Lithuania

Country Report on ICT in Education

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1 THE EDUCATION CONTEXT

1.1 EDUCATION REFORM

The Parliamentary elections in October 2008 brought a change of Government in Lithuania. The new Minister of Education and Science started his work with initiation of reforms in higher education. The focus has been on implementing the student “bask” and reforming the structure of the Universities Councils. The main aim declared is improvement of quality of higher education.

The aim of one of the main political initiatives in compulsory education has been to significantly reduce the number of obligatory report documents to be filled in by schools and teachers. The Ministry is also seeking to minimise and optimise the process of collecting school management information – the only channel to provide this information is centralised data provision to the Education Management Information system developed by the Centre of Information Technologies of Education (CITE) under the Ministry of Education and Science (MoES).

1.2 KEY CHALLENGES /PRIORITIES FOR EDUCATION

The key challenges / priorities declared by the main policy documents are to ensure the accessibility and quality of education. A number of policy programmes have been prepared and are now being implemented.

All initiatives and programmes for ICT implementation in education are prepared according to this document. Priorities of the projects to be funded by European structural funds (mainly European Social fund) are also coordinated with the education strategy.

2. ICT POLICY

2.1. RESPONSIBILITIES

The responsibility for educational policy-making and administration is shared between MoES (central government), regional (county) government, municipal (local) government, and governing bodies of schools. Lithuania is divided into 60 local municipalities at present.

Although the education system is moving away from the state-controlled model to a state-supervised model, MoES and the Education Council are still responsible for most educational decisions and policy formulations. Development of the national curricula, teaching plans and educational standards, organisation and supervision of examinations and establishment of the main rules for educational finance are in the power of the central government.

Local administration is responsible for pre-primary, general (primary, lower secondary and upper secondary), informal adult education and non-formal educational infrastructure in the municipality. The local governing body also ensures children’s right to be enrolled into education. The financing of pre-primary, primary, basic and secondary schools is also organised through local government. Although the local government makes financial decisions, many financial standards (e.g., teacher salaries) are established at state level.

The responsibility for running a school falls on the director of the school. In addition, each school has a governing board, which establishes local regulations and makes other local decisions. The responsibilities for ICT integration in schools are shared in the same manner. CITE is in charge of national policy formulation and the implementation of the main governmental programmes for ICT introduction into general education and vocational training. The state level ICT programmes are generally aimed at establishing national educational networks and services. The purchase of new hardware and software, teacher training in the area of ICT and development of educational software and content are gradually being devolved to municipal or even school level. CITE coordinates large-scale ICT-related international projects, monitors ICT implementation in education and takes care of education management information systems and databases. The Education Development Centre has been reorganised by MoES and currently takes care of curriculum development and national-scale teacher in-service training projects (including ICT-related ones).

All local educational bodies (at municipality level) have their own policy documents and programmes for ICT.

1. [http://www.ipc.lt/english.htm](http://www.ipc.lt/english.htm)
introduction into general education schools. The actual contribution of different municipalities to ICT implementation in schools varies: some municipalities allocate substantial funds to ICT, whereas others hardly assign any resources.

In general, municipality activities have a considerable influence on ICT integration. In-service training centres in the regions play a significant role in promoting the ICT literacy of teachers. Municipalities grant funds for buying new equipment and usually take full responsibility for ICT maintenance and cover the costs of internet services. A school board and the principal decide on the usage of ICT at the school (e.g., where to locate computers, how to schedule time in computer labs, whether to allocate additional funds for technologies, how to organise staff development)\(^2\).

### 2.2. ICT POLICIES FOR SCHOOLS

The Strategy and Programme for the Introduction of ICT into Lithuanian General and Vocational Education for 2008-2012 is valid at the moment. But there has been a political decision to renew the Strategy and Programme by the end of the year, aiming at more decentralised solutions and taking into account the current economic and financial crisis.

The vision of the Strategy 2008-2012 is to create qualitative new and flexible student and teacher learning environments which would provide them with personalised (customised) learning possibilities in electronic space. There are four goals emphasised in this strategy\(^3\):

1. Digital learning content:

- Interactive curriculum for general and vocational education
- Modern interactive teaching material
- Open and safe learning space for storage of digital material
- Compliance with international digital learning content resources standards
- Dissemination of ICT usage in education experience, especially in Breakthrough areas

2. School provision with software and technology:

- High-speed internet connection (not less than 2Gb) for every school
- Computerised personal work places for students and teachers
- Personal learning space in internet for each student
- Narrowing of the digital divide between urban and rural areas

3. School community competence:

- Participation of school communities in project activities on ICT implementation in education
- Usage of Education Management Information System (EMIS) by educational managers for dissemination of electronic services
- Development of conditions to improve teachers’ technological and educational competence
- Development of future teachers’ ICT competences
- Creation of ICT application methods

4. Development of school management in electronic space

- Education management and decision making is based on data and information
- Electronic teaching and learning
- Research and monitoring
- Increase of school autonomy and responsibility
- Openness and collaboration of school communities

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The Centre of Information Technologies of Education: [http://www.ipc.lt/english.htm](http://www.ipc.lt/english.htm)


\(^3\) Strategy and Programme for the Introduction of ICT into Lithuanian Education for 2008-2012: [www.itc.smm.lt/](http://www.itc.smm.lt/)
2.3. ICT PRIORITIES

3. THE CURRICULUM AND ICT

3.1. THE CURRICULUM FRAMEWORK

The goals, structure, content and main didactic principles of general education are prescribed in the National Curricula. It is organised around individual subjects. The curriculum of individual subjects is defined with respect to their objectives, didactic principles and themes. The National Curricula determine compulsory and optional subjects for each grade, as well as the number of lessons per subject per week.

Requirements for the knowledge, skills and attitudes that a student is expected to develop in each subject before graduation from primary, lower secondary and upper secondary school are specified in the Educational Standards. Each school organises its own curricula in accordance with the National Curricula and Educational Standards.

Almost all school time is assigned for learning compulsory subjects in grades 1 to 8. Some differentiation can be provided at grades 9 and 10, whereas about one third of lessons can be distributed in accordance with the school targets and students’ needs in grades 11 and 12.

On-going educational reform shifts curricular content and teaching methods towards interdisciplinary and multidisciplinary learning, development of high-level skills (e.g., problem solving, cognition, communication). New national General Curriculum Framework and Educational Standards are oriented towards development of skills and define the goals of education in this context.

Education Development Centre is in charge of national curriculum development.4

3.2. ICT IN THE CURRICULUM

In Lithuania, Information Technology (Informatics) is taught as a separate subject. The national curricula are open to ICT integration in other subjects and cross-curricular learning. However, there is almost nothing concretely prescribed on the use of technology in learning of any other subject.

The use of ICT in the primary school (grades 1-4) is in progress according to the new curriculum. The large-scale project funded by the European Social Fund in 2006-2008 has been aimed at development of ICT implementation in primary and special needs education (SNE): http://inovacijos.pedagogika.lt/. Its objectives were:

- Training of the SNE and primary schools teachers in how to use ICT and innovative learning and teaching methods in mainstream and special schools for SNE pupils
- Preparation of the distance learning courses and methodological materials to assist teachers in using ICT to create School for all.

The curriculum advises integration of ICT skill development into the overall learning process. It recommends using educational software and educational games in the primary grades. Various ICT-based extracurricular activities, where students can participate on the basis of their own interests, may also be offered.

3.3. STUDENTS’ ICT COMPETENCE

Requirements for student ICT knowledge, skills and attitudes which a student is expected to develop are specified according to two standards:

- General Information Technology Standard
- Students General Computer Literacy Standard.

Both standards are closely correlated to the European Computer Driving Licence (ECDL). According to the main aims of IT course, the students have to learn:

- To apply ICT in all areas of their activity and to learn effectively
- To develop communication with the help of ICT
- To use ICT possibilities to search for, process and present information
- To plan their activities, improvise in a purposeful and creative way, to depend upon their own abilities
- To take interest in innovation, wish to learn in new, more effective ways, be interested in new technologies
- To obtain, select, handle, transfer and receive digital, textual and visual information with the help of ICT.

Computer literacy course credit has to be organised for grade 10.

In January 2002, the “Students’ General Computer Literacy Standard” was elaborated and approved (www.ipc.lt/english.htm). According to this document, the Standard defines “computer literacy” as something that can be only achieved by integrating ICT into the process of education: lessons in various subjects and activities after school; use of ICT in school libraries.

The Students’ general computer literacy performance guidelines are discussed in the Standard under the following three aspects:

- Moral values to be observed when implementing ICT
- General skills which are important when using information technology
- Thematic areas of computer literacy.

A definition of six main groups of moral values to be observed when implementing ICT is specified in the Standard:

- Life-long learning
- The importance of ICT for social life
- Democracy
- Traditional human values
- Ethics
- The importance of technological development.

The targets for general skills are divided into four groups:

- Learning and working
- Communication
- Problem-solving and research
- Critical thinking and evaluation

The targets for pure computer literacy achievements are formulated according to six thematic areas:

- The main principles and concepts of work with the computer
- The fundamentals of handling information with the computer
- Word processing and information presentation
- The internet and email
- Introduction to spreadsheets and databases
- Social, legal and ethical aspects

The targets for students’ computer literacy achievements, when they graduate from lower secondary and upper secondary school, are specified separately.

3.4. ASSESSMENT SCHEME

Currently, students’ ICT literacy is assessed only in graduation exams. All students can take an optional Information Technology (Informatics) exam, which is organised at school level.

Students, like all citizens, can take the ECDL exam at any of 54 ECDL certification centres. However, ECDL accreditation is outside the system of general education and students pay for the ECDL examination.
According to the assessment scheme, the following three forms of assessment and accreditation of students’ ICT competence are introduced:

- An optional Computer Literacy certification (for the 2006-2007 school years). The test is based on the Students’ General Computer Literacy Standard, and is administered at national level.
- An optional School Information Technology subject exam (for 2006-2007 school years). The exam is based on the Information Technology Standard at a basic level, and is administered at a school level.
- An optional National Information Technology subject exam (from the 2006-2007 school year). The exam is based on the Information Technology Standard at advanced level (only Programming module) and is administered at the national level.


### 3.5. ICT BASED ASSESSMENT

A new large-scale project is currently (October 2009) under preparation in CITE to be financed by the European Social fund. The main aim will be to implement e-Portfolios to assess teachers’ competences.

### 3.6. QUALITY ASSURANCE OF THE USE OF ICT IN SCHOOLS

No available data.

### 4. DIGITAL LEARNING RESOURCES AND SERVICE

#### 4.1. CONTENT DEVELOPMENT STRATEGIES

There is still a big lack of quality educational software and content. The development of ICT-based educational content is one of the targeted areas of the national policy for the ICT implementation.

The most recent “Digital Teaching Aids Methodical and Technological Evaluation Criteria” were approved by order of the Director of CITE on 9 June, 2008.

These criteria are:

- Methodical aspects
- User interface (including personalisation)
- Learning Objects (LOs) arrangement possibilities
- Communication and collaboration possibilities and tools
- Technical features (including stability)
- Documentation
- Implementation and maintenance expenditure.

Each year the CITE announces open tenders for the purchase of educational software and content for general and vocational education (including content designed for special needs students). Software and content which is fully completed can be entered in the competition. These tenders are the part of the governmental programme. During the last years several large-scale projects aimed at purchase of educational content for schools have been implemented by the Education Development Centre.

All educational software and content is categorised and stored in several repositories available from the educational portal.

The main content-related portal services are:

- Valid textbooks search service: www.mokykla.smm.lt/vadoveliai/index.jsp
- Centralised LOM standard-based LOs metadata repository: http://lom.emokykla.lt/public/ currently (October 2009) containing more than 2565 metadata instances
- Digital Teaching Aids purchased by CITE for all Lithuanian schools: http://tinyurl.com/2yro2r
- Methodical materials developed by teachers while implementing the joint CITE and Microsoft Corporation project “Virtual Classroom Tour”. This is a larger “Partners in Learning” project. While implementing this project teachers create methodological materials (lesson plans and ideas) using Microsoft PowerPoint templates: http://metodika.emokykla.lt/default.htm
- Various methodical learning resources developed while implementing the “Korys” project: http://tinyurl.com/36yf8dc
- Several databases of other methodical resources: http://tinyurl.com/35kp2tk; http://www.pprc.lt/mdir/

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5 [http://portala.emokykla.lt/Puslapiai/Naujienos.aspx](http://portala.emokykla.lt/Puslapiai/Naujienos.aspx)
• The recommended and experimental educational content for testing (http://tinyurl.com/39fhgj). This content is categorised by subject. The search engine is organised by target user (teachers, students, parents), category (freely distributed or payable), subject, type (computer teaching aids, Web sites, methodological works, electronic books, other software), manufacturer, and keywords.
• Seven distance learning courses for talented children (IT, Mathematics, Economics, Physics, Chemistry, History, Biology) and two distance learning courses for children with special educational needs (SNE) (Mathematics, Environmental course for primary school) are available for all Lithuanian teachers, who can access these courses by registering as guest users in VLE Moodle (vma.emokykla.lt/moodle) as well as an ATutor-based VLE: vma.emokykla.lt/atutor. Moodle-based copies of these distance courses are available at: vma.emokykla.lt/licencija.html.

4.2. E-CONTENT DEVELOPMENT

The main initiatives concerning development of educational e-content at the moment are:
• public tenders to purchase e-content from publishers organised annually by CITE from budgetary funds;
• e-content creation and purchase tenders organised mainly by the Education Development Centre under MoES while implementing large-scale projects funded by the European Social fund;
• the previously initiative aimed at development of methodological materials by teachers while implementing the joint CITE/Microsoft Corporation project “Virtual Classroom Tour”. This is a part of a larger “Partners in Learning” project. Teachers are asked to create method materials (lesson plans and ideas) using Microsoft PowerPoint templates.

4.3. USER - GENERATED CONTENT

The main Lithuanian initiative to develop user-generated content is the joint CITE/ Microsoft Corporation project “Virtual Classroom Tour”. This is a part of a larger “Partners in Learning” project. While implementing this project teachers create method materials (lesson plans and ideas) using Microsoft PowerPoint templates: http://metodika.emokykla.lt/default.htm

4.4. WEB 2.0

There are only a few centralised Web 2.0 services for teachers developed in Lithuania. They are implemented with national LOM repository services: starring of LO quality by teachers, users’ comments on LO quality and usage. No initiatives are known at the local level.

4.5. CONTENT SHARING

Content sharing within Lithuania and with other countries is organised with the help of the centralised LOM-compliant LO metadata repository.

During the implementation of FP6 IST CALIBRATE project by CITE in summer and autumn 2006, the following works were carried out:
• EUN LRE Metadata AP v.3.0 was localised to Lithuanian;
• Lithuanian evaluated learning resources from the LO repositories mentioned above were described according to this AP by specially trained LOs indexers;
• LOM repository and interface to aggregate LO metadata into the repository were created;
• all these LO metadata were tested for compliance with European thesaurus and loaded into the LOM repository6 on the ITC server;
• the LOM repository was connected to the European learning resource exchange (LRE) service for schools;
• Currently (October 2009) there are 2565 LO metadata instances in the LOM repository.

4.6. LEARNING PLATFORMS

It has been found investigated that Virtual Learning Environments (VLEs) are not neutral in their impact on pedagogical methods and scenarios. We could divide VLEs into more “content centred” and more “learner centred” systems. Course design will involve moving from “content centred” to a “learner centred” system.

6 http://lom.emokykla.lt/public/search.php
Course material in content centred systems is aggregated into “courses” to which learners are assigned, matching the learner closely to the content. Learner centred systems organise students into groups. The more VLEs are “learner centred”, the more they fit the aims of schools as e-Learning communities.

Research conducted in Lithuania in 2005 by the Institute of Mathematics and Informatics (IMI) (www.emokykla.lt/l.php?yrimai/194), commissioned by CITE, has shown clearly that Open Source VLEs are not of lower quality at module level than proprietary products, while being financially more attractive for educational institutions (no licensing fees). Therefore it was proposed that Lithuanian educational institutions comprehensively implement Open Source VLEs.

Several scientific methods and frameworks were used as basic tools for this research. As result, Moodle was evaluated the best VLE for use at module level, and was therefore proposed as the most suitable for wide implementation in Lithuanian general education and vocational training institutions, as well as for the teacher in-service training system.

Its fundamental advantages in comparison with the other Open Source systems are:

- clear social constructivist philosophy and design;
- modular, extensible architecture;
- wide and lively developer and user community.

VLEs most suitable for usage on module level were chosen for comprehensive implementation in Lithuania; therefore a de facto decentralised approach to VLE implementation was chosen in Lithuania to strengthen schools as e-Learning communities.

In summer 2006, Moodle version 1.6.3 was fully localised by IMI and is now downloadable from the CITE server (http://vma.emokykla.lt) for installation in schools.

ATutor VLE was enriched with several functions and localised while implementing the Education Development Programme in 2005 and is now also downloadable from the CITE server (same URL).

In accordance with the approved requirements, an ICT literate teacher participating in the teaching and learning process and using modern technologies, should know and be able to:

- creatively individualise his/her subject’s teaching and learning content;
- use ICT tools purposefully;
- systematically and reasonably apply teaching and learning methods.

An ICT literate teacher organising ICT application should know and be able to:

- plan the use of these technologies;
- organise technological resource management in the teaching and learning process;
- evaluate and reflect on topics regarding the use of ICT.

5. TEACHER EDUCATION FOR ICT

5.1. ICT COMPETENCE TARGETS

In order to approve teachers’ educational ICT competence, they are invited to prepare their own electronic portfolio (e-portfolio) where they should collect the documents confirming their ICT application experience.

To train these competences, a special distance learning course was prepared for Lithuanian teachers by the researchers of the IMI in 2007. This course consists of three main components:

- content (themes);
5.3. ICT IN TEACHER EDUCATION

The existing study programmes on teachers’ ICT competences have been analysed by IMI while implementing the research commissioned by CITE in late 2008. 190 university and 39 college pedagogical study programmes were analysed during the research. Usually only two or three credits are allocated for ICT-based learning (excluding Informatics study programmes). This is clearly insufficient. Almost all the programmes are similar to those of other (non-pedagogical) speciality students, i.e., the students are trained in the general skills of computer and application software use. Only a few of the study programmes consider topics such as didactical attitudes, teaching methods and methodology with ICT. The majority of the study programmes are quite obsolete. ICT integration in initial teacher education is not compulsory; universities and colleges are free to implement or not such kinds of study programmes.

Currently, after the reorganisation of national-scale teacher training institutions implemented by MoES in spring and summer 2009, the Education Development Centre is the only central institution responsible for provision of in-service teacher education (including ICT-related issues). There are a number of face-to-face training seminars organised at national level as well as the distance learning course on teachers’ ITC educational use in schools. Various courses are also organised in teacher in-service training centres at municipal level.

5.4. TRAINING THE TEACHER TRAINERS

There are several main trends in training the teacher trainers. One of them is the joint CITE and Microsoft Corporation project “Partners in Learning”. Training courses are organised by Microsoft and CITE while implementing this programme for 50 teacher trainers selected by CITE.

There are also a number of training courses organised by CITE while implementing various international projects (mainly coordinated by EUN), such as eTwinning, CALIBRATE, INSPIRE, ASPECT, etc.