973 Swiss schools with 152,876 teachers and 475,032 students from 39,838 classes. There are schools that use MOODLE and ILIAS in parallel with educanet² or as an alternative because these platforms are widely distributed at the tertiary level. The eduhub's platform for new learning technologies is also being used at Swiss universities. Its aim is to implement sustainable IT-based methods in academic teaching for the exchange of experiences and to promote collaboration.

1.3 Acquisition of digital competences and their certification

Table 2. Acquisition of digital competences and their certification.

Austria	From 2013, students can verify their ICT competencies by taking a special exam to obtain a European Computer Driving License (ECDL). Many schools have integrated the ECDD curriculum content into their IT curricula. The Association for Information Technology Competence Centers offers the opportunity to receive specific IT certificates for teachers and students. The goal of the IT Certifications for School 4.0 initiative is to introduce the internationally recognized and standardized Microsoft Office Specialist (MOS) and Microsoft Technology Associate (MTA) certificates. As part of the strategy for digitalization "School 4.0. – now it's digital", especially in the" Digital Competent Pedagogies "section, teachers starting in 2018 have the opportunity to attend seminars intended for pedagogical universities all across Austria and obtain MOS certificates. The exams for these certificates are free if the parent school is a member of the eEducation Austria network.
Denmark	The national primary and secondary education plans and programs include tutorials on how to integrate ICT and media into the academic subjects, including students' expected roles and skills. ICT is integrated into all subjects in Danish education. The competences of the student are summarized in the following roles: critical researcher, analytical recipient, creator and responsible participant.
Lithuania	In the standard for the computer literacy of students (approved by the Ministry of Education and Science of Lithuania in 2002) the term computer literacy is used more broadly and includes not only the ability to work with computers but also the skills of applying ICT in learning and in acquiring general digital skills.
Portugal	The profile of competences for students at the end of the compulsory education is set out in the document "Student Profile for the 21st Century", which is a reference document for the organization of the entire education system. Digital literacy plays a fundamental role.
Hungary	Students in Hungary can obtain an ECVD Certificate if they receive an excellent grade on their final exam. The eLEMÉR Evaluation Platform, which serves as a self-assessment of schools, measures how ICTs are present in learning, teaching, school management and infrastructure as an indicator of schools' progress in new technologies.
Czech Republic	The digital competences (competences for ICT use and work with information) are integrated into the curriculum as a separate ICT educational area. ICT is defined not only as an independent subject but also as a problem solving tool and as the basis for creating an educational environment. In the framework of the project "National system of inspection supervision of the educational system in the Czech Republic" (NIQES), in 2015 a methodology for assessing competences has been developed. The methodology contains a set of indicators that focus on the conditions and the process of developing these competences. The competences for working with information are supervised by the Czech School Inspectorate, within its regular activities.

1.4 Implementation of digital games in education

Table 3. Implementation of digital games in education.

Austria	The Department of Science and School of the Federal Ministry of Education of Austria (FMAA) is the initiator of the New Approach to Learning initiative, which aims to test the potential of learning based on serious games in school settings. This project is financially supported by the digital initiative of the Austrian Federal Office. The FMAA's "Education Innovation Studio" project (EIS) is based on the pedagogical and didactic concepts of the European School Network's Future Classroom Lab (FCL) project. Equipment for this project consists of: the small robot game BeeBot, the Lego education robot kit "WeDo 2.0" developed by the Massachusetts Institute of Technology, a 10 inch Apple iPad with associated software (BeeBots and Lego WeDo) and 9 fully equipped studios for innovations in education set up in public education colleges.
Belgium	The Games Fund (www.vaf.be/gamefonds) was established in 2012 and is managed by the Flanders Audiovisual Fund. Its purpose is to stimulate and support the creation of games by domestic developers, publishers and producers. The fund also supports educational games and entertainment games.
Denmark	The leading institution for game-based education in Denmark is the Aalborg University Applied Game Research Center. This center, in collaboration with Danish training colleges for teachers, organizes and conducts research, conferences and game-based learning trainings.
France	The Digital Learning Games Portal (http://eduscol.education.fr/jeu-numerique/#/) provides contextual elements for the practical application of digital games in education. The institution responsible for the maintenance and development of this web portal is the French Ministry of Education, which promotes an interdisciplinary approach to the educational games in education.
Ireland	Much of the teaching materials used in Irish schools are accompanied by game-based resources designed to enhance student learning in an engaging and entertaining way. As a rule, the publisher of the teaching materials requires each teacher to provide him with a current list of textbooks he uses to gain access to free digital resources.
Turkey	The Educational Information Network (EBA, http://www.eba.gov.tr/eicerik) offers all students free educational materials including educational games that they can use in mainstream education.
Czech Republic	The educational games used in Czech schools are usually made by universities. For example, the educational interactive simulation "Czechoslovakia 38-39" is an interdisciplinary project of the Faculty of Arts, the Faculty of Mathematics and Physics at Charles University in Prague, and the Institute of Contemporary History at the Czech Academy of Sciences. The Adaptive Learning Group, which works at the Faculty of Computer Science at Masaryk University in Brno, has developed the following projects: Outline Maps (application for practicing topographic names of states, rivers, lakes, seas, oceans, mountains, etc.).), "Anatomy" (study of parts of the human body), and "Robotize" (introduction to programming). The Mining School at the Technical University of Ostrava is responsible for maintaining and developing the high school mathematics website Mathematics with Joy, which contains game elements for the purpose of practicing the acquired knowledge.
Spain	Barcelona Games World in collaboration with the Spanish Ministry of Education, represented by the National Institute for Educational Technologies and Teacher Training (INTEF), in August 2017 launched the first national competition for the creation of a repository of good educational practices with video games. These resources are shared through the Procomún platform, where games-based learning resources can also be found.

1.5 Availability of digital materials for students with disabilities

Table 4. Availability of digital materials for students with disabilities.

Austria	The Austrian Computer Camp (OCC) enables blind and visually impaired students from the ages of 9 to 14 to acquire digital competencies in accessing and using digital tools. This initiative is supported by the Austrian Federal Ministry of Education.
Belgium	The BEDNET project enables sick children to attend distance learning (at home) and stay in touch with teachers and classmates and the ADIBIB project, which provides enriched digital versions of classic textbooks for students with dyslexia, are supported and funded by the Ministry for education of Belgium.

Denmark	The Materialbasen is a database that includes more than 3,000 textbook resources, primarily digital copies of textbooks and other analogue textbook resources. The database operates within Nota, a Danish library and expert center for people who cannot read printed materials effectively due to visual, physical, perceptual, developmental, cognitive or learning disabilities. To receive 50% state funding, digital literacy resources proposed by bidders must allow the use of reading and writing technology that meets the needs of students with visual disabilities. Students with disabilities in Denmark take tests at the same academic level as other students, but in order to provide the same conditions for all students in the exams, students with disabilities can use special tests organization and compensatory digital tools.
Lithuania	The competent institution for the provision of special pedagogical-psychological methodological support in Lithuania is the National Center for Special Needs Education and Psychology, an authority within the national Ministry of Education and Science. The special education materials system operated by this Center also includes digital learning materials.
Norway	The only institution responsible for providing special education services in Norway is the government agency Statped. It provides teaching and learning resources, including digital learning materials, for children, young people and adults with special educational needs.
Portugal	In 1999 Portugal was the first European country and the fourth country in the world to adopt legislation aimed at providing access to central government websites, including educational websites, for people with disabilities.
Czech Republic	Many universities in the Czech Republic operate with special centers that support students with disabilities. The Teiresias Disability Support Center at Masaryk University in Brno is one of the largest such centers. This social services center offers IT courses for the visually impaired persons. Another such initiative is the "Blind Friendly" project focused on a website accessible to the visually impaired persons.

2   CONCLUSIONS

In this paper we have analyzed the field of ICT applications in the education of several European countries' (Austria, Belgium, Denmark, Estonia, Ireland, Lithuania, Malta, Norway, Portugal, Turkey, Hungary, Finland, France, the Czech Republic, Switzerland and Spain) based on the latest reports of the "Schoolnet", which operates at the highest level in 34 countries in Europe and beyond. The facts in these reports are categorized as follows: digital competencies and their assessment, the development and sharing of digital learning content, the systems and platforms for learning management, the application of digital games in education and the availability of digital learning content for students with disabilities and their social inclusion.

The author emphasizes the need to regularly monitor the situation in these areas in the developed countries. These findings should be further shared with all relevant national entities and used in the process of preparing, planning and creating educational policies and reforms.

It is also necessary to regularly monitor all relevant digital education policies, initiatives, projects and strategic documents in Europe and beyond and to consistently comply with the European and world standards and recommendations in the field of education and information technologies.

Educational institutions, scientists, experts and teachers in our country and in other developing countries should be up to date with the latest achievements in the science world and in the new technologies. They should also be aware of the importance and the need for continuous improvement of 21st Century skills among students.

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