CZECH REPUBLIC

Country Report on ICT in Education

Available on http://insight.eun.org

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INSIGHT

European Schoolnet

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1. THE EDUCATIONAL CONTEXT

1.1 EDUCATION REFORM

Between 2005 and 2008, the **Framework Education Programme**, a major reform of the education system, was implemented in the Czech Republic. The main idea behind the reform was to make schools more independent from the central administration. Greater independence allows teachers to develop, on their own initiative, a richer variety of teaching approaches, with the emphasis on constructivist methods. Consequently, the reform should also strive for greater competitiveness of different schools and programmes.

In accordance with the new principles of curricular policy formulated in the **National Programme for the Development of Education in the Czech Republic** (White Paper) and embodied in **Act No. 561/2004 Coll., On Preschool, Elementary, Secondary, Higher Vocational and Other Education** (hereafter referred to as the 'Education Act'), a new system of curricular documents for the education of pupils and students aged between 3 and 19 is being introduced into the education system.

Curricular documents are developed at two levels: state and school. In the system of curricular documents, the state level is represented by the **National Education Programme** (NEP, still under development) and **Framework Education Programmes** (FEPs). Whereas the NEP formulates the requirements for education that are applicable throughout the whole of initial education, the FEPs define the binding scope of education in its individual stages (preschool, elementary and secondary education). The school level is represented by **School Education Programmes** (SEPs), on the basis of which education is implemented in individual schools. SEPs are created by each school according to the principles prescribed in the respective FEPs.

In 2012, the FEP for elementary and pre-school education was reviewed and 'education standards' were added to the FEP for elementary schools for the following subject areas: Czech language and literature, English and maths. Others subjects will follow in the 2013/2014 school year.

For further details see our previous report.

Reform of upper-secondary school leaving exam (State Secondary School Leaving Exams)

The upper secondary school leaving exam is a necessary condition for further education (entering university or college). Until the 2010/2011 school year, all upper secondary schools organised their own final examinations. A new amendment to the law that reforms secondary school leaving exams has significantly changed the procedure surrounding the organisation of this important exam. The exam is divided into two sections: The first section of the leaving exam (called the 'common section') is the same for all upper secondary schools in the Czech Republic, and the second section (called the 'profiled section') is within the responsibility of each school. In 2013, the exam consists of the following subjects:

1. Common section: Czech language, foreign language or math and max. 2 optional subjects;
2. Profile section: 2-3 subjects in accordance with the FEP and branch of study and max. 2 optional subjects.

Although this was initially planned, the ICT exam is not part of the common 'nationwide' section of the upper secondary leaving exam, but can be part of the profile section of the exam.

1.2 KEY CHALLENGES/PRIORITIES FOR EDUCATION

Education 2020

The Czech Ministry of Education, Youth and Sports (MoE) has launched a general discussion among experts, teachers, NGOs etc. about the priorities and challenges of the Czech education system between now and 2020. The main result of this discussion will be a strategic document called **Education 2020,** which will be approved by the Czech government in late autumn 2013. Several conferences, workshops and roundtables organised by the MoE took place during spring 2013, and these will provide the baseline for this new strategic document. It is expected that ICT will also play an important role in this strategy but the document is not yet finalised.

Educational trends encouraged and supported by the FEP:

- Taking students' needs and potential into consideration when striving to achieve the educational objectives at elementary schools
- Applying a more variable organisation and individualisation of education in accordance with students' needs and potential and to utilise internal differentiation of instruction;
- Creation of a wider range of obligatory optional subjects in order to develop students' interests and individual abilities;
- Creation of a positive social, emotional and working atmosphere based on effective

motivation, cooperation and engaging instructional methods;
- Implementation of changes in student assessment towards continuous diagnostics, individual assessment of achievements and a broader use of verbal assessment;
- Maintaining, for as long as possible, natural, heterogeneous groups of students, ensuring less segregation of students into specialised classrooms and schools;
- Emphasis on efficient cooperation with students' parents.

Other challenges

- The new state upper secondary school leaving exam and its successful implementation is the issue that is currently most under discussion. (see *Section 1.1*)
- Successful implementation of the grant initiative **EU Money to Schools** (see *Section 2.2.*).
- The new assessment system (using electronic testing) aimed at elementary grades 5 and 9 that was piloted in 2012 (see *Section 3.5.)*;
- Efforts to support entrepreneurship and cooperation of school and enterprises in secondary vocational education;
- Developing key competences

2. ICT POLICY

2.1. RESPONSIBILITIES

Schools are not directly managed by the MoE. Regional or local authorities are school founders, who are responsible for financial and control issues. The MoE, to a lesser extent, has some responsibilities according to the number of students in a school.

The use of ICT is an inseparable part of the strategic objectives and planning of schools today. Conceptual steps to be taken in this area are, as a rule, part of an ICT plan. When organising teaching, the majority of schools take the use of ICT into account. Implementation of ICT into curricula is the responsibility of each school director, but the subject of ICT is included in the FEPs for elementary and secondary education. Schools can have official ICT plans if they feel that it is useful for their own work.

In October 2008, the MoE document '**The Concept of ICT Development in Education for the period 2009-2013**' was accepted by the Czech government. This legal document currently outlines three main areas that should support ICT development in education: EU funding for schools (see *Section 2.2*.), a school portal and ***Nedir*** (an integrated register of the education system in the Czech Republic), all of which are financed by the European Social Fund (ESF). Due to the existence of the ESF and other grant schemes of independent regional or local authorities, schools are able to receive financial support for various areas of the development of ICT education or of the use of ICT in teaching and learning (see *Section 2.2*). The use of ICT in Czech schools is regularly evaluated by the Czech School Inspectorate (see *Section 3.6*).

2.2. ICT POLICIES FOR SCHOOLS

Current initiatives

Grant Schemes

The **Education for Competitiveness Operational Programme** (ECOP) is a multi-year thematic programme (2007-2013) under the jurisdiction of the MoE, within which it is possible to receive financial support from the European Social Fund (ESF), one of the structural funds of the EU. ECOP focuses on the development of human resources through education in all its forms, with an emphasis on the comprehensive system of lifelong learning, the creation of an appropriate environment for research, the development of innovative activities and the stimulation of cooperation among the entities involved. The range of receivers of support within ECOP, depending on the individual areas of support, is very wide. All information on the programme is available online: www.msmt.cz/areas-of-work/education-for-

competitiveness-operational-programme-period. ECOP is a broad programme under which various projects are financed; some of these projects focus on the purchase of ICT equipment or teacher training in the field of ICT and they are mostly managed by regional authorities or universities.

A special initiative under ECOP is **EU Money to Schools** (2010-2012), which was adopted in May 2010 and is managed by the MoE. It is aimed at all elementary and secondary schools (excluding schools in the capital). The initiative supports various innovative curricular approaches (not only ICT) in different areas of teaching: MST, financial literacy, reading and information literacy, foreign language teaching, inclusive education and use of ICT in all subjects. Schools can apply for a grant directly to the MoE. Applications are now closed and 97.7% of all elementary and 91.7% of secondary schools outside Prague applied for a total of 5.6 billion CZK (approx. €220 million). ICT was the most common area of interest and it is expected that approximately two-thirds of the budget will be invested in ICT. Examples of supported areas within ICT are: the digitalisation of textbooks, e-learning, further teacher training, the modernisation of school equipment through the purchase of DVDs, cameras, netbooks, tablets, notebooks, computers, software programmes and interactive whiteboards, e-skills training (different training sessions organised by a range of institutions), etc. Schools in Prague can apply for support from special initiatives and programmes aimed specifically at the city.

Other initiatives

- NGOs supporting ICT in education, e-skills and e-safety, such as the **Czech Union of Computer Scientists** (www.jsi.cz), offer support to ICT coordinators and ICT teachers in their work towards a safer internet.
- Projects financed by private companies supporting e-skills and future classroom concepts, such as **Projekt Vzdělání 21** (www.vzdelani21.cz), an initiative supporting the design of 21st century learning spaces, including a 1:1 approach.
- Competitions for pupils and students in ICT provided by private companies and NGOs, such as the competition in programming or digital learning resources.
- Competitions for schools and teachers such as the **DOMINO** competition, organised by the National Institute for Further Education.
- There are a number of conferences aimed at ICT, organised by universities, secondary schools or private companies. One such example is ***Počítač ve škole*** (The Computer at School: www.pocitac-veskole.cz/kategorie/setkavani/pocitac-ve-skole-2012).
- Training and further education on ICT for teachers is provided by different institutions, including universities. Some of these training courses are accredited by the MoE.

Past initiatives

The **National Strategy for ICT in Education** (SIPVZ) began in 2000 and was meant to last until 2010. However, after the parliamentary elections in 2006 the strategy was cancelled with no alternative to replace it. Within this strategy the MoE used to provide schools with an internet connection via the government administration communication infrastructure. There was a coordination centre represented by 20 leading independent ICT specialists from the education sector as well as from the Government. An important part of the SIPVZ programme was teacher training for the use of ICT in education (see *Section 5.3*).

An important project supported by the European Social Fund was **Methodology II** (2009-2011). This project focused on the systemic support of teachers in the area of teaching methodologies and didactics. The main result of this project is the **national methodological portal for teachers** (www.rvp.cz), which aims to assist teachers in curricular reforms and their implementation into schools, and to provide methodological support for increasing the quality of the teaching profession. The implementation period of the portal was extended in 2012, financed by the state budget. At present, the portal has more than 20,000 registered users (of a total of around 150,000 Czech teachers: see statistics rvp.cz/statistiky) and offers services such as personal

blogs, active participation in thematically organised forums, jointly developed Wiki pages containing elementary pedagogic materials, e-learning modules and a repository of digital learning materials (more in *Sections 4.2.* and *4.3*).

2.3. SPECIFIC ICT INITIATIVES

See Sections 2.2, 3.4 and 5.7.

2.4. ICT PRIORITIES

Area	High	Mid.	Low
ICT in teacher training			X
In-service teacher training		X	
Curriculum development		X	
ICT-based assessment	X		
Infrastructure and maintenance		X	
Digital learning resources	X		
School-home connections			X
ICT for learners with disabilities/special needs			X
ICT-related research			X
e-Safety		X	
Reducing the digital divide		X	
Interactive Whiteboards	X		
Netbook/notebooks		X	
Tablets			
Developing key competences	X		
Developing 21st century skills (critical thinking, problem solving, communication, creativity, innovation)	X		

2.5. NATIONAL CHARACTERISTICS (OPTIONAL)

No information provided.

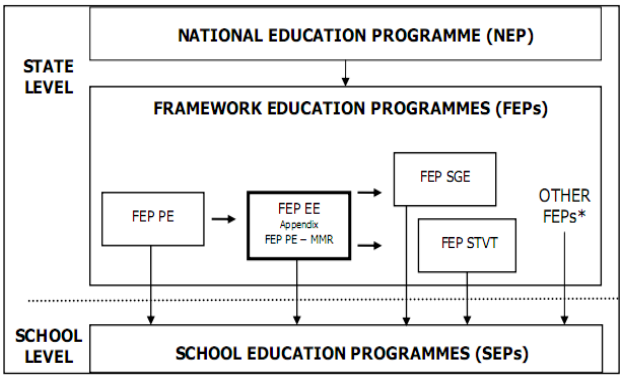
3. ICT IN THE CURRICULUM

3.1. CURRICULAR FRAMEWORK

System of curricular documents

See also *Section 1.1*

Curricular documents are developed at both state and school level. At the state level, the **National Education Programme** (NEP, still under development) and **Framework Education Programmes** (FEPs) are involved in the school curricula. While the NEP formulates the requirements for education that are applicable to initial education as a whole, the FEPs define the binding scope of education for its individual stages (pre-school, elementary and secondary education). The school level is represented by the **School Education Programmes** (SEPs), on the basis of which education is implemented at individual schools. SEPs are created by each school according to the principles prescribed in the respective FEPs.



The NEO, FEPs and the SEPs are public documents, available to teachers as well as the general public.

3.2. ICT IN THE CURRICULUM

The educational content of **elementary education** has been divided into nine roughly defined educational areas in the Framework Educational Programme for Elementary Education (FEP EE). Individual educational areas consist of one or more educational fields of similar educational content. One of these is **Information and Communication Technologies**. The nine educational areas are as follows:

1. **Language and Language Communication** (Czech Language and Literature, Foreign Language);
2. **Mathematics and its Application**;
3. **Information and Communication Technologies**;
4. **Man and His World**;
5. **Man and Society** (History, Civics);
6. **Man and Nature** (Physics, Chemistry, Natural Sciences, Geography);
7. **Arts and Culture** (Music, Fine Arts);
8. **Man and Health** (Health Education, Physical Education);
9. **Man and the World of Work:** the educational content of this field is divided into four compulsory thematic areas, one of which is Use of Digital Technologies, that focus on students' digital competences.

Educational content at secondary school level has been divided into eight roughly defined educational areas. In the Framework Education Programme for Secondary General Education (FEP SGE) individual educational areas consist of one or more educational fields of similar educational content.

1. **Language and Language Communication** (Czech Language and Literature, Foreign Language, Second Foreign Language);
2. **Mathematics and its Application**;
3. **Man and Nature** (Physics, Chemistry, Biology, Geography, Geology);
4. **Man and Society** (Basics of Civics and Social Sciences, History; Geography);
5. **Man and the World of Work**;
6. **Arts and Culture** (Music, Fine Arts);
7. **Man and Health** (Health Education, Physical Education);
8. **Information Science and Information and Communication Technologies**.

The Framework Education Programme for Secondary Technical and Vocational Training (FEP STVT) differs from the FEP SGE and includes 'Competence to use ICT and work with information' which is regarded as a key competence (this competence is a part of the educational area **Education in ICT**).

Using ICT in school education and the related support of information literacy is one of the priorities of the curricular reform in the Czech Republic. The position of ICT within the curricula is defined not only as an independent school subject but as a tool for solving problems and as a basis for creating an educational environment. The topic of ICT is included in the FEPs for individual levels of education.

For further information:

The Framework Education Programme for Elementary Education (National Institute for Education):

rvp.cz/informace/wp-content/uploads/2009/09/RVP_ZV_EN_final.pdf

Framework Education Programme for Secondary General Education (National Institute for Education) rvp.cz/informace/wp-content/uploads/2009/09/RVP_G-anj.pdf

3.3. STUDENTS' ICT COMPETENCE

Digital competence is considered as a key competence only in the FEP for Secondary Technical and Vocational Training (not for elementary schools and general secondary schools), but is integrated in the curriculum as a separate educational area called ICT. The position of ICT within the curricula is defined not only as an independent school subject but as a tool for solving problems and as a basis for creating an educational environment.

Framework Education Programme for Elementary Education

Stage 1 (age 6-10)

Basics of working with a computer

- Use the basic, standard functions of a computer and its most common peripherals;
- Observe safety rules when working with hardware and software, and proceed in an informed manner in case they are faulty;
- Protect data from damage, loss or abuse.

Information searching and communication

- Utilise simple and suitable ways when searching for information on the Internet;
- Search for information on web portals, in libraries and in databases;
- Communicate by means of the Internet and other common communication devices.

Stage 2 (age 11-15)

Information searching and communication

- Verify the credibility of information and information sources and assess their importance and interconnectedness

Information processing and application

- Be able to work with text and graphics and table editors, and to use suitable applications;
- Apply basic aesthetic and typographic rules for work with text and pictures;
- Work with information in accordance with legislation on intellectual property rights;
- Use information from various sources and evaluate simple relationships between data;

Prepare and present information in text, graphic and multimedia forms at user level.

Attitudinal targets are part of the expected outcomes.

In the FEP for Elementary Education, ICT as a communication tool is also mentioned as a voluntary educational area (see: rvp.cz/informace/wp-content/uploads/2009/09/RVP_ZV_EN_final.pdf p.12/p.86).

Framework Education Programme Secondary General Education

Digital Competence is considered as a key competence only in the FEP for secondary schools oriented towards technical and vocational training, not for generally oriented secondary schools.

Digital technologies

Expected outcomes

The student shall:

- Manage, combine and apply the available ICT tools;
- Utilise his/her theoretical and practical knowledge of the functions of individual components of both hardware and software to solve problems creatively and effectively;
- Organise data effectively and protect it from being destroyed or abused;
- Be familiar with the possible uses of ICT in various areas of social knowledge and practice.

Information resources and searching, communication

Expected outcomes

The student shall:

- Utilise the services of available information networks to search for information and to communicate, as well as for self-learning and teamwork;
- Make best use of the opportunities provided by information and educational portals, encyclopaedias, libraries, databases and educational software;
- Assess topicality, relevance and reliability of information resources and information

creatively; use information and communication services in compliance with ethical, safety and legislative requirements.

Information processing and presentation

Expected Outcomes

The student shall:

- Process and present the outcomes of his/her work while using advanced functions of application software, multimedia technologies and the internet;
- Apply an algorithmic approach to problem solving.

Publications on ICT competence (in Czech only) by the National Institute for Education (digifolio.rvp.cz/view/view.php?id=3737):

- Literacy in Education: also includes the characteristics of ICT literacy, assessment etc. (two publications);
- Development of students' ICT literacy: a methodological support for teachers on how to implement ICT in education (how to plan a lesson improving ICT literacy, best practice examples).

3.4. ASSESSMENT SCHEMES

Assessment in general

Teachers' assessment of pupils is continuous (during the school term) and also final (at the end of the term). Pupils/secondary school students are assessed in particular subjects and also receive an overall assessment of study results. Students receive paper copies of their mid-term reports (January) and end-of-year reports (June). Assessment rules in each school are part of the school regulations. The tools for continuous assessment are usually set by teachers of particular subjects: written examinations (written or on the computer), multiple choice tests, oral examination (open book), oral questioning after the submission of a research project, direct observations and presentations, self-assessment, interactive tests, e-learning platforms etc.

ICT competence assessment

Assessing ICT knowledge is the responsibility of each school (as mentioned above) but it must comply with the national curriculum for ICT. ICT competences are assessed in the same way as other competences; a common assessment framework scheme dedicated especially to ICT competences has not been defined. In secondary education, digital competence (knowledge, skills and attitudes) is assessed as part of the subject of ICT, as students at secondary schools are obliged to pass a 'Computer Science' class. In elementary education, assessment depends on whether ICT as a subject exists at the school or not, although most schools do choose to have ICT as a separate subject. In most cases students are graded (classification scale: 1-5; 1 = highest mark, 5 = fail) at the end of every term, some schools choose verbal assessment rather than grade assessment, particularly at elementary level.

One example of assessment of ICT:

- **Fields of assessment:**
  - The ability to manage, combine and apply ICT tools;
  - Utilise his/her theoretical and practical knowledge of the functions of hardware and software;
  - Capability of using the internet as a source of information, searching for information and ability to assess its topicality, relevance and reliability;
  - Work on projects in pairs or individually.

Specific initiatives

In 2012, an **IT Fitness** test was offered to schools and the wider public as part of the **e-Skills Week 2012** campaign. The test was available free of charge on the webpage www.itfitness.cz (from 1 March to 30 April 2012). More than 30,120 people took the test, mostly elementary and secondary school students from almost 850 schools in the Czech Republic.

Teachers and students in the Czech Republic can also

obtain, for example, the **European Computer Driving Licence** (ECDL) or **CISCO Academy** certificates. All such certificates are helpful when students apply for further education in secondary schools or universities. As part of the commercial activities of the company **SCIO**, which mainly organises the entrance tests for several universities in the Czech Republic, a **TIGR** (***Test informační gramotnosti*** - **Test of IT Literacy**) was held in 2010 and **GEPARD** in 2012, both of which were aimed at ICT.

The Czech Republic is also involved in an international **ICILS** (International Computer and Information Literacy Study) survey on ICT literacy; the survey was carried out by the Czech School Inspectorate (www.icils.cz/).

3.5. ICT-BASED ASSESSMENT

In 2012, nationwide testing in grades 5 and 9 was carried out electronically for the first time. ICT-based assessment is carried out on the individual initiative of schools. There is a wide range of possibilities for ICT-based assessment available to schools, but the utilisation rate varies from school to school. Basically, pupils are assessed by means of ICT in the subjects related to computer science. At times ICT is also used as a means of assessment in other subjects, such as physics, mathematics, general science or languages. Students either work on various projects or are tested via computers. Some schools use e-Learning courses (mainly Moodle), which are also assessed electronically.

3.6. QUALITY ASSURANCE OF THE USE OF ICT IN SCHOOLS

Profil Škola 21 **(School Profile 21)**

In 2010, the **National Institute for Education**, a research institute established and run by the MoE, launched an online tool designed to enable schools to assess, across six key elements, their current usage of technology and their strategies on how to improve the level of effectiveness:

1. Management and planning;
2. ICT in school curricula;
3. Professional development;
4. Integration of ICT;
5. ICT infrastructure;

This tool defines 4 level of ICT involvement:

1. ICT beginners;
2. First experience;
3. Self-confident users;
4. Role model for others.

Between 2010 and 2012, a total of 1098 schools created a profile of their school on the online tool ***Profil Škola 21*** (skola21.rvp.cz). A summary report for 2011 is available (in Czech only): clanky.rvp.cz/clanek/c/Z/15717/profil-skola21-ict-ve-skolach-ocima-ucitelu.html.

Essie Survey (Survey of schools: ICT in eduation)

In 2011, the Czech Republic took part in the **European survey of ICT in education**. The results are published on the EUN website.

Czech School Inspectorate

The Usage of ICT in Czech schools is evaluated by the Czech School Inspectorate. These thematic studies are published every third year. Two special thematic reports describing the level of ICT at elementary school level were published three years ago: a study concerning the usage of ICT at schools in the last two years (2007-2008) was published in January 2008 and the second study concerning the usage of ICT at elementary schools was published in September 2009. A new report for the 2011/2012 school year for both elementary and secondary school levels is currently being finalised and will be published very soon.

4. DIGITAL LEARNING RESOURCES AND SERVICES

4.1. CONTENT DEVELOPMENT STRATEGIES

The Czech Ministry of Education, Youth and Sports (MoE) publishes the list of textbooks and teaching texts to which it has granted an approval clause on the basis

of an assessment as to whether the texts comply with the educational objectives stipulated in the Education Act and legal regulations. This approval clause is time-limited and must be renewed regularly. Digital textbooks can also receive this approval clause and many publishers produce online versions of approved textbooks, making them available in e-format. Publishers of textbooks are not obliged to apply for the approval clause but the official approval clause makes textbooks more saleable. In other words, schools can (and do) also use other textbooks and teaching texts, provided they do not contradict educational objectives. The role of head teachers is key as they make decisions regarding on the use of textbooks and teaching texts.

4.2. E-CONTENT DEVELOPMENT

The Czech Republic has implemented a grant initiative using the European Social Fund (ESF), entitled **EU Money to Schools** (see *Section 2.2*.). An important aspect of the school projects supported by this initiative is that schools are required to produce new teaching materials (mainly digital). As a consequence, teachers produce new digital learning objects (DLO), which are usually shared with others at school through the establishment of school repositories; these materials can be also published on the national repository (dum.rvp.cz).

The MoE runs, through its directly managed organisation the National Institute for Education (www.nuv.cz), a national repository of digital learning resources (RVP: dum.rvp.cz) (see also *Sections 2.2 and 4.3*). This repository is accessible by all teachers, who can upload and share their DLO with others. The quality and copyright of the DLO are monitored before publication. All DLO available on the national repository have a Creative Commons licence. Until March 2012, the authors of the DLO were given a small fee for each object, provided by the ESF project. Currently, it is still possible to upload new DLO, but teachers no longer receive payment. This repository contains almost 8000 learning materials that were created by teachers, generally for their own use. At the moment the repository is also connected to five other Czech repositories and to EUN's Learning Resource Exchange (LRE). Since 2010, the **Centre for International Services** has been a member of European Schoolnet's **Learning Resources Environment Sub-Committee**. The connection between RVP and LRE is continuously being developed, particularly with the aim of supporting **Travel Well** resources. As well as the national portal, there is also a wide range of examples of regional and school projects that gather digital content on a local basis or repositories run by private companies, such as interactive whiteboard providers. So far, no system, evaluation or rules for sharing the digital educational content have been introduced in the Czech Republic. Despite this, digital content and online services have become an integral part of modern education in schools and their importance is constantly rising.

Moreover, electronic teachers' books are becoming increasingly popular. Teachers add information to these books via the internet or the school's intranet/extranet. In the majority of cases, schools use one of the licensed school information systems/programmes, such as **dm Software**, **Bakaláři**, **Škola OnLine**, **SAS**, **iŠkola**, **aSc** or **Relax KEŠ**. Pupils and students therefore have access to information regarding results (grades), the number of class hours they have missed and current activities and events. Parents can easily access these programmes via the internet (using a simple login and password) and check the results of their children.

The **Centre for International Services**, a member of European Schoolnet's **interactive whiteboard working group**, published a Czech translation of practical guidelines for teachers: 'Making the most of your interactive whiteboard', 'IWB procurement guidelines report' and 'Top 10 tips for buying and installing interactive whiteboards'. These publications were produced by this working group and the Czech translation is freely available at www.dzs.cz/eun. These guidelines focus on an effective usage of interactive whiteboards, including the development and sharing of digital learning materials. As part of eTwinning activities, students create some e-content themselves, such as www.learn-interactive.blogspot.com.

4.3. USER - GENERATED CONTENT

The most important initiative was the **Methodology II**

project, which was funded by the ESF, involving the national methodological portal www.rvp.cz (see *Sections 2.2* and *4.2*). The portal has about 5000 daily unique visitors (teachers). All content on the portal is free and is built mainly through the contribution of resources by teachers. One section of the portal is monitored and reviewed by teacher-specialists, while the other section serves as a community network based on web 2.0 principles. The portal covers the following main areas:

- Articles, repository of digital learning resources, discussions;
- Wiki: a place for sharing learning objects, common pedagogical knowledge and other materials;
- A place for cooperation when creating materials: blogs, digifolio (professional and leisure e-portfolio), e-learning, European language portfolio, webinars etc.

4.4. WEB 2.0

The national portal www.rvp.cz is based on web 2.0 principles (see *Sections 2.2.* and *4.3*).

Many Czech schools use the Moodle platform and there is an even broader use of cloud computing systems (for the administration of school website and email accounts, sharing of documents, calendar etc.).

4.5. CONTENT SHARING

The methodological portal www.rvp.cz has been developed, assisted by the localisation of Creative Commons licences that apply to almost all resources on the portal (see also *Section 4.2*). This national repository is connected to European Schoolnet's **Learning Resources Environment**. The Centre for International Services is a member of the Learning Resources Environment Sub-Committee and is trying to support the creation of Travel Well resources among teachers (also as part of national eTwinning seminars). A small Czech repository called **Animated Physics** was also connected to the Learning Resources Environment as a result of these activities.

4.6. LEARNING PLATFORMS

Currently, Moodle is the most common Learning Management System used in Czech schools. The methodological portal also uses Moodle for e-learning. Other open-source systems used on the portal include **Mahara**, **WordPress**, **phpBB**, **Mantis** and **TwinSpace**.

5. TEACHER EDUCATION FOR ICT

5.1. ICT IN INITIAL TEACHER EDUCATION

Teacher Training curricula for elementary and secondary education are defined at local level by the university or teacher training institution itself. There are separate curricula for elementary and secondary education.

In general, the system of university education for future teachers is as follows:

- **Nursery School Teachers**: 3-year bachelor's study programme:
- **Elementary School Teachers:** 3-year bachelor's + 2-year master's study Programme
- **Lower Secondary School Teachers**: 3-year bachelor's + 2-year master's study programme
- **Upper Secondary School Teachers**: 3-year bachelor's + 2-year master's study programme:
- 3-Year Ph.D. study programme

Student teachers usually choose two subject specialisations, one of which can be ICT (the study programme is usually called **Information Technologies in Education**). At some universities there is one joint programme within ICT specialisation that allows student teachers to teach at both elementary and secondary schools. Other universities offer two different programmes within ICT: one for future elementary school teachers and one for future secondary school teachers. There is also a special one and a half year **ICT Coordinator** programme (3 semesters) within the framework of lifelong education for teachers in elementary, secondary and vocational schools (see *Section 5.3*).

Digital competence is not regarded as a key competence, and the desired level of teachers' ICT competence is not explicitly stated in the profiles of university graduates from faculties of education or in the professional profiles of teachers (except for ICT teachers). The teacher training system usually, but not always, includes one obligatory ICT subject (one-semester course with the aim to teach ICT user skills) and many optional courses in the field of ICT.

One example of a successful model of training is an eTwinning course that is one of the optional courses for students of the Pedagogical Faculty of Masaryk University in Brno. The course comprises 14 lessons and covers the theory of project-teaching methods, information about eTwinning and practical work on eTwinning tools (**Twinspace** and **Desktop**). Student teachers simulate finding a partner on the eTwinning desktop, discuss a project idea and finally create a project outcome. The seminar also includes presentations of examples of successful projects.

5.2. ICT IN IN-SERVICE TEACHER EDUCATION

Training courses are offered by different organisations such as regional centres for further teacher education, universities and private companies. If accredited by the MoE, the course fee can be covered by the **EU Money to Schools** grant (see *Section 2.2.* and *5.3*). These courses mainly cover basic ICT training; the methodology of the application of ICT in particular subjects is less frequently offered. The new initiative **EU Money to Schools** under the Czech Operational Programme **Education for Competitiveness** (more in *Section 2.2*) supports, among other things, the usage of ICT in all subjects. Apart from the procurement of ICT equipment, further professional development of teachers in ICT can be supported with this grant initiative**.** The courses financed by this initiative must have accreditation by the MoE.

In-service teachers can also enrol to study **ICT Coordination** in order to become a school ICT coordinator; only teachers with advanced ICT knowledge can apply for this course (typically ICT teachers and teachers with a master's degree from the faculty of education or with a master's degree in other specialisations who have completed the 'pedagogical minimum' study) and they must also have two years' experience in pupil/student education. This training lasts a minimum of 250 hours, and is given in the form of an educational programme accredited by the MoE. The main objectives are:

- To deepen and broaden graduates' competences in the methodology of efficient usage of ICT at schools;
- To enable graduates to guide other teachers towards the use of ICT in the lessons;
- The creation of a school ICT plan;
- Qualified planning and management of the fulfilment of ICT services standards.

The school ICT coordinators receive special benefits or are given fewer obligatory teaching hours. There is currently a project called **ICT Profesionál/ICT Professional 2011-2014**, which aims to educate around 500 ICT coordinators (www.nidv.cz/cs/projekty/projekty-esf/ict-profesional.ep/?operace=ictprofesional/).

5.3. NEW INITIATIVES

No information available.

5.4. ASSESSMENT SCHEMES

Initial teacher assessment

Universities are independent bodies and each has a slightly different attitude towards ICT. It is therefore difficult to make any general statements on this issue. During initial teacher education there is often one compulsory ICT subject (lasting one semester) that aims to provide student teachers with the basic ICT competences. Additionally, there is a wide range of optional ICT courses (creation of web 2.0, working with Moodle tools, etc.). Graduate profiles from the education faculties do not define ICT competences. Students sit only one compulsory assessment of their ICT knowledge, which is the exam in the basic ICT subject.

In-service teacher assessment

Presently, knowledge about ICT and digital skills in using ICT can be assessed within ICT courses; this takes different forms and can be accredited by the MoE (see more about the current EU initiative **Money to Schools** in *Section 5.3*). If the course/training is accredited by the MoE, schools heads are more willing to send teachers for training.

5.5. TRAINING OF TEACHER TRAINERS

No information provided.

5.6. INCENTIVES

In-service teachers can receive special allowances for further education, which can also be used for ICT courses and seminars. ICT coordinators at schools receive either special benefits or fewer teaching hours. National **eTwinning** prizes are awarded annually, which could be also classified as a form of incentive for teachers.

5.7. ICT SUPPORTING INCLUSION

Basic information on the education of pupils with special needs

According to the Framework Education Programme (FEP), students with special educational needs are those who suffer from chronic health conditions or a physical disability as well as those who are socially disadvantaged. Special schools exist from pre-school to upper secondary level. The curriculum and qualifications of these schools are as close as possible to those of mainstream schools, using methods that are appropriate for the students' specific educational needs (mainly in terms of mental, physical, visual or hearing disabilities).

At compulsory level, the *základní škola speciální* (special elementary school) can be established for students with medium to severe and/or multiple mental disabilities and the *základní škola praktická* (practical elementary school) for students with mild mental disabilities. Pupils with mild disabilities are educated according to the appendix to the FEP for Elementary Education. Students with severe mental disabilities, multiple disabilities and autism who attend a special elementary school are educated according to an individual FEP (www.vuppraha.cz/wp-content/uploads/2009/12/RVP_ZV_EN_final.pdf p.111-116). After elementary education, pupils with mild disabilities can continue their education in courses at secondary level schools designed for students with lesser study prerequisites – *praktická škola* (practical school: ISCED 2C) or *odborné učiliště* (vocational school: ISCED 3C) – or in other special vocational courses at upper secondary level (ISCED 3C) for pupils with mild mental disabilities and those who have not successfully completed lower secondary education.

In the last few years there have been lively discussions about the role and maintenance of these schools and the integration of these pupils in normal schools is one of the main objectives of these discussions.

Special needs and ICT

There is no national strategy on the use of ICT to support the inclusion of children with special needs in mainstream classes. A range of smaller projects/initiatives are on-going, many of which are financed by the European Social Fund (ESF). The National Institute for Education coordinates a project financed by the ESF that supports the work of regional '**support centres for inclusive education**'. These centres offer a wide range of services including guidance in the field of ICT.

A number of Czech universities run special centres that support university students with special needs. One of the biggest of these is the **Teiresias Centre** (official name: Support Centre for Students with Special Needs) of the Masaryk University in Brno (www.teiresias.muni.cz/?lang=en). Since 2001, the centre has been entrusted with the printing of a tactile version of the state secondary school leaving exam for blind students, and also provides the national comparative exams for students with visual and hearing impairments, especially for those preparing for the entrance exams to universities. **TyfloCentrum Brno**, active in the regions of Brno and southern Moravia, provides social services to visually impaired people. This centre also has an IT centre and a summer camp for young people that focuses on ICT (www.centrumpronevidome.cz/en/itcentre.php).

Other initiatives include the **Blind Friendly (**www.blindfriendly.cz) project, which focuses on webpage accessibility for the visually impaired and the annual **INSPO** conference (www.helpnet.cz/inspo) on ICT for users with special needs, organised by a group of NGOs.

OTHER SOURCES OF INFORMATION:

MoE – Ministry of Education, Youth and Sports: www.msmt.cz

DZS – Centre for International Services: www.dzs.cz and www.dzs.cz/eun

CERMAT – Centre on Measurement in Education: www.cermat.cz

ČŠI – Czech School Inspectorate: www.csicr.cz

NIDV – National Institute for Further Education: www.nidv.cz

NUV – National Institute for Education: www.nuv.cz

See also the 2009 Eurydice national summary sheets on education systems in Europe and on-going reforms: eacea.ec.europa.eu/education/eurydice/documents/eurybase/national_summary_sheets/047_CZ_EN.pdf

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