INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FOR INCLUSION

Cyprus

1. Policy Frameworks

This information was provided by Maria Pieri (Assistive Technology Officer, Ministry of Education) and Paul Paschalis (Special Education Inspector).

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

The policies that govern special education in general derive from the Special Education Law of 1999 and the relevant regulations of 2001. The components of the law that refer to means, tools and human resources that enable social and school inclusion are broad and do not point out specific infrastructures, such as ICT on inclusion. However, since the terminology of ICT consists of contemporary educational means and tools for communication and education, it is valid to conclude that ICT for inclusion for a more independent life is encompassed within the law, and more specifically under Article 2, Part I of Law 113 (i)/99. In addition, Article 12, Part IV, refers to inclusive settings and mandates that public schools are responsible for providing any help and support to children with special needs. Lastly, Articles 2 (c) and (d), Part V, refer to the Ministry Council as the body that ensures the provision of any equipment for children's needs and for their training and entertainment within the ambit of special education.

The highest authority is the Central Committee of Special Education, which supervises the functions of the District Special Education Committee. The latter is a multidisciplinary team headed by a First Education Officer, and is responsible for supervising and monitoring the application of the Special Education Law and other Ministry policies. The Special Education Co-ordinators (SEC) and Assistive Technology (AT) Officer (who is also considered an SEC) come from the public education section, and are appointed by the Minister of Education. Their responsibilities and duties are also mandated by the law and include the provision of all possible means for the education of students with special needs.

As a consequence, the AT Officer is the one responsible for forming a multidisciplinary team, assessing students who have been referred and then writing a report supporting or rejecting the provision of technology to the students. The report is then examined by the District Special Education Committee, which accepts or rejects the report's suggestions and then orders that the decision be implemented. If the decision is to provide AT, then the AT Officer, in co-operation with the ICT Department of the Ministry of Education and Culture (MOEC), draw up specifications and guidelines for both the hardware and software required for a number of students with special needs (who had previously been assessed), and proceed to a public procurement process. The MOEC funds allocated to Special Education cover the entire cost.

Regarding the ICT policies for all schools and all students, the MOEC started to implement an ICT integration plan in 2011, aiming to effectively use ICTs in the educational process and to enhance the digital literacy of students and teachers. The main objectives were to train teachers, provide better infrastructure and equipment and improve teaching and learning aids in accordance with the new curricula. The MOEC is responsible for providing advanced infrastructure and ICT equipment to all public schools. The equipment is acquired centrally, since the education system in Cyprus (policies, funding, administration, curriculum, etc.) is centrally governed (more information can be found in the 2011 *Country*

Report on ICT in Education on the European Schoolnet website: http://cms.eun.org/shared/data/pdf/cyprus_cr_2011_final.docx.pdf).

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 indicated in the previous answer, ICT is not mentioned in the law, but it is encompassed within the law, since it falls under the descriptions of the articles mentioned. More specifically, the law refers to any help for the 'improvement of talking and communication […] safeguarding of all the means, provisions and human potential for the purpose of their educational and social rehabilitation and an independent life', and to the school, which 'shall be provided with all the modern educational means and/or equipment, general or individual, for the satisfaction of the special needs of each child'.

1.2 (ii) Access to appropriate ICTs as an entitlement

The same as answer in 2(i).

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

According to the law, the Minister of Education and Culture is responsible (through his representatives at the Ministry) for supporting the education and training (with seminars, lectures or otherwise) of the staff involved with students with special needs (Article 18 (2) (C), Part V).

Compulsory training of educational staff is also carried out by the Cyprus Pedagogical Institute. According to the European Schoolnet Report of 2011, p. 3, one of the ICT integration plan's goals was 'training teachers in order for them to acquire the skills for using ICT tools in the educational process and to keep up with the current technological developments'. An example is the Design-Practice project (see: http://www.design-practice.org/).

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

There is no such policy. The Pedagogical Institute is the organisation obliged to undertake research in education, but no such research has commenced as yet.

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

There is no such policy. Data collection and monitoring are empirical.

1.3 Strategic plans for implementing policy on ICT for inclusion

Currently there is no strategic plan for implementing policy on ICT for inclusion, but there is a plan for ICT in general, which has been in place since 2011, and which was described in question 1.1.

As far as assistive technology is concerned, the AT Officer in the Ministry co-operates with the three Special Education Inspectors, the Special Education Co-ordinators, the Ministry's ICT and Curriculum Department and also with the Local Special Education Committees, and they all work together to ensure implementation of the policy regarding the use of technology for inclusion. The policy is communicated as needed, which means that the AT Officer contacts school principals and teachers whenever there is a case of a student who requires or has already been provided with assistive technology, in order to guide and support them in implementing a plan for maximum integration of the particular technology into their lessons.

Policy-making (like many other things) is centrally governed and schools have no autonomy in making policy decisions. However, through the Consultation Committee – a body appointed by the Minister of Education and Culture and which is responsible for supervising the application of the Special Education Law – schools, teachers, parents and other professionals in the field, can suggest plans for the development and improvement of Special Education.

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

The collection and recording of information related to outcomes is carried out empirically.

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

The main development that took place in the years 2004–2005 was the initiation of a new procedure in Special Education (aligned with the Special Education Law), which included the process of identification, assessment, provision and support of specific technologies to students with special needs (in inclusive and other settings). This new procedure necessitated the appointment of an Assistive Technology Officer in the Ministry (under the title of Special Education Co-ordinator), who is now responsible for providing the abovementioned services.

1.6 Current issues in relation to ICT for Inclusion

The central issues are set out below:

- The first issue springs from the fact that ICT and inclusive education are not meaningfully integrated, at least not in a way that when general ICT is provided, students with special needs are also taken into consideration so that specific accommodations be made and teacher training is followed. At this stage, we should not be talking about ICT or AT, but rather about a more integrated approach, similar to or the same as Universal Design for Learning (UDL). This involves developing an educational system (or, in this case, technology) that takes into consideration and aims to accommodate the needs of all students.

- The absence of professionals who would be responsible for data collection, research and analysis of the results on the use of ICT and who would also instil new ideas, methods and strategies for more effective ICT use or ICT use in inclusive environments.

- There is a delay between the time at which a student who would benefit from technology is identified and time at which the technology is actually provided, due to lengthy and time-consuming procedures. Because of this, by the time a student receives supporting technology, their needs may have changed.

- The unreliability of the infrastructure and of technology itself, which makes the use of ICT in teaching or as an assistive tool difficult for the users (both teachers and students).

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

The most important developments in ICT for inclusion are related to the previously mentioned issues. Therefore the following developments would lead to a better quality situation:

- Maximum integration of ICT and inclusive education practices. The most desirable and holistic approach would be the UDL.

- Initiation of data collection, monitoring and research by various professionals in the field.

- More effective and less time-consuming procedures for technology acquisition (this may include an increased number of AT Officers, creation of a technology bank for the immediate provision of the suggested equipment, etc.).

- Each school having at least one staff member trained in technical support, who would resolve the problems that arise with the various pieces of equipment immediately and more effectively.

2. Country Practice

This information was provided by Maria Pieri (Assistive Technology Officer, Ministry of Education).

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

A recent national reform in the education curriculum (started in 2011) shifted its priorities (in pedagogy and the curriculum) towards shaping a more democratic and humanistic school, which is a school where all students can study together – regardless of any differences they may have – and where no child is excluded, marginalised, stigmatised or derided because of their exceptionality. In general, the reform's objective is to create schools which can promote equity in educational opportunities for all students. More information about the reform can be found in the following report: http://www.moec.gov.cy/etisia-ekthesi/pdf/annual_report_2011_en.pdf

Moreover, the Ministry of Education and Culture (MOEC) started to implement an ICT integration plan in 2011, aiming to effectively use ICT in the educational process and to enhance the digital literacy of students and teachers. The main objectives are to train teachers, provide better infrastructure and equipment and improve teaching and learning aids in accordance with the new curricula (more information can be found in the 2011 *Country Report on ICT in Education* on the European Schoolnet website: http://cms.eun.org/shared/data/pdf/cyprus_cr_2011_final.docx.pdf This document also contains a brief explanation about ICT for inclusion which may be of interest.)

2.1 (ii) Access to appropriate ICTs as an entitlement

In the Cypriot education system, there is no clear and defined correlation between ICT and inclusive education. ICT provisions are driven by the needs of mainstream education and may or may not be able to accommodate the needs of special learners within these classes. However, special education staff appointed to schools and/or Special Education Officers and/or the MOEC's Assistive Technology Officer can assist teachers in the process of using dedicated or non-dedicated technologies in order to create more opportunities for inclusion and equity in educational opportunities for all learners. Therefore, the following responses will focus on two separate levels: the MOEC's Special Education Department and the MOEC's ICT Department.

The main progress in Special Education, which commenced in the years 2004–2005, was the initiation of the development of a new policy for the provision of assistive technology in order to serve students with special needs. The new policy included the process of identification, assessment, provision and support of specific technologies (hardware and software) to students with special needs (in inclusive and other settings). This new procedure necessitated the appointment of an Assistive Technology Officer in the Ministry,

who is now responsible for providing the abovementioned services, in co-operation with many other stakeholders. As a result, at present, several students across the country, who have been evaluated over the past eight or nine years, are using specific assistive technologies within mainstream classes. Both hardware and software are provided by private companies through public procurement processes. By law, these companies have to comply with the specifications and guidelines explicitly described in the procurement documents by the MOEC. Thus, the companies have to either provide ready-made technologies or make the necessary adjustments to them (e.g. create custom-made keyboards and keyguards, translate software, etc.).

Many developments have taken place at ICT Department level since 2000. All classrooms have been equipped with a desktop computer and a printer and have also been given internet connections. All schools have been provided with at least one projector and a laptop, and a few schools have been provided with interactive whiteboards (several Parents' Associations have purchased and installed interactive whiteboards for their schools also). Moreover, software products were bought and installed on all computers (some of which had to be translated). Another important development was the creation of the Digital Educational Content (DEC) for middle and high schools, uploaded on a specific platform called DIA.S (internet school) to be used by both educators and students (more information about DIA.S and DEC is available at https://www.dias.ac.cy/en/Pages/introduction.aspx and http://advancedelearning.com/index.php/articles/c5051/en).

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

Regular education in-service teachers have the opportunity to be trained at the Pedagogical Institute. According to the European Schoolnet Report (link provided in Q.1.1), between the years of 2004 and 2009, 'a country-wide program on ICT was offered for teachers and provided incentives in order to encourage teacher participation' (p. 14). The training included ICT literacy skills and also the integration of ICT into teaching. The report also stated that in the last few years, there has been an emphasis on school-based training by school-based coaches-educators.

Regarding special education teachers and staff, firstly one massive training course, provided by the Pedagogical Institute, was held for non-permanent staff. The training included, amongst other things, the use of ICT. In addition, the same institution has also been providing free, compulsory short courses on the use of technology. Short training sessions are also provided by private companies (following an agreement with the Ministry) and by the Ministry's Assistive Technology Officer. Moreover, after students with special needs in inclusive settings have been assessed and provided with specific technologies, their teachers receive one-to-one training on how to use the technology. Last, but not least, training for all teachers can be offered through various European projects and other projects which run through the Ministry or other life-long education programmes.

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

This area has not yet been developed in the public sector.

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

No formal data collection and monitoring system has been developed yet.

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

There is no formal country-based network to perform such an action.

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

Both private universities and the public University of Cyprus offer initial teacher education undergraduate courses that include ICT use and teaching in inclusive environments – separately. However, there is no course that combines both subjects.

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

At ICT Department level, the MOEC appoints ICT consultants around the country to provide guidance and support to teachers for the effective integration of ICT into their lessons.

At Special Education Department level, the AT Officer is responsible for supporting teachers in using ICT to promote inclusive teaching and learning, but as was previously stated (Q. 1, iii), this is done in cases where students who attend mainstream classes are provided with AT.

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

No formal information source coming from the MOEC has yet been developed regarding information about ICT in inclusive settings. However, there are webpages (from the MOEC's website), where one can find basic information on ICT in general:

- ICT seminar presentations: http://www.schools.ac.cy/klimakio/epimorfosi/index.html
- Software that has been provided and installed on public schools' computers: http://www.schools.ac.cy/klimakio/logismika/index.html
- Productivity tools: http://www.schools.ac.cy/klimakio/ergaleia_dimiourgias.html
- Useful freeware: http://www.schools.ac.cy/chrisima_logismika.html
- Software manuals and troubleshooting instructions: http://www.schools.ac.cy/klimakio/odigoixrisis/index.html
- Ideas for incorporating ICT into teaching can also be found in different (not all) lesson plans, also presented on the MOEC website and more specifically on: http://www.schools.ac.cy/klimakio/index.html (elementary education), and http://www.schools.ac.cy/eyliko/mesi/index.html (secondary education).

For general secondary education and technical and vocational secondary education, a complete learning management system has been developed and has, so far, been applied as a pilot scheme in four high schools and three technical and vocational secondary schools across the country. The system is called DIA.S (which is an acronym for Internet School) and can be found on https://www.dias.ac.cy/el/Pages/intro.aspx However, there is limited access to this platform and it is mainly for teachers and students from the seven schools.

More information can also be obtained from the Pedagogical Institute through its webpage, seminars and research, although the information related to inclusive settings is limited (http://www.e-epimorfosi.ac.cy/index.php).

More specific information, however, may be obtained from private sources and on the webpages of various organisations or private companies (in Cyprus or abroad) that are involved in matters of ICT for special needs.

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

The main obstacle to using ICT in inclusive settings is the lack of trained staff in the dual field of special education and new technologies, who would be in a position to take on the role of mediator between the Ministry and schools, and whose responsibility would be to train and support teachers in using the available technologies in the most inclusive way.

Another obstacle is the unreliability of the infrastructure and of technology itself, which makes the use of ICT in teaching or as an assistive tool difficult for the users (both teachers and students). All classrooms are equipped with a computer and basic software, but very few schools have teachers who can effectively and immediately resolve the equipment's technical problems.

A further obstacle is that a lot of teachers are reluctant to apply technology use in their classrooms. This may be due to a lack of competent technology skills, lack of time to plan for the incorporation of technology into their everyday lessons and lack of basic knowledge regarding teaching in inclusive settings (e.g. knowing how to teach while bearing in mind each and every one of their students' specific needs).

Last, but not least, teachers need to have access to ready-made tools and materials for use in their everyday lessons, in order to be able to organise more creative and interactive lessons without having to go through the hassle of searching for appropriate materials and tools.

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

The most important factor is that all schools and all classrooms are equipped with at least one computer and one printer.

Another factor is that all schools can request the support of their designated ICT consultant to provide them with ideas for technology integration. Moreover, in relation to special needs, this support can also be provided by the AT Officer.

A third reason is the increased awareness – especially among the new generation of teachers – of the necessity of ICT in the teaching process and also of matters relating to exceptional students. These two fields in education have been developing rapidly over the past few years, thus making teachers' involvement a necessity.

Another factor is the statutory inclusion of students with special needs in mainstream classes, which is a motive and/or a driving force for teachers to strive to find the best solutions for capturing the attention of and educating all students in their classrooms.

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

The most important development will be to gradually increase the number of trained ICT consultants with knowledge and/or background in special needs education (in the Ministry), who will provide training and support, create networks for learning and instil new technologies to assist teachers (in both mainstream and special education) with their everyday lessons.

Another development will be to organise the existing system to incorporate research in the field of ICT and inclusive environments. In this way there will be improved: 1)

understanding of the positive or negative impacts of each technology, 2) monitoring of the application of technology and 3) ideas for introducing new methods and technologies in the classroom.

A great improvement would also be the creation of a library/database with ready-made materials and tools available for all teachers and also of a network that teachers could use to exchange ideas and also download or upload their own ideas and creative lessons, using ICT.

In order to make these developments effective, certain policies and procedures should change or take effect, in order to transform and renovate the current educational system to accommodate the new conditions. Another change that may still be required is improved initial teacher training and improved training for in-service teachers in relation to promoting a better and deeper knowledge of ICT and also of teaching in inclusive environments.