HUNGARY

Country Report on ICT in Education

Available on http://www.eun.org/observatory

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2015

1. THE EDUCATION CONTEXT

1.1   KEY EDUCATIONAL CHALLENGES AND PRIORITIES

1) Enhancing and unifying the quality of public education
2) Providing opportunities for early intervention to support low performing students
3) Unifying tasks of teachers, systematic quality control measures
4) Making the teaching profession more attractive
5) Providing unified content (textbooks and digital content) to schools

1.2   EDUCATION REFORMS

National Core Curriculum & Framework Curricula

The **new National Core Curriculum** and the **new Framework Curricula** are now prevalent for some classes in an ascending system. The National Core Curriculum defines the compulsory pedagogical content of school education. Framework curricula define the list of subjects to be taught in schools as well as the minimum number of classes. Institutions are required to plan their local curricula, including the number of elective courses, based on these requirements. The curriculum becomes valid after the maintainer's (the Klebelsberg Institution Maintenance Center's, the local government's or the church's) approval.

Teachers' professional development & assessment

As part of the teachers' professional development program, teachers can go through an assessment procedure that can result in reaching different ranks in the rating system. Ranks come with higher salaries and a diversified work load that includes less classes and dedicates working hours to supporting other teachers' professional development or institutional innovations. Not all ranks of the system are fully developed and available by now.

Textbook publishing

Textbook publishing becomes a centralized task, fulfilled by the Institute for Education Research and Development, a background institution of the Ministry responsible for public education (Ministry of Human Resources). The new textbooks are in piloting phase. Textbooks should be sustainable, lasting for more than one year, which should result in cost-effectiveness. In line with the new textbooks, also digital learning materials are produced for all grades and all subjects of public education by the same institution. The new learning materials should become available on a new portal during the autumn of 2015.

2. ICT IN EDUCATION POLICY

2.1.   NATIONAL/REGIONAL ICT POLICIES

New equipment for schools

After an assessment of needs, schools in public education receive various equipment e.g. Interactive Whiteboards, laptops, tablets, routers and other tools. The total amount of investment within the *Social Infastructure Operative Programme (SIOP) 1.1.1-12/1 "Institutional infrastructure development in public education"* is 9.395.600.000 Ft.

Time frame: 01 January 2013 – 31 October 2015

Link: http://www.educatio.hu/projektjeink/tiop111

Century public education (development, coordination)

The Social Renewal Operative Programme (SROP) 3.1.1 "XXI. century public education (development, coordination) II. phase:

- supports the development, documentation and spread of best practices,
- provides effective statistics about public education,
- fosters the development of digital literacy among teachers and students,
- works out strategies for reducing disadvantages and
- supports kindergarten-school transition in early years.

Time frame: 01 August 2012 – 31 August 2015

Link: http://www.educatio.hu/projektjeink/tamop311_2szakasz

New system of in-service teacher training

The *Social Renewal Operative Programme (SROP) 3.1.5/12 "Support of teachers' in-service training"* aims to set up a new system of in-service teacher training, in accordance with the new teacher career path model. This includes the following actions:

1) New teacher training courses (face-to-face, blended and online) are developed and courses are organised for teachers.
2) A database is developed for teacher portfolios and for monitoring teachers' progress.
3) A new learning management system is set up for the support of online and blended teacher trainings.
4) A database for best practices and available services is further developed.

Time frame: 01 August 2012 – 30 September 2015

Link: http://www.educatio.hu/projektjeink/tamop315

New Strategy: The Green book on developments in info-communication sector

For the period of 2014-2020, the National Ministry for Development agreed upon a strategy called the Green book. ("*Green book about the directions of development in the info-communication sector between 2014-2020*"). The Green book classifies development priorities in the info-communication sector in four pillars:

1) digital infrastructure,
2) digital competence,
3) digital economy,
4) digital state.

The pillars on 1) digital infrastructure and 2) digital competence both contain priorities regarding education. The goal is to provide more IT related training for in-service and pre-service teachers, more digital content and more IT classes. The curriculum is to be changed to include programming. Actions are also planned with regards to connectivity and equipment in schools.

2.2. RESPONSIBILITIES

The main Institutions for implementing the ICT strategy are:

1) The **National Development Agency (NDA)** which was established to carry out long

   -term and medium term development and planning tasks, to prepare plans required for the access to financial aids from the European Union, and to prepare operational programs and establish the institutional framework for utilizing these aids.

2) The **Ministry of Human Resources** (MHR) of the State Secretariat for Education, which is responsible for the functioning of the Hungarian social and healthcare service system, the development of school education, the protection of cultural values, the enforcement of the

interests of children and the youth, and the realization of government's plans concerning Hungarian sports.

3) The **Educatio Public Services Nonprofit Limited Liability Company,** whose primary goals are:

   a. the conceptualization of services regarding developments in content, methodology and administration in public and higher education,
   b. the implementation of development programs,
   c. the coordination of developments that aim to reform public education,
   d. the creation of equal opportunities in education.

   Educatio also operates certain services that are based on IT infrastructure e.g. college admission processes, public education statistics and student ID administration. Educatio is a background institution of the Ministry, which will continue to operate until the end of 2015. By 2016 most of the services will be merged to the Education Office.

4) The **Education Office** (EO), which is active in both public and higher education, and effectively harmonizes the diverse fields of education in Hungary.

5) The **Institute for Education Research and Development** (OFI), which is the strategic research, development and service institution of the education sector. The institute is responsible for developing curricula, as well as for developing content (digital and textbooks).

6) The **Klebelsberg Institution Maintenance Center** (KIMC) which holds the responsibility for state control of public education. It maintains most public schools and employs most teachers and school staff. The institution is organized according to different school districts.

2.3. SPECIFIC ICT INITIATIVES

1:1 mobile learning initiatives (including the use of netbooks, laptops, tablets, mobile phones or other mobile devices)

Within the framework of SROP 3.1.1 Educatio, Educatio implemented several projects:

- **A project on mobile learning.** The project used pilots in classroom settings, as well as qualitative and quantitative data analysis.
- **A project on the creation of digital content as a means of learning.** The project used pilots in classroom settings, as well as qualitative and quantitative data analysis.
- The professional development **training course Intel® Teach 1:1** to Hungarian language.

Furthermore, the Eszterházy Károly Collage, Eger conducted a **research on the use of iPads**, and at a later stage, on the use of Windows 8 and Samsung devices.

In addition, Samsung launched its **"Smart School" project** in Jászfényszaru, where they equipped two classrooms and trained nine teachers on the use of tablets and other equipment.

Finally, the mobile provider's, **Telenor's Hipersuli programme** gave tablets with internet connection to students in four schools.

For further information:

- *Educatio mobile project: http://www.educatio.hu/projektjeink/tamop311_2szakasz/eredmenyek/m_learning*
- *Educatio content creation project: http://www.educatio.hu/projektjeink/tamop311_2szakasz/eredmenyek/digitalis_tartalomkeszites*
- *Eszterházy Károly collage project: http://byod.ektf.hu/windows/bevezeto*
- *Samsung project: http://www.samsung.com/hu/business/insights/news/samsung-smart-school-opened-in-jaszfenyszaru*
- *Telenor project:http://www.hipersuli.hu/*

MOOCs for teacher professional development or initial teacher training or MOOCs for students, including certification

The Óbuda University (Óbudai Egyetem) set up "K-MOOC, Carpatian Basin MOOC", a **pilot MOOC centrum in Hungarian language.** Many other universities and colleges joined, including the University of Pécs and the Eszterházy Károly Collage, Eger.

For further information: http://www.kmooc.uni-obuda.hu/

ICT for inclusion (early school leavers, migrants, etc.) and special needs (physical, mental, emotional)

1) In the framework of SROP 3.1.1, Educatio implemented a project to develop and pilot a mobile app to support autistic students.
2) In the framework of SROP 3.4.2.B, Educatio provided pedagogical and technical support to pedagogical specialized services. Traveling Special Educational Needs experts were equipped with tablets that help with diagnostics and therapy.

For further information:

- Educatio mobile app, autism, information to become available soon: http://www.educatio.hu/projektjeink/tamop311_2szakasz/eredmenyek
- Specialized services supported with technology: http://www.educatio.hu/projektjeink/tamop342b

ICT for learning initiatives targeted to boost employability and entrepreneurship

The Association of IT Companies (IVSZ) organises awareness campaigns and advocacy for more digital competences, with the aim of enhancing productivity in the IT sector. The Association addresses IT and programming as subjects in public and higher education.

For further information:

- *Association of IT Companies http://ivsz.hu/*

Cloud computing and connectivity (e.g. wireless Internet, optical fibre connections)

The National Information Infrastructure Development Institute (NIIFI) builds a backbone network for education and research. Via the Sulinet and Sulinet + projects, NIIFI aims to enhance connectedness in public and higher education.

2.4.   ICT PRIORITIES

A: Digital Competence Development

Area	High	Mid	Low
Developing measures to support digital competence for future teachers		X	
Developing measures to support digital competence for in service teachers	X		
Developing measures to support school leaders in the integration of ICT			X
ICT for learning initiatives targeted to boost youth employability and entrepreneurship			X
ICT for accessibility and inclusion: early school leavers, migrants, etc… and special educational needs			X

Reference to policy action measure related to Digital Competence Development: SROP 3.1.5/12 "Support of teachers' in-service training".

B: ICT in Curricula and Assessment

Area	High	Mid	Low
Developing computer/programming skills			X
Developing key competences		X	
Developing 21st century		X	

	High	Mid	Low
skills (critical thinking, problem solving, commu-nication, collaboration, and creativity and innova-tion)			
Assessing with ICT/ICT based exams			X
Learning Analytics		X	

Reference to policy action measures related to ICT in Curricula and Assessment: The National Core Curriculum refers to the key competencies and 21st century skills.

C: System-wide innovation

Area	High	Mid	Low
Piloting and validating in-novative uses of ICT		X	
Mainstreaming ICT in schools		X	

Reference to policy action measures related sys-tem-wide innovation: SROP 3.1.1 "XXI. century pub-lic education (development, coordination) II. Phase.

D: Mobile Devices

Area	High	Mid	Low
Use of tablets		X	
Use of mobile phones			X
Bring Your Own Device			X
Cloud computing	X		

Reference to policy action measures related to Mo-bile Devices:

- *Social Infastructure Operative Programme (SIOP) 1.1.1-12/1 "Institutional infrastructure development in public education" - tablets were provided to schools.*
- *The National Information Infrastructure Development Institute provides cloud base services for schools e.g. e-mail, video sharing and archive, videoconferencing.*

E: Use of digital resources

Area	High	Mid	Low
Developing educational content reposito-ries/metadata	X		
Supporting the develop-ment of open educational content and resources		X	
Supporting the develop-ment of educational con-tent/resources provided by publishers			X
Promoting the use and sharing of educational re-sources with teachers			X

Reference to policy action measures related to the use of digital resources:

- *SROP 3.1.1 "XXI. century public education (development, coordination) II. phase " - new tools and features for the Sulinet portal (the biggest educational portal in Hungary established in 1999)*
- *SROP 3.1.2/B "Development of textbooks, equipment, digital content and National Public Education Portal in line with the National curriculum" - development of the National Public Education Portal (will be started in Autumn 2015)*

F: Learning environments

Area	High	Mid	Low
Linking formal and infor-mal learning using ICT			X
Providing equitable access to ICT (infrastructure, de-vices and content)	X		
Providing a safe learning environment to students and teachers			X
Commissioning ICT related research			X

Reference to policy action measures related to Learning environments: Social Infastructure Opera-tive Programme (SIOP) 1.1.1-12/1 "Institutional infra-structure development in public education".

3. THE CURRICULUM AND ICT

3.1. ICT BASED ASSESSMENT

Schools can apply for learners' response systems within the Social Infastructure Operative Programme (SIOP) 1.1.1-12/1 "Institutional infrastructure development in public education".

3.2. SCHOOL IMPROVEMENT WITH ICT

The online framework system and assessment tool **eLEMÉR** was developed to support the self-review of schools, within the EU-funded project *Social Renewal Operative Program priority 3.1.1*. eLEMÉR is a complex online evaluation system that measures the use of IT tools for school development (http://ikt.ofi.hu/english/?cat=10). The idea is to have an indicator of the school's progress regarding the use of ICT for institutional development. Each year in February, 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.

In 2014, eSafety Label, which allows for the school's self-assessment of safety was adapted in Hungary (http://www.esafetylabel.eu).

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 Maintenance Center's, local government's, or church administration's) approval.

3.4. ICT IN THE CURRICULUM

The National Core Curriculum specifies students' 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 six 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 the key competencies and priority areas to be developed in the future. Developing digital literacy is one priority area. Therefore, it is both a horizontal and vertical task of public education. The elements of developing digital competence are specified several times among individual development tasks and content requirements of subject areas.

3.5. STUDENTS' ICT 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 ICT COMPETENCE

ICT skills are assessed within the framework of the subject Informatics. For the school leaving exam, Informatics is an elective subject. There is an accreditation system within which students get their ECDL[1] exam if their final exam is marked excellent (5[2]).

4. DIGITAL LEARNING RESOURCES AND SERVICES

4.1. E- CONTENT DEVELOPMENT

The Institute for Education Research and Development (OFI) aims to develop harmonized textbook and digital content, within the project *SROP 3.1.2/B "Development of textbooks, equipment, digital content and National Public Education Portal in line with the National curriculum"* (http://etananyag.ofi.hu/). The OFI aims to reach "full coverage" with digital content of the subjects and age groups of public education. Content will be provided on the website National Public Education Portal. The portal and the contents will be launched in September 2015.

4.2. CONTENT SHARING

Educatio developed further it's Sulinet (http://www.sulinet.hu/) website, a central educational website for students and educators, within the *SROP 3.1.1 "XXI. century public education*

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[1] The European Computer Driving Licence (ECDL is a computer literacy certification programme provided by ECDL Foundation.

[2] In Hungary pupils' achievments are generally scored between 1 to 5. The mark '1' means fail and the mark '5' is the best result.

(development, coordination) II. phase. The website now 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 new platform for young, primary school users, (http://junior.sulinet.hu/hu) where user generated content appears after validation.

4.3. ACCESSIBILITY FOR LEARNER WITH DISABILITIES AND SOCIAL IN-CLUSION

The Non-Profit LTD aims to develop and share knowledge about physical and IT accessibility, within SROP 5.4.5 the *Equal Opportunities for Persons With Disabilities*. Part of the project is the adaptation in public education.

For further information: http://fszk.hu/szakmai-tevekenysegek/egyenlo-eselyu-hozzaferes/tamop-5-4-5/

In Hídprogram I and II (Bridge program I and II), students who did not manage the lower secondary school- upper secondary school transition are offered a special programme in the 9th grade. Their program consists of relevant competence and skills development as well as support in career planning.

4.4. WEB 2.0

Several Web 2.0 applications are available for free that may be used to support learning and that inspire teachers to update their methodology. International projects such as eTwinning inspire Hungarian teachers to use tools and applications in class and outside the classroom. eTwinning (http://hirmagazin.sulinet.hu/hu/etwinning, etwinning.net) offers competitions, a mentoring programme and professional development opportunities for teachers within and outside the country.

The project ICT Collage 2014 (http://www.sulinet.hu/iktmuhely_2014/) offers a set of well documented best practices about project pedagogy and ICT. In the best practices a variety of web 2.0 tools are used.

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 platforms such as the translated NeoLMS, or supplement learning platforms with free file sharing sites such as Google Drive or OneDrive.

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 ICT

5.1. ASSESSMENT SCHEMES

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

5.2. SCHOOL LEADER SUPPORT

There is no programme for supporting school leaders in the design of a professional development strategy for ICT.

5.3. ICT FOR INCLUSION

Some best practices are available about the use of ICT in special needs education.

See also Section 2.3. Specific ICT initiatives.

5.4. ICT IN INITIAL TEACHER EDUCATION

ICT in initial teacher training is not compulsory. There is no generally accepted ICT curriculum for initial teacher training. In 2014, Educatio introduced the Intel® Teach Essentials course, originally an in-service course, in initial teacher training. The course was piloted in two institutions as an elective course. The course is about project pedagogy and effective use of ICT in the classroom.

5.5. ICT IN IN-SERVICE TEACHER EDUCATION

In-service ICT related training is not compulsory, but it is compulsory for teachers to gain a certain amount of credits from in-service courses. The teachers can freely chose the topic of the courses. Several new courses are being developed including ones that are related to ICT use in the classroom, within *the SROP 3.1.5/12 "Support of teachers' in-service training"*. In the framework of the project, many teachers receive training of their choice for free.

5.6. TRAINING THE TEACHER TRAINERS

In general, teacher trainers involved in accredited in-service teacher training courses take part in compulsory courses for teacher trainers. This applies to ICT-based trainings as well. There is no general preparation for these trainers. The trainings for teacher trainers are organized by the founders of a given in-service training program, for applicants who have the necessary qualifications defined in the founding document of the training 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.