Hungary

Country Report on ICT in Education

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2018

1. THE EDUCATION CONTEXT

1.1. Key educational challenges and priorities

- Enhancing and unifying the quality of public education
- Providing opportunities for early intervention to support low performing students
- Systematic quality control measures in teachers' work
- Making the teaching profession more attractive
- Reducing the ratio of early school leavers
- Digital shift

1.2. Education Reforms

The **Digital Education Strategy** came out in June 2016 and it expressed targets to be reached in the "digitalization" of education by 2018. The Strategy lays out 6 development aims for public education, which are the following:

- Teachers' ICT competences
- Digital content and methodological support
- Hardware
- Security and equal opportunities in infrastructure
- Effective digital solutions for administration
- Implementation framework (requirements) of the Strategy on school level
- Most of the innovation projects and interventions aim to realize some targets of this Strategy.
- It is also important to mention the **Digital Child Protection Strategy,** which has a similar time frame. It sets guidelines for online child protection following three pillars:
    - Awareness and media literacy
    - Security and safety
    - Sanctioning and help

2. DIGITAL EDUCATION POLICY

2.1. National/ regional digital education policies

For the 2014-2020 programming period there are several Human Resources Development Operational Programmes (HRDOP) that support the aims of the Digital

Education Strategy. Many HRDOPs are supplemented with a Competitive Central-Hungary Operative Programme (CCHOP) part, when a programme needs full geographical coverage in the country.

Both HRDOPs and CCHOPs receive funding from the Regional Development Fund and from the European Social Fund.

In STEM education the project *HRDOP-3.2.5-17 "Career orientation, especially the development of MTMI skills and competences in the public education system"* promotes **STEM careers and new approaches in STEM education**. The budget of this program is 8,00 billion HUF.

In *HRDOP - 3.2.2- CCHOP- 15 "Development of curriculum and pedagogical-methodological tools for public education"* the Esterházy Károly University checks up and further develops **textbooks and digital content**. The budget of this program is 2,00 billion HUF. More information: http://ofi.hu/efop-322-vekop-15-2016-00001 (in EN and HU)

In the project *HRDOP- 3.2.4-16 "Digital Competence Development"* the implementing consortium aims to develop the digital infrastructure of schools: **hardware supply and connectivity**. The project also intends to develop some educational administration platforms, and teacher CPD courses are also on the agenda. The sum funding of this project is 45,35 billion HUF. More information: http://kk.gov.hu/efop-3-2-4-16-2016-00001 (in HU)

According to the **National Statistical Data Collection Programme** (OSAP 2016) in 2016 the main data on hardware supply of schools were the following:
- In primary schools 7,35 pupils use one computer and the proportion of classrooms with interactive whiteboard was 49%.
- In secondary schools 5,51 pupils use one computer and the proportion of classrooms with interactive whiteboard was 45%.

The *HRDOP- 3.2.15 - CCHOP- 17 "Public educational framework-related assessment-evaluation and digital developments; development and renewal of innovative procedures in educational organization"* is an important project about the definition and measurement of required competency levels of pupils (and teachers) in the digital field The project defines the **required digital competency levels** to be reached by pupils at different stages of their study; this innovation affects the core curriculum. The project also develops media literacy measurement tools and prepares a nation-wide introduction. It is also an aim of the project to prepare the digital implementation of other national measurements.

Besides that, the project develops **benchmarks and measurement tools for institutions and teachers**, and affects teachers' career advancement. The sum funding of this project is 10,56 billion HUF.

HRDOP 3.2.3-17 - CCHOP.7.3.3–17 „Digital environment in public education" is a project that helps the digital shift on the institutional level, as it supports the involved schools to develop and implement their own Institutional Digital Development Plan. The sum funding of this project is 6,36 billion HUF. More information: https://dpmk.hu/2017/05/22/dft-kerdesek-valaszok/

2.2. Responsibilities

The *Ministry of Human Capacities* is responsible for the Hungarian social and healthcare service system, education, culture, youth and sports. The State Secretariat for Education is responsible among others for the core curriculum and framework curricula. More information (in HU)

The *Educational Authority* supports and supervises education from early years to higher education. The Authority organizes admission exams to secondary schools and to higher education, school leaving exams, national measurements and competitions. The Authority fulfills supervision of professional work in schools. The institution accredits and organizes teacher CPD courses and runs the teacher career advancement system. It also provides digital content for public and higher education. More information: https://www.oktatas.hu/ (in HU)

The *Klebelsberg Center* brings off development projects which address infrastructure of schools. More information: http://kk.gov.hu/ (in HU)

The *Klebelsberg Institution School District Centers* are organized regionally and maintain most of public schools. Centers are responsible for the equipment and staff of schools, including hardware supply and technical support staff.
More information: http://kk.gov.hu/tankeruletek (in HU)

The *Governmental Information-Technology Development Agency* is responsible for broadband connectivity in schools. More information: http://kifu.gov.hu/ (in HU)

The *Digital Wellbeing Non-Profit LLC* is responsible for the harmonization of projects that implement the digital strategies. Its Digital Pedagogical Methodology Center supports the implementation of the Digital Education Strategy. More information: https://djnkft.hu/ (in HU)

2.3. *Specific digital education initiatives*

a. Student identity management and School management systems

Kréta is a digital administration tool for schools, with possibility to monitor learning progress of pupils; available for all schools.

Link: https://ekreta.hu/

b. New learning spaces

• *Mobidik is a mobile digital learning space (container)*

• *Alba Innovár is a digital experience center that offers workshops for pupils about robotics and other innovative technologies.*

• *Edu&Fun is a digital experience center that is operated by a technological provider.*

• *"T@T kuckó" is a technology-enhanced learning laboratory of the ELTE University.*

• *Makerspace.hu is a workshop that offers maker-type programmes for children.*

• *The OP HRDOP 3.3.6-17 aims to broaden the programme repertoire of science experimental education and develops science experience centers.*

• *The OP EDIOP 6.2.3-17 operates in the vocational education context, and aims to set up open workshops/makerspaces.*

Links:

https://www.mobidik.hu/

http://albainnovar.hu

http://www.edufun.hu/

http://tet.inf.elte.hu/tetkucko/

https://www.makerspace.hu/

HRDOPP 3.3.6-17 call

EDIOP 6.2.3-17 call

c. Game based education

No information provided

d. Implementation of computing, coding, computational thinking initiatives

- EU Code Week is a movement that celebrates coding; everybody can join and organize an own event and add it to the movement's map.

- According to the Digital Education Strategy a change should take place in the curriculum that allows coding to become a separate subject and also to become more emphasized in Informatics and Maths.

Link: http://codeweek.eu/ , Digital Education Strategy

e. Self- or peer assessment tools/frameworks for teachers and students

HRDOP- 3.2.15 - CCHOP- 17 develops digital competence measurement tools for pupils, teachers and schools.

f. Tests

HRDOP- 3.2.15 - CCHOP- 17 develops digital competence measurement tools for pupils, teachers and schools.

2.4.   Digital education priorities

Area	High priority	Medium priority	Low priority	Reference to policy action measure (if any)
A: Digital Competence Development				
Developing measures to support digital competence of **future teachers**		x		
Developing measures to support digital competence of **in service teachers**	x			
Developing measures to boost youth **employability and entrepreneurship**			x	
ICT for **accessibility** and **inclusion**: early school leavers, migrants, special educational needs etc.			x	
B: Curricula and Assessment				
Developing **digital competence/media literacy** of students	x			
Developing computer/programming skills/**computational thinking skills**		x		
Developing **key competences** [1]		x		
Developing **21st century skills** (critical thinking, problem solving, communication, collaboration, creativity and innovation)		x		
Assessing with ICT/ICT based exams		x		
C: System-wide innovation				
Developing measures to support **school leaders** in the integration of ICT			x	
Piloting and validating innovative uses of ICT		x		
Mainstreaming ICT in schools		x		
Monitor and research digital learning in schools			x	

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[1] See EC Key competences for lifelong learning: digital competence, math science technology, communication in mother tongue, communication in foreign languages, learning to learn, social and civic competences, sense of initiative and entrepreneurship, cultural awareness and expression. http://europa.eu/legislation_summaries/education_training_youth/lifelong_learning/c11090_en.htm

Learning analytics (using digital technologies and data to support learning)			*x*	
D: Mobile Devices				
Use of tablets		*x*		
Use of mobile phones			*x*	
Bring Your Own Device			*x*	
Cloud computing/services		*x*		
E: Use of digital learning resources				
Developing educational content repositories/metadata	*x*			
Supporting the development of open educational content and resources			*x*	
Supporting the development of educational content/resources provided by publishers			*x*	
Promoting teachers' use, creation and sharing of educational resources			*x*	
F: Learning environments				
Developing/adapting flexible learning spaces			*x*	
Linking formal, non-formal and informal learning using ICT		*x*		
Providing equitable access to ICT (infrastructure, devices and content)	*x*			
Providing a safe learning environment to students and teachers		*x*		

3. INTEGRATION OF DIGITAL TECHNOLOGIES IN THE CURRICULUM

3.1. Digital technology based assessment

Many schools received learners' response systems within the Social Infrastructure Operative Programme (SIOP) 1.1.1-12/1 "Institutional infrastructure development in public education".

The project HRDOP- 3.2.15 - CCHOP- 17 prepares the digital implementation of the main national measurements (the use of digital tools as means of data capturing). The project also further develops an existing digital diagnostic measurement tool.

In Hungary, the national competency measurement tests in grades 6,8,10 in Mathematics and Literacy, with participation of almost all pupils, this is an addition to the school leaving exams. All these diagnostics are further developed, digital data capture is tested, and the foreign language skills measurement is further developed.

The digital diagnostic measurement tool is an existing competency measurement tool for primary school pupils, which is rich in media content and pupils do not experience the interaction as testing but rather as play.

3.2. School improvement with ICT

The online framework system and assessment tool eLEMÉR was used to support the self-review of schools. eLEMÉR is a complex online evaluation system that measures the use of IT tools for school development (http://ikt.ofi.hu/english/). The idea is to have an indicator of the school's progress regarding the use of ICT for institutional development. The evaluation is carried out on a voluntary basis. The evaluation results help the schools to compare their performances amongst each other, with regard to school infrastructure, teachers' teaching and students' learning, as well as the integration of ICT in the school.

eSafety Label, school's self-assessment system about esafety is available in Hungary since 2014. (http://www.esafetylabel.eu).

The operative progremme HRDOP- 3.2.15 - CCHOP- 17 develops benchmarks and measurement tools for institutions.

3.3. The curriculum framework

The National Core Curriculum defines the compulsory pedagogical content of school education and implements the goals that are defined in the Public Education Act. Framework curricula, which define the list of subjects to be taught in schools as well as the minimum number of classes, were planned in line with the National Core Curriculum. Institutions are required to plan their local curricula, including the number

of elective courses, based on these requirements. This curriculum becomes valid after the maintainer's (the Klebelsberg Institution School District Center's, private bodies or church administration's) approval.

3.4. *Digital technologies in the curriculum*

The National Core Curriculum specifies students' required ICT development. Informatics is a distinct and compulsory area of studies at primary and secondary level. According to the current regulations, students have one to two classes per week in grades 6 to 12.

The Development tasks are:
1) Using the tools of informatics
2) Knowledge of ICT applications
    a. Creating written and audiovisual documents
    b. Handling data, data procession, presenting information
3) Problem solving with ICT tools and methods
    a. Choosing the applicable tools and methods
    b. Dealing with algorithms and data models
    c. Modeling simple processes
4) Info-communication
    a. Searching for information, information searching systems
    b. Communication technologies based on information technology
    c. Media informatics
5) Information society
    a. Legal and ethical issues
    b. The role and usage of e-services
6) Library informatics

In addition, the National Core Curriculum defines key competencies and priority areas. Developing digital literacy is one priority area. Therefore, it is both a horizontal and vertical task in public education. The elements of digital competence development are specified several times among individual development tasks and content requirements of subject areas.

Since 2016 many schools engage in the Digital Themeweek, which promotes ICT-supported projects and the use of digital technologies in the classroom. Participating classes upload results and digital products to the National Public Education Portal.

According to the Digital Education Strategy a change should take place in the curriculum that allows coding to become a separate subject and also to become more emphasized in Informatics and Maths. The time span of the strategy is 2018 and ongoing, the supervision of the current curriculum is in progress .

3.5. *Students' digital competence*

According to the Government Decree VI/4 on the publication, introduction and implementation of the National Core Curriculum, *"the goal of informatics as a subject, apart from the development of practical user's knowledge, skills and abilities, is teaching logical, algorithmic thinking and problem-solving. An important task of the subject is to prepare students for individual and group use of IT tools."*

Developing digital competence takes place during Informatics classes, but also in other subjects, since digital competence is a horizontal priority area. The National Core Curriculum specifies the output requirements which define the ICT knowledge a student has to acquire in a given year. Secondary school trainings end with a school-leaving exam for which Informatics is one of the elective courses.

Required skills and competences:

The development of digital competence is defined by the National Core Curriculum as compulsory and a priority area for development. Taking into account age-related characteristics and the sequence within the curriculum, the requirements for specific years as students advance are the following:

1) User knowledge of major computer applications: word processing, management of charts, databases, information management;
2) User knowledge of the potential of the Internet: data management, collection, procession and critical application of data, communication;
3) Use and share information during study and research;
4) Use of ICT in critical thinking, creativity and innovation.

3.6. Assessment of digital competence

ICT skills are assessed within the framework of the subject Informatics. For the school leaving exam, Informatics is an elective subject. Pupils can get ECDL exam certificate if their final exam is marked excellent.

HRDOP- 3.2.15 - CCHOP- 17 aims to redefine the **required digital competency levels** to be reached by pupils at different stages of their study. The project develops media literacy measurement tools and prepares a nation-wide introduction.

4. DIGITAL LEARNING RESOURCES AND SERVICES

4.1. Digital content development

The Institute for Education Research and Development (OFI) developed digital content harmonized with textbooks in the project SROP 3.1.2/B *"Development of textbooks, equipment, digital content and National Public Education Portal in line with the National curriculum".* OFI aimed to reach "full coverage" with digital content of the subjects and

age groups of public education. The content is available on the National Public Education Portal (in HU) since 2015. It has been further developed in 2016 in the OP in HRDOP - 3.2.2- CCHOP- 15.

4.2.   Content sharing and creation

The Sulinet portal (http://www.sulinet.hu/ in HU) is a central educational website for students and educators. It has a set of functions that allow users to create and share their own content (crosswords, puzzles, card sets, mindmaps, timelines etc.). Sulinet offers a platform for young, primary school users, (http://junior.sulinet.hu/hu) where user generated content appears after validation.

Since 2016 many schools engage in the Digital Themeweek, which promotes ICT-supported projects and the use of digital technologies in the classroom. Participating classes upload results and digital products to the National Public Education Portal.

4.3.   Accessibility for learners with disabilities and social inclusion

It is a horizontal aim in the Digital Education Strategy that digital platforms and content should be barrier-free and that SEN pupils should be provided with suitable hardware and software. Teachers who work with SEN pupils should be prepared to the use of digital tools.

KórházSuli (in HU) is an initiative that helps permanently sick pupils who are in hospitals in their learning. It is a peer learning program: secondary school pupils and higher education students help sick pupils with self-developed digital learning material, with online tutoring and with common projects.

4.5.   Learning Platforms

The spread of e-learning framework systems such as Moodle and Ilias is fragmental in Hungarian public education. This might be due to users finding them too complicated and due to lack of sufficient administrative personnel.
Some teachers use free online learning platforms or supplement learning platforms with cloud services such as Google Drive or OneDrive. Some teachers use Padlet or other web 2.0 services for content sharing and collaboration.
The Sulinet Community is a social networking service that is recommended to be used as a learning platform. Registered users may join existing public or moderated groups or create groups themselves, either closed or open.

5. TEACHER EDUCATION FOR DIGITAL LEARNING

5.1.   Assessment Schemes

There are no generally accepted assessment schemes for teachers' ICT competences. Both for initial teacher training and in-service training courses, the individual courses define the assessment schemes and criteria.

HRDOP- 3.2.15 - CCHOP- 17 develops benchmarks and measurement tools for teachers' digital competence. Proven level of digital competency is going to be a criteria for career advancement.

5.2.   School leader support

There is no programme for supporting school leaders in their role when they introduce innovations in their schools.

5.3.   Digital technologies in initial teacher education

ICT in initial teacher training is not compulsory. There is no generally accepted ICT curriculum for initial teacher training, it lies within the authority of the universities. It is an aim in the Digital Education Strategy that digital competency should be defined as an output requirement in initial teacher training.

There are some initiatives that aim to link initial and in-service teacher education. eTwinning, the (digital) community of European schools offers in-service training since years. Now the introduction in initial teacher education is in progress.
The TeachUP project investigates what role MOOCs can take in initial and in in-service teacher training.

5.4.   ICT in in-service teacher education

It is compulsory for teachers to gain a certain amount of credits from accredited in-service (continual professional development) courses. Teachers can freely choose the topic of the courses; ICT related courses are an option for them.
Training needs of teachers are mapped at a regional level, and the courses are organized according to training needs by the regional units of the Educational Authority. A digital tool helps the process.
The ICT use-related course offer is diverse, and several new courses have been developed in the SROP 3.1.5/12 "Support of teachers' in-service training" operative program, and in SIOP 1.1.1-12/1 "Institutional infrastructure development in public education".

In 2016, the Educational Authority organized ICT related trainings for 205 groups with 3608 participants, from which 152 groups and 2739 participants took part in a course developed in SIOP 1.1.1-12/1 - CHOP-4.6.1/D-13-2013-0001.

No	Title	number of groups	number of completions	average group size
1.	Support of learning activities with interactive ICT tools (SIOP 1.1.1-12)	78	1 419	18
2.	Pedagogical use of interactive whiteboards and learners' response systems (SIOP 1.1.1-12)	74	1 320	18
3.	The use of computers in the teaching and learning process I.	21	349	17
4.	Use of digital learning tools in kindergarten and primary school	11	172	16
5.	Interactive whiteboard – interactive methods in the teaching and learning process	8	133	17
6.	Digital literacy development in the instruction of subjects	5	94	19
7.	Introduction to the use of ICT in teaching practice	3	58	19
8.	The use of computers in the teaching and learning process II.	2	29	15
9.	Use of multimedia elements in the teacher's work	2	21	11
10.	Everybody has a chance – Handicap compensation with exploiting opportunities of the school library and ICT	1	13	13
	Sum:	**205**	**3608**	**163**

The development of new ICT-use related CPD courses is planned in current operative programmes HRDOP- 3.2.4-16 and HRDOP- 3.2.15 - CCHOP- 17.

5.5.   Training the Teacher Trainers

There is no general preparation for teacher CPD trainers. CPD trainers' preparatory trainings are organized by the founders of the given in-service training course, for applicants who have the necessary qualifications defined in the founding document of the course. In-service training programs can be founded by public or private institutions or by individuals. The programs have to go through an accreditation process that certifies their quality.