INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FOR INCLUSION

Lithuania

1. Policy Frameworks

This information was provided by Regina Labiniene (Ministry of Education and Science).

1.1 Policies that impact on ICT for inclusion in the compulsory school sector

On 14 December 2004, the Minister of Education and Science approved the Strategy and Programme for the Introduction of ICTs into Lithuanian Education in 2005–2007. This strategy was created in response to the needs and aims of the development of the information society both in Europe and Lithuania, which are defined in the European i2010 policies and in the Lithuanian Information Society Development Programme. The main strategy objectives are:

- to achieve a breakthrough in teaching and learning of pupils through the use of modern ICT;

- to create a network of educational computers – a cyberspace filled with information for teaching and learning – while creating conditions for modern management of the educational system and for communication among school communities at the same time;

- to improve citizens' computer competence in order to reduce social seclusion in the sphere of ICT.

The various bodies involved and their areas of responsibility are:

- – Ministry of Education and Science: infrastructure and finances;

- – Education Supply Centre: hardware and software supply;

- – Education Development Centre: pedagogical support and applications;

- – National Centre for Special Needs Education and Psychology (SPPC, from its initials in Lithuanian): development of the special pedagogical and psychological support system.

1.2 Current policy on ICT for inclusion in relation to the main project themes

1.2 (i) ICT as a tool for promoting equity in educational opportunities.

As part of the 2005–2007 strategy implementation activities, the project 'Improvement of Primary and Special Education Teachers' Competences in Using ICT and Innovative Methods of Teaching and Learning' was carried out between 2006 and 2008 by the Education Development Centre, in co-operation with its partners. The project was aimed at:

- creating preconditions for a breakthrough in the use of ICT;

- innovative methods of teaching and learning in primary and special education; and

- strengthening the methodological and teaching/learning base related to the application of ICT and innovative education methods.

Information dissemination on special teaching tools (hereafter, STT) usage is purposefully organised: the STT creators are constantly advised by special education professionals, so

that the education staff STT e-catalogue is developed and continually updated. The catalogue encompasses all available STT published both in Lithuania and abroad.

Special educational tools and methodological materials for teachers working with students who have special learning needs are published.

1.2 (ii) Access to appropriate ICTs as an entitlement

According to the Strategy for Application of ICT in School Education and Vocational Education and Training, 97 percent of schools use computers and 95 percent of schools have an internet connection.

The STT created by the SPPC are not available on the internet; the majority of them are published/hard-copy items with supplementary CDs. Some methodological recommendations on certain STT are available online, e.g. readers for primary school children with hearing impairments.

1.2 (iii) Training of educational staff in the use of general and specialist ICTs

Every year, the institutions of the Ministry of Education and Science of the Republic of Lithuania arrange training in technological and professional computer literacy for teachers. This is highly significant, since true citizens of the information society are educated at school and that requires relevant preparation. Training sessions for STT experts/consultants are organised. In-service training in STT usage for education support specialists is provided.

1.2 (iv) The promotion of ICT research and development requiring a multi-stakeholder approach

Important national strategic documents include the Strategies for Application of ICT in Secondary and Vocational Education and Training for 2008–2012, approved by the Minister of Education and Science in 2008. The strategies claim that special attention should be paid to preparation and implementation, as well as to updating electronic teaching material, constantly improving its quality, visibility and accessibility.

1.2 (v) Data collection and monitoring in the use of ICT in inclusion

The strategy implementation course is systematically reviewed, assessed and discussed each year. All the factors which describe the progress of ICT and changes in education are taken into consideration and the strategy and its implementation programmes are revised, corrected and improved accordingly. For example, a group of scientists from the Institute of Mathematics and Informatics, under the leadership of Professor V. Dagienė prepared a research report: *Realisation of the Strategic Means of ICT Implementation into Lithuanian Education 2005–2007* (See: http://www.mii.lt/files/ikt_diegimo_i_lt_svietima_strategija_2007.pdf).

Continual analysis of STT need is being pursued. For example, in 2010 research was conducted into the supply of special teaching tools to schools (509 special education commissions from educational institutions were surveyed). The research data was used to plan activities in the 'Special Teaching Tool Creation' project.

1.3 Strategic plans for implementing policy on ICT for inclusion

School Improvement Programme

General programme goal: to ensure quality education, responding to society's needs, through innovations and by strengthening the capacity of the education system.

Goal 3: to reform the initial teacher training and the in-service teacher training in line with the aims of the knowledge society, fulfilling competency development and evaluation system requirements.

Objective: to enhance educational institutions' staff competency and motivation, applying innovative education methods and forms, using effective professional development, collaborating school networks and modern ICTs.

Implementation component: improvement of primary and special education teachers' competences in using ICT and innovative methods of teaching and learning model implementation.

Goal 4: to develop educational services, increasing their quality and accessibility and improving education system assistance in general, vocational and higher education; to ensure general education infrastructure modernisation and student support system development.

Objective: to strengthen education support staff expertise in educational and managerial competencies; to develop high-quality learning, psychological, social and special educational assistance.

Implementation component: pupil support efficiency and quality development, special teaching tools preparation, development of special education forms, inclusive technology service system creation.

Objective: to create conditions for successful versatile students' development, to establish methodological support and resource centres for special education, to update the school material base of the youth schools and to set up work places for professionals.

Implementation component: work environment modernisation of the pedagogical-psychological services infrastructure for special education teachers, social educators, psychologists and speech therapists.

Implemented through state and tender projects financed by the European Social Fund (ESF), European Regional Development Fund (ERDF) and national funds.

Monitoring of the implementation is carried out by the Lithuanian Ministry of Education and Science.

The programme is focussed on education infrastructure and human resource development.

1.4 Monitoring and evaluation of policies or strategic plans relating to ICT for inclusion

One of the activities of the 'Improvement of Primary and Special Education Teachers' Competences in Using ICT and Innovative Methods of Teaching and Learning' project was a survey entitled 'Lithuanian general education primary school pupils with special educational needs, parents' opinions about their children's education'. It found that parents believe that different subjects taught using ICT, specialised assistance, artistic activities and game-based learning are the most attractive educational activities and definitely make learning easier and more interesting. They also state that there are not enough high-quality specialists and that some schools do not apply any new methodologies and tools in special education. See: http://www.inovacijos_upc.smm.lt/uploads/III%20dalis%20-Spec_poreikiai_pilna%20ataskaita_GALUTINE(1).pdf

STT were created and delivered to schools. In some schools where these STT were used, the survey on student knowledge was conducted.

1.5 Main policy developments in ICT for Inclusion that have taken place since 2000

At the end of 2007, the strategy for ICT implementation in the learning system and vocational training for the new period 2008–2012 was approved. It is the third strategy in a row for ICT implementation in the learning system, and reflects the constantly changing focus. While the first strategy (2000–2004) was mainly computer usage-oriented and the second strategy (2005–2007) was oriented towards ICT applications in different activities (focussing on learning resources, services and teacher training), the latest strategy (2008–2012) seeks to develop inclusive, integrated opportunities and to elevate learning to a qualitatively new level.

During the 2008–2010 period, the SPPC implemented a project entitled 'Special Teaching Tool Creation'. The main activities were focussed on STT development:
  • for students educated through the adapted general basic education curriculum;
  • for students with severe and profound general learning disabilities.
Forty STT and textbooks for special education were developed and 355 education specialists and teachers were trained to use STT.

The SPPC website (http://www.sppc.lt) provides updated information about new STT, recommendations, teacher books and the STT e-catalogue for 2006–2012.

1.6 Current issues in relation to ICT for Inclusion

Lack of modern ICT equipment, adaptive assistive technology for students with special educational needs (SEN) and methods for educating students with SEN.

1.7 Important short and long-term developments in ICT for Inclusion

The Law on Special Education was integrated into the Draft Law on the Amendment of the Law on Education (2009). Thanks to legislative changes, funding for students with SEN has been increasing every year. The concept of pupils with SEN has been broadened and includes not only pupils with disabilities, but also other groups (e.g. gifted pupils, pupils with very low motivation, etc.) Teacher support staff in educational institutions and municipal pedagogical-psychological services is growing gradually. Various in-service teacher training programmes were introduced for teachers who work with students with SEN in inclusive settings. The programme for the education of gifted and talented children, approved by the Minister of Education and Science in 2009, offers special provisions for the education of gifted children. See: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=336443&p_query=&p_tr2=2

2. Country Practice

This information was provided by Regina Labiniene (Ministry of Education and Science).

2.1 Main developments in practice in ICT for Inclusion since 2000 in relation to the main project themes

2.1 (i) ICT as a tool for promoting equity in educational opportunities

To enhance the quality of teaching and learning in the classroom, the majority of teachers use non-traditional strategies, such as active, co-operative and problem-based learning.

The vast majority of special education specialists state that they use ICT for educational purposes every day.

Interactive whiteboards, multimedia projectors and computers are commonly used by teachers to diversify learning, to motivate students, to deepen understanding of the topic and to introduce new material. See:

http://www.inovacijos_upc.smm.lt/uploads/III%20dalis%20-
Spec_poreikiai_pilna%20ataskaita_GALUTINE(1).pdf

2.1 (ii) Access to appropriate ICTs as an entitlement

In recent years, the 'Development of the key competencies of the students of the first concentric circle (grades 5–8) of basic education' project has created different e-learning objects:

Lietuvių kalbos kursas 5–6 klasėms (Lithuanian language course), http://lietuviu5-6.mkp.emokykla.lt/

Skaitmeninė biblioteka. Literatūros kūriniai 5–8 klasėms (digital library), http://ebiblioteka.mkp.emokykla.lt/

Gamtos mokslų kursas 5–6 klasėms (natural sciences), http://mkp.emokykla.lt/gamta5-6/lt/

Gamtos mokslų kursas 7–8 klasėms (natural sciences), http://gamta7-8.mkp.emokykla.lt/

During the model implementation phase of the 'Improvement of Primary and Special Education Teachers' Competences in Using ICT and Innovative Methods of Teaching and Learning' project, several digital learning objects created by the Portuguese education company Cnotinfor (http://www.cnotinfor.com/) were localised:

- 'Little Mozart', for musical education;
- 'My Crafts';
- 'Enchanted Forest';
- 'Children's games'.

Most digital educational resources are available on the Education portal (http://portalas.emokykla.lt/Puslapiai/SMP.aspx), where they are accessible by everyone who has an internet connection. Under the 'Work environment modernisation of the pedagogical-psychological services infrastructure for special education teachers, social educators, psychologists and speech therapists' project, the following were bought for its partners:

- hardware: laptops, computers, touchscreen computers;
- printers, multimedia equipment, compensatory keyboards with software;
- CDs, TV sets with DVD players, voice recorders, video cameras, suspended screens;
- furniture.

2.1 (iii) Training of educational staff in the use of general and specialist ICT

During the model implementation phase of the 'Improvement of Primary and Special Education Teachers' Competences in Using ICT and Innovative Methods of Teaching and Learning' project, a virtual learning environment was created. The environment includes:

- a school collaboration environment;
- digital learning objects;
- distance in-service teacher training courses;
- digital literacy course for educators (educational part).

During project implementation, 60 in-service teacher training workshops for special needs educators were organised. They were attended by 300 educators. (http://www.inovacijos_upc.smm.lt/)

During the 2008–2010 period, the SPPC implemented a project entitled 'Special Teaching Tool Creation'. The main activities were focussed on STT development:

- for students educated through the adapted general basic education curriculum;
- for students with severe and profound general learning disabilities.

Forty STT and textbooks for special education were developed and 355 education specialists and teachers were trained to use STT.

2.1 (iv) The promotion of ICT research and development requiring a multi-stakeholder approach

One of the activities of the 'Improvement of Primary and Special Education Teachers' Competences in Using ICT and Innovative Methods of Teaching and Learning' project was a survey entitled 'Lithuanian general education primary school pupils with special educational needs, parents' opinions about their children's education' (http://www.inovacijos_upc.smm.lt/antrasis-mokslinis-ikt-ir-inovatyviu-mokymo-si-metodu-taikymo-ir-diegimo-svietime-bukles-tyrimas).

2.1 (v) Data collection and monitoring in the use of ICT for inclusion

Special data collection and monitoring in the use of ITC for inclusion is not being carried out at national level. During the projects where changes are observed, teachers are surveyed and research focus groups are interviewed.

2.2 ICT to promote learning in inclusive settings

2.2 (i) Country-based networks to support teachers in using ICT to promote inclusive learning

The national education portal 'e-school' (http://portalas.emokykla.lt/) was developed and is constantly updated to provide various educational services for different target groups: for teachers (downloadable methodological materials, educational software, forums, online training courses, etc.), for students (learning materials, self-evaluation materials, forums), for parents, etc. There is a special section on the portal, entitled *Ugdymas* (Education), where most digital educational resources are available.

2.2 (ii) Initial teacher education in using ICT to promote inclusive learning

There are no requirements set at national level for ICT to be included in initial teacher education programmes.

After Lithuania joined the European Union (EU), numerous projects funded by the Structural Fund (SF) and Ministry of Education were implemented, which aimed to address this issue. However, they involved in-service teachers.

Recently, an EU SF and Ministry of Education project intended to improve the quality of initial teacher education was prepared. The project also aims to enhance student teachers' competences in using ICT in classroom practice.

2.2 (iii) Practical support in classrooms to help teachers' use of ICT to promote inclusive learning

During the first stage of the 'Work environment modernisation of the pedagogical-psychological services infrastructure for special education teachers, social educators,

psychologists and speech therapists' project, in-service teacher training sessions were organised, where teachers were taught to use software.

2.2 (iv) Important information sources about new developments, hardware and software products and ideas for using ICT to promote learning in inclusive settings

The 'Work environment modernisation of the pedagogical-psychological services infrastructure for special education teachers, social educators, psychologists and speech therapists' project is being implemented between 2010 and 2013. This will see 121 schools and 55 educational, psychological and educational institutions that offer psychological educational being supplied with hardware (laptops and interactive whiteboards), as well as the following:

- mathematics, numerical reasoning and spatial awareness training software for 1st to 4th-grade students (numerical reasoning, spatial reasoning skills and general competency education);

- software for communication skills and attention levels for 1st to 4th-grade students (focussed attention, sustained attention, selective attention, alternating attention, divided attention);

- Lithuanian language reading and writing skills development, software and databases for students with speech-language disorders for 1st to 4th-grade students (word sound analysis and synthesis skills formation, reading and writing skills, phonological awareness training, letter-sound relationship consolidation, graphic letters at the consolidation of part-whole perception of education, memory, attentiveness, spatial skills training);

- software and databases for 1st to 4th-grade students with speech-language disorders (cognitive and communication skills training, enrichment of active and passive vocabulary, auditory and visual perception skills, pronunciation and listening skills formation, phonemic ear training, sound differentiation education, imagination, attention, memory training, fine motor skill activities and visual-motor co-ordination, cross-functional communication training);

- specialised kits, adapted for children who have difficulties in basic mathematical understanding formation, developing primary mathematical concepts, number recognition, basic counting, number comparisons and pronunciation, integers and decimals recognition, with physical object number identification.

During the 2012–2014 period, the SPPC is implementing the second stage of the 'Special Teaching Tool Creation' project. This aims to create preconditions for in-service training in STT, training that is adapted for evaluators of textbooks for students with special needs and training for education support specialists and teachers working with such students. It ensures that education for students with special needs is organised in accordance with their needs.

The second stage of the project aims to:

- develop six SSTs for students educated through the adapted general education curriculum:

  – four STT (methodological material kit) for lower secondary school (7–10) for students educated through the adapted general education curriculum;

  – speech therapy exercises, for speech and language skills improvement (pre-school and primary school (3–12) children);

  – STT to overcome maths learning disabilities.

- create and adapt ten STT for students with severe and profound general learning disabilities:
  - STT for pupils with moderate intellectual disabilities for their social skills training (first stage continuation);
  - two STT for the linguistic development of students with hearing impairments in grades 7 and 8, with texts prepared in Lithuanian and Lithuanian sign language (first stage continuation);
  - STT for listening skill development for students with hearing impairments and cochlear implant users;
  - adaptation of graphic text recognition software (symbol system) for Lithuanian;
  - two methodological STT for teaching pupils with moderate intellectual disabilities in higher grades: language and communication development and cognitive activities;
  - three STT for pupils with mild intellectual disability in higher grades for subject teaching.
- create and adapt two multi-function STT;
- organise in-service training in STT and training that is adapted for evaluators of textbooks for students with special needs;
- organise in-service training of educational support professionals and teachers (665 professionals) working with STT.

Since October 2012, workshops on interactive whiteboard usage in special education have been organised in various Lithuanian cities. Thanks to these, 250 participants in ten workshops have gained theoretical knowledge and practical skills in interactive whiteboard usage in special education. The workshops aim to provide education support specialists and teachers with knowledge on interactive whiteboard usage in special education (Promethean and/or SMART Board and/or similar) with ActivInspire and/or analogous software for special needs education (a three-day workshop of 24 hours in total).

2.3 Current obstacles to using ICT to promote learning in inclusive settings

- lack of modern ICT equipment and adaptive assistive technology for students with special needs;
- the level of teacher competences in using ICT and innovative methods in special education is insufficient;
- lack of methodological material and recommendations for teachers.

2.4 Factors that support using ICT to promote learning in inclusive settings

- schools are gradually being equipped with adaptive assistive technology;
- special digital teaching/learning tools are being created/localised for students with SEN;
- rapid development of national network infrastructure, which gives free access to educational resources.

2.5 Perceived short and long-term developments that will have an impact on ICT for Inclusion practice

The School Improvement Programme plus has been approved and is being implemented (e.g. projects under the Programme for Development Support Measures for Persons with SEN (2008–2012); establishment of universal multi-functional centres in rural areas).

The functions of the national centres for educating students with visual or hearing impairments were expanded (e.g. a division for preparing educational material for students with hearing impairments was established; research into Lithuanian sign language was promoted).

Once the work environment of the pedagogical-psychological services infrastructure for special education teachers, social educators, psychologists and speech therapists has been modernised and modern equipment has been provided for them, they will be able to deliver timely, high-quality and universal support, children who live in remote areas will be reached and the services will be accessible to physically disabled children.