SPECIAL NEEDS AND ICT IN MAINSTREAM SCHOOLS: TRENDS AND INNOVATIVE APPROACHES

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ABSTRACT

The Special Educational Needs network (SENnet: http://sennet.eun.org) part-funded by the European Commission's Lifelong Learning programme, delivers each year an Annual Report presenting innovative approaches in the three areas of activity in the network: the integration of learners with special needs into mainstream schools, innovative learning environments and raising teacher awareness. This first report is divided into three sections and describes key developments in 2012 in each area under the headings International, Europe and Country.

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INTRODUCTION

Within the SENnet project, WP 2 delivers each year an Annual Report presenting innovative approaches at international and national level in the three areas of the network's activity: the integration of learners with special needs into mainstream schools, innovative learning environments and raising teacher awareness. This first report draws on material prepared by network members for workshops and activities in 2012 and includes contributions from partners in Austria, Belgium, Denmark, Estonia, Italy, Portugal, Turkey and the United Kingdom, as well as from European Schoolnet and the European Agency for Development in Special Needs Education.

Further information about SENnet can be found at http://sennet.eun.org. The authors welcome comments and can be contacted at the addresses above.

PART 1: INTEGRATION OF LEARNERS WITH SPECIAL NEEDS

This section summarises policy developments and research findings in the area of integration of learners with special needs into mainstream school classes, with a particular focus on the use of ICT.

EUROPE

Special needs education, published by the Network of Experts on Social Aspects of Education and Training (NESET) reports that:

- Children with special educational needs frequently leave school with few or no qualifications. Disabled people are less likely to progress into higher education than non-disabled people
- Special education systems may increase the isolation of pupils who are already socially marginalized, reducing rather than enhancing their opportunities in life. Research suggests that such children could be enrolled in mainstream schools if there was more investment in the development of their language skills and more sensitivity to cultural differences.
- While learners with profound impairments may be difficult to include in mainstream learning environments or may be better served in separate settings, there is growing evidence that a very large number of learners with disabilities/special educational needs can be integrated into mainstream education and that quality inclusive education is good education for all learners;
- While it is of vital importance to move towards more inclusive education systems, teacher education and continuing professional development have not always been organised along inclusive lines;
- In addition to teachers, learning support teachers and classroom assistants play a vital role in making inclusion work well in practice;
- In some European countries curricula are standardised and inflexible, which makes the inclusion of disabled children difficult. Grade retention practices also undermine the principles of inclusion;

Report:http://www.nesetweb.eu/news/special-needs-education-nesse-report

COUNTRY

AUSTRIA

The percentage of children with special needs in mainstream education varies considerably between the Austrian provinces and lies between 30% and 80%. In the academic year of 2012/13, Austria's first inclusive higher secondary school was introduced in an academic secondary school in Salzburg[1]. At present, this is only a pilot project – however, there are

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[1]http://www.morg.at/

plans to give a larger number of students with special needs the chance to attend higher secondary schools in the next few years and to even develop model regions in terms of inclusion to gain experience and to offer inclusive schooling in an even larger part of Austria in the future[2].

BELGIUM

The UN agreement of December 13[th]2006 regarding the rights of disabled people has been ratified by both Belgium and the regions and communities of Belgium and is in effect since July 2nd 2009. Disabled people have a right to inclusive education and a right to make use of reasonable adjustments. Among them are children with learning disabilities who experience obstructions in scholastic participation ('social threshold'). These pupils are entitled to government provisions to create equal opportunities and to counteract discrimination.

The Flemish equal opportunities and equal treatment decree of July 10th 2008 also applies to education. It states that disabled people have a right to ask for reasonable adjustments, unless these measures form a disproportionate burden for those who have to take these measures. If a disabled person experiences negative consequences caused by a maladjusted environment, it can be compensated by reasonable adjustments. Refusal of reasonable adjustments for disabled people (e.g. not granting ICT aids for dyslectic pupils) will consequently, by the interpretation of the decree, be considered as 'discrimination'. In other words, schools are obliged to install adjustments for disabled people within reasonable limits.

Research into the effects of the free dyslexia software project. This study (2012) evaluated the implementation of dyslexia software at school and class level and found a high level of demand for training and a willingness to exchange expertise.

Survey on the use of laptops in schools. To date more than 400 parents of children with learning disabilities have responded to the questionnaire (2012, Die-'s-Lekti-kusvzw). This survey was organised within the framework of the implementation in schools of StiCoRDi (measures to stimulate - compensate - remediate and differentiate/dispensate). The survey distinguishes between various criteria like grade level, type of learning disability, therapy (current and past). The results provide an interesting insight into reasons and factors that play a part in deciding to allow laptops in the classroom or not. The feedback is valuable, especially regarding the effect of laptop use on students' motivation to study, on the level of self-reliance and the impact on school results. The survey provides a better understanding of the motivation of the decision-makers in the schools regarding this matter which will help in the future and enable support providers to to meet concerns effectively.

DENMARK

DEVELOPMENT OF INCLUSION[3]

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[2]http://www.behindertenarbeit.at/bha/wp-content/uploads/NAP-Behinderung.pdf

[3]http://www.european-agency.org/country-information/denmark/national-overview/development-of-inclusion

Since 1993 public schools in Denmark (Folkeskolen) have been obliged to differentiate education according to students' needs in general and not by transferring students to special needs education. However, the developments have shown that schools need tools to engage in mainstream teaching to really differentiate the use of methods, educational materials curriculum for students with differences in development, abilities, language and culture.

The clear goal of public schools to be more inclusive, delivering quality education to all students did not come true. The number of students in special needs education in special classes and in special schools has been increasing, and schools have not become more inclusive. One reason for this was the lack of the description of tools schools can use for inclusive education in order to be able to offer relevant and efficient education to more students.

In 2012 the Folkeskolen Act was changed by the Danish Parliament with a great majority. The legislation aims for a more inclusive school able to educate more students in the mainstream system. Furthermore, it gives realistic and concrete directions for schools how to meet educational challenges and how to organise differentiated and individual education. The Act clearly places responsibility on the headmaster to create and use tools to ensure inclusive education.

Schools can still receive external specialised advice from pedagogical and psychological services if the headmaster requires them or if some students are offered special needs education. However, schools are not longer dependent on external advice for implementation of supplementary education or other support.

The Ministry of Children and Education support municipalities and schools in implementing the new legislation and in improving the level of inclusive education via a task-force available in need and a knowledge centre to collect information, to initiate and support research programmes and to disseminate ideas, information and knowledge.

In Denmark, inclusive schooling is both a political priority and clear aim for schools. It is also now clearly explained in the legislation how these goals can be reached by schools and where responsibility lies for the implementation. At the same time the concept of special needs education is restricted to those students who have a need for extensive support in a major part of the teaching periods. This will contribute to a clearer dialogue in the topiec of the development of special needs education for people with disabilities.

IDENTIFICATION OF SPECIAL EDUCATIONAL NEEDS[4]

The decision as to whether a child's development requires special consideration or support rests upon a concrete assessment in each individual case. In line with section 12 in the Act on the Folkeskole, the decision shall be made upon educational and psychological counselling and upon consultation of the pupil and his/her parents. Normally teacher(s) in mainstream settings discover a given pupil's special needs.

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[4]http://www.european-agency.org/country-information/denmark/national-overview/complete-national-overview

The local educational-psychological advisory services (PPR) are obliged to give a statement upon request of the pupil or the parents. In such cases parents can contact the local education authorities or the educational-psychological advisory services. The educational-psychological advisory services look into the nature of the need and make proposals for remedying it. The headteacher of the school decides whether a pupil will be referred to special education. Finally, the educational-psychological advisory services follow the development of the pupil in order to make the necessary adjustments, including discontinuation of the support.

As far as possible, children are taught at the class level of their age. A pupil may however, with the approval of his/her parents, attend the same grade for two years, if it is considered to be of his or her benefit, or he/she may be offered 11 years of teaching in addition to the pre-school class.

SPECIAL NEEDS EDUCATION WITHIN THE EDUCATION SYSTEM

The general objectives of special education states that children with special needs are taught in mainstream school environments as far as this is possible, and that all children are entitled to teaching adapted to their pre-requisites, possibilities and needs. Following this, teaching objectives are similar to those applying to the different levels of the education system.

"SCHOOLS MUST CHALLENGE THE DIGITAL GENERATION"[5]

The new national eGovernment Strategy 2011-2015[6], named The Digital Path to Future Welfare, comprises a number of focus areas, among these an area targeting education: Schools Must Challenge the Digital Generation. This focus is backed by substantial funding (130 M€) and an even closer focus on digital learning resources. The initiative is to increase the demand of digital learning resources and thus support a more developed and sustainable market and an increased offer of products. A core area is to develop learning environments that support an increased use of ICT in everyday learning. One of the central objectives of this is that the learning resources must support central objectives and goals of learning including the opportunity to release resources to teaching, and reduce the need of special education etc.

ESTONIA

The number of special schools has decreased in recent years, but not enough. The Ministry of Education and Research has launched a reform of special schools network and is developing a strategic plan of study organization of SEN students. The main aim of this is moving towards more inclusive system of education.

Some directions for years 2013-20:

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[5] http://www.digst.dk/Digitaliseringsstrategi/Digitaliseringsstrategiens-initiativer/Folkeskolen-skal-udfordre-den-digitale-generation
[6] http://www.digst.dk/Digitaliseringsstrategi/~/media/Digitaliseringsstrategi/Tilgaengelig_engelsk_strategi.ashx

1. Reducing the number of special schools;

2. Renewing financing model for assurance inclusive arrangement of schooling of SEN students;

3. Developing competence and capacities of counselling service centres.

4. Supervising and assessing achievements of SEN students;

5. Producing learning materials for SEN students and manuals for teachers and support specialists (Information from the Ministry of Education and Research).

There is also a drive to increase the importance of ICT with children with special educational needs, using it in teaching, learning, communicating, therapy and diagnostics more than previously, and to develop a national subsidy system of study materials and technical aids for children with special educational needs. (Ministry of Education and Research, 2012).

There is lack of financial support including SEN pupil. There is no extra money for teaching SEN students in ordinary school, except mental disorders. Students with learning difficulties have the right to attend remedial groups for providing learning support. But there is no higher extra money for these students anymore (Üldhariduserahastamismudel).Children with disabilities who require technical aids are compensated by the state for 50-90% of the cost of a technical aid. The provision of other social welfare services to people with disabilities is primarily the responsibility of local governments (personal assistants, transport), in terms of both providing services on the basis of assessed need and paying benefits (Ministry of Social Affairs, 2012).

Tiger Leap Foundation is running a teacher training program "Special needs and ICT" whose goal is to introduce different educational needs, preparation of teaching materials for SEN students and opportunities how to use ICT to support teaching for children with SEN. (Hariduslikeerivajadustegaõpilasteõpeja IKT, 2012).

ITALY

In Italy, SEN pupils are taught in mainstream schools and since the 1970s special schools have been almost totally abolished. SEN pupils are scaffolded by SEN teachers who are present for some hours of the school time. SEN pupils are supported by different professionals and the dedicated team has in charge their individualised educational plan (called *PEI - Piano Educativo Individualizzato*). Head teachers can also contract educators, associations and psychologists in order to provides difficult SEN cases the best support.

Over the last decade, in Italy there has been an administrative decentralization process and Regional School Offices have taken a major role in the planning, programming and management of school resources and actions. The Italian Parliament is progressively implementing changes to the 5th Title of the Constitution, giving more autonomy to local authorities (Regions, Provinces, Municipalities). Law 59/1997 gave schools functional autonomy and headmasters can offer different curricula according to their territory and stakeholders.

The head teacher is responsible for the teaching program to a certain extent. If for some SEN pupils school attendance is compromised for all or part of the time, the head teacher

must ensure an educational plan that respects the specific needs of his/her students and enhance learning in an alternative way.

An integral part of the PEI is the section called "Life plan", dealing with personal and social opportunities to develop personality and promote life quality, including self-esteem increase and community life competences.

The SEN teacher is not the only responsible for inclusive education, because there is a shared responsibility among all teachers. The Class Council coordinates teaching activities and create materials for a complete participation of SEN pupils. In particular, they work for:
- a non-discriminatory class atmosphere allowing the creation of positive socio-affective relationships;
- the adoption of inclusion strategies and methodologies (i.e. cooperative learning) and the preparation of homework documents and material accessible in electronic format or through assistive technology;
- strengthening the active construction of knowledge.

PEI encompasses SEN pupils evaluation as well, which is based both on the assessment of the performance itself and on the pupil learning process and commitment. During exams, SEN pupils can use those technologies that help them to have the same opportunities that the other pupils (i.e. blind people should get Braille exam texts etc.).

According to Law 104/92 (article 12), the family is entitled to participate in the setting up of the PEI and to the control of its implementation. For this reason, SEN pupils documentation must be available for the family and for the pupils themselves who are to decide on their school career.

Since the 90s teaching experiments with assistive technologies have been carried out by schools or single teachers; some associations or consortia have been established with the precise aim of promoting assistive technologies in teaching (i.e. the Ausilioteca of Bologna, ASPHI). In the same years, health care companies have set up centres for assistive technology. These centres have then networked at a national level, then converging into the GLIC, a national working group on SEN education and assistive technology. Since 2005, the project "New technologies and disability" sponsored by the Ministry of Education, has worked to spread the knowledge and use of technology for inclusive education among teachers. Thanks to this project, Local Support Centres (CTS) were created, where experts suggest technology solutions, software and assistive products according to the disability of the pupil.

As a general trend, Italian policy promotes the use of ICT in the three domains mentioned in Eurydice publication, "Key Data on Education in Europe 2012": disabled pupils, socially disadvantaged pupils and pupils with learning disabilities.

SYSTEM DEVELOPMENTS IN 2012

After three years of inactivity, the Permanent Observatory for the Integration of Students with Disabilities was recently reconstituted. The Observatory is made up of a Technical Committee and of a Associations Representative Group. The new Observatory will welcome also representatives of teachers, parents and students.

In November 2012, an Italian representative group was appointed in order to participate in the European Agency for Special Needs Education activities. The group is made up of university experts dealing with SEN education, learning psychology and educational technology.

An agreement was jointly signed by the Ministry of Education and the Ministry of Health in order to strengthen their collaboration in the field of school inclusion. The agreement main purpose is promoting early diagnosis in preschool age children, guaranteeing that diagnosis is made correctly, organizing joint training occasions for school and health service staff, consolidating the Local Support Centres network and making them collaborate with health services and, finally, promoting research and epidemiological studies.

As for learning disorder, after the Law 170/2010 was promulgated, further documentation was produced in order to clarify certain terms or procedures expressed in the Law, such as diagnosis procedures, indications on centres enabled to certify learning disorders and guidelines for the early detection of learning disorders in school.

PORTUGAL

A law was passed in January 2008 (http://dre.pt/pdf1sdip/2008/01/00400/0015400164.pdf) which governs special needs provisions in schools. The measures referred in the National Strategy have been addressed in this law and several publications with curricular guidelines were produced by the Ministry of Education to help schools and teachers to integrate SEN pupils. The target public to benefit from these measures and respective support are pupils with severe needs.

Short and long-term developments would be desirable regarding inclusion and ICT/AT. In the short term:

- reinforcement of ICT Resources Centres for Special Needs, providing them with better conditions and more resources;
- guarantee of an adequate annual budget for ICT and assistive technology for pupils/students with disabilities;
- reinforcement of technical/therapeutic assistance to the pupils;
- reinforcement of teacher training on the use of ICT/AT;
- localization of open source/freeware for special needs and promotion of its use

In the long term:
- strong commitment from policy makers towards inclusion, investing in adequate resources;
- society's change of attitude towards people with disabilities;
- school culture of inclusion;
- close institutional cooperation among the Ministries of Education, Health and Labour/Social Security in the field of Early Childhood Intervention;
- collaboration with Higher Education research in the field of disability and rehabilitation.

TURKEY

Special education is an inseparable part of the general education system. All children, regardless of their disability can benefit from special education. It is a fundamental aspect of equal opportunity to continue general and/or vocational education, and rehabilitation services without interruption.

Special education services in Turkey is provided through schools (public and private) and educational institutions. All of these organizations report to the Ministry of National Education and operate within the mission and principles of the Turkish National Education. Under these terms, they serve individuals with disabilities who have the legislative right to receive free and appropriate general and/or vocational education. Student with special needs within the scope of education is defined as "individual displaying special personal and developmental delays/characteristics that require additional support and/or accommodation in contrast to their typically developing peers".

Inclusive education in its broadest explanation means an arrangement where children with special needs receive educational services together with their typically developing peers in the same classroom/learning environment. After identification and IEP, inclusion targets integration and the offering of educational opportunities for reaching the most appropriate/highest degree of academic, social and personal development. One of the aims of inclusive education (also called mainstreaming in some texts) is developing positive behaviours towards disability and individuals with disabilities. Standard curriculum is followed by all but students with special needs receive support services. Sometimes, adaptations are also made to the teaching activities. Specialized/adapted equipments are used where available and support rooms offer facilitation for an appropriate physical and psycho-social learning environment.

In the Turkish schools and institutions, the maximum number of students to be served in a single classroom is two. This limitation is presented to ensure equal distribution. There are additional regulations on the placement of students with special needs: In a class size of 10 in pre-school and kindergarten, 2 children with disabilities can be served. If the class size in pre-school and kindergarten reaches 20, there can be only be 1 student with a disability. For all other educational levels, class size may not exceed 25 if there are 2 students with disabilities. If there is only 1 student in class, maximum number of students to be hosted in a classroom is 35. All levels of intellectual disability, multiple disabilities, attention deficit hyperactivity disorder, speech and language impairments, emotional and behavioural disorders, visual impairment and blindness, hearing impairment and deafness, physical disabilities, autism spectrum disorder and gifted students all fall within this scope.

Various schools and institutions provide special education for individuals with special educational needs in Turkey. The special education programs implemented in these schools are provided hands on experiences (practice) to ensure that all students may acquire vocational skills. In an attempt to strengthen vocational programs in special education and applied/practical experiences, private entities in special education are granted permission to provide special education services. Following the IEP, those who are recommended inclusive education are integrated to the mainstream education. IEP's are revised every year.

In the 2011-2012 academic year, approximately 171.000 students received inclusive education in schools. The number of individuals who attended special education schools was

about 43.000. About 9600 teachers served in the 1166 special education schools, institutions and centres.

UNITED KINGDOM

On the Periphery? Understanding Low and Discontinued Internet Use Amongst Young People in Britain[7] examined the reasons some – generally disadvantaged – young people did not use the internet. The report concludes:

> "We need strategies that both remove barriers to being online and support young people in developing their agency and skills to use the Internet. […] We would propose strategies that:
>
> - Facilitate connections between young people who used to be outside the digital mainstream and those who are currently still living outside the digital mainstream.
>
> - Allow for the possibility that young people may need support in using the Internet and enable young people to identify problems with their skill sets that they have with going online.
>
> - Improve the quality of physical access to computers and the Internet for these young people.
>
> - Move forward with educational initiatives to ensure all young people have an opportunity to fully explore the online world and develop all the skills needed to support that process while in education.
>
> - Create initiatives that may develop and extend social capital for these young people."

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[7] loads/index.cfm?File=research/publications/Lapsed_Internet_Users_Report_2012.pdf

PART 2: INNOVATIVE LEARNING ENVIRONMENTS

In this area we summarise key developments in the use of ICT in innovative learning environments to support the integration of learners with special needs into mainstream education.

INTERNATIONAL

UNITED NATIONS CONVENTION

The [United Nations Convention on the Rights of Persons with Disabilities (2006)](). The Convention emphasises the obligation to 'provide accessible information to persons with disabilities' (Art.4) and the Need for 'the design, development, production and distribution of accessible ICT' (Art.9).

UNESCO REPORT ON ACCESSIBLE ICT AND PERSONALISED LEARNING FOR STUDENTS WITH DISABILITIES

Personalized learning requires attention to the unique needs of all students of all abilities, acknowledging that each have different learning styles including students with mild, moderate or severe disabilities. The use of technology in education plays a particularly vital role by enabling flexible curriculum development and assisting students with disabilities to participate as equals in the learning experience. It also helps to prepare them for life-long learning, recreation and work outside of school.

As education leaders implement reform and changes to meet this challenge, the use of accessible ICTs continues to emerge as a key component in enabling students to learn according their individual abilities and learning styles.

Report:
http://www.unesco.org/pv_obj_cache/pv_obj_id_435EBD9F6B1BF83453CC6B80122AE28A69A71100/filename/accessible_ict_personalized_learning_2012%20.pdf

ICTS IN EDUCATION FOR PEOPLE WITH DISABILITIES - REVIEW OF INNOVATIVE PRACTICE

In 2010, the UNESCO Institute for Information Technologies in Education ([UNESCO IITE]()) and the European Agency for Development in Special Needs Education collaborated on a joint project to develop a *Review of Innovative Practice* – a report presenting concrete examples of practice of the use of Information and Communication Technology (ICT) with people with disabilities in different educational contexts and settings. In particular, the Review was targeted at considering examples of practice that can be considered to be 'innovative' within the specific educational setting and wider societal context they were situated within.

The aims of this Practice Review therefore are to use the collected examples in order to highlight a range of different purposes for using ICT in education for people with disabilities and identify key messages for policy and practice.

The Practice Review presents a description of the work undertaken followed by a review of information on international policy for ICT and people with disabilities. Each one of the four thematic areas of the Practice Review is discussed in a separate chapter presenting three detailed Case Studies as well as various vignettes as further exemplars of key issues emerging within the thematic area.

- SUPPORTING PERSONAL ACCESS TO INFORMATION AND KNOWLEDGE - Case studies from Estonia, Finland and Grenada and vignettes from Belgium, Estonia, Germany, Spain, UK (England) and Uruguay.
- SUPPORTING LEARNING AND TEACHING SITUATIONS - Case studies from Belgium, Portugal and Syria and vignettes from Belarus, Belgium, Denmark, Estonia, Slovenia and Sweden.
- SUPPORTING PERSONAL COMMUNICATION AND INTERACTION - Case studies from France, Ireland, UK (England) and vignettes from: Belarus, Belgium, Finland, Portugal and an international example.

Report: http://www.european-agency.org/publications/ereports/ICTs-in-Education-for-People-With-Disabilities/Review-of-Innovative-Practice

EUROPE

I-ACCESS

Outcomes from the Accessible Information Provision for Lifelong Learning (i-access) project include:

- Recommendations: http://www.european-agency.org/agency-projects/i-accessagreements (translated into all Agency languages).
- A collection of useful resources;
- A glossary of terms;
- A dissemination package including a collection of practical examples;
- National level dissemination examples.

COUNTRY

AUSTRIA

The goals of the Federal Ministry of Education, Arts and Culture's *efit21*[8] include using ICT in education to increase its quality and to give people the necessary competencies for their personal, professional and social success. One of 40 subject portals is dedicated to special needs education[9].

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[8] http://www.efit21.at/

[9] http://www.edugroup.at/praxis/portale/sonderpaedagogik/

IICC[10] (Ill and Isolated Children Connected) is an example of the use of ICT as a means of inclusion of SEN pupils. In many cases, children undergoing lengthy hospital stays attend so-called hospital schools which are in constant contact with their home schools. ICT-assisted tuition can improve the efficiency and quality of lessons, particularly in this environment, with high individual support needs. In addition, it makes it possible for the pupils to stay in touch with their friends and classmates from home using video conferencing. They also have access to educational media and are sometimes even able to participate in classroom instruction. The project started in 2004 and was enhanced continuously by adding e-learning or art as priorities. In the last few years, a strong focus has been put on the use of new technologies in project-related practice-oriented lessons. The children worked with digital photography and video (including image/video processing) or had the chance to gain experience in robotics. In the academic year of 2012/13, iPads and educational apps will also be used in the framework of this project.

BELGIUM

A protocol supporting dyslectic pupils' use of software was signed in 2008 by the minister of education and welfare. The ministry of education, responsible for assigning dyslexia software, set up a new project in collaboration with Samenwerkingsverband van NetgebondenPedagogischeBegeleidingsdiensten (SNPB vzw): Distribution of free dyslexia-software to mainstream and special education in primary and secondary schools. Schools can apply by submitting a request with their motivation on how they will implement dyslexia-software in their SEN policy. The immediate response of many schools after the first call, indicated a large demand and readiness. The impressive response, increased by the number of other schools that have purchased dyslexia software through other projects or by their own resources, has raised the need for information on the practical use of dyslexia-software. As a consequence, an initiative has been taken to set up a working group and to continue doing research.

'Dyslexia-software! What now? Source of inspiration for the implementation of ICT-aids within the framework of the school's SEN policy' was published in 2011. This brochure has a wide range target group, from parents and teachers to school boards and their organizations. Apart from the dissemination of the broad vision on policy and implementation of ICT-aids, this brochure also includes tangible tools about how ICT-aids can be actively integrated in the short term.

ADIBib, a digital library of textbooks, originated from a need which was not fulfilled: the availability of necessary tools for compensating ICT-use with pupils who have serious limitations in written communication. In 2008 the library started a pilot project with 250 users. In this stage it was specifically aimed at dyslectic pupils. Throughout the following years ADIBib, subsidized by the ministry of education, reached its final form. The project broadened not only its target group to pupils with dyspraxia, GON-pupils, and pupils in special education but also included all primary and secondary education. Till recently ADIbooks were specially adapted for (paying) text-to-speech software. Since September 2010 ADIbooks are software independent. They can now be used on every (free) software

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[10]http://iicc.schule.at

that can read adapted PDF's. We note a new trend that viewing impaired pupils are also making the transfer from Word files to PDFs.

Bednet is a virtual school environment on the internet. This application helps long term and chronically ill children as well as adolescents to stay in touch with their class remotely. It's a closed environment which is accessible via broadband internet 7/7. By using webcams a child can see his teacher and classmates in a virtual classroom. Specially designed hardware allows the child to view everything that happens in the classroom. The child is able to communicate with everyone and ask questions. The system is also able to work with class material, tasks and tests, messages and audiovisual material. The Flemish government, ministry of education, provides personnel and resources for the roll out. The first projects were launched in 2007. By 2008 already 25 children were attending virtual classrooms.

WAI-NOT

WAI-NOT vzw (founded in 2001) actively works on social and digital inclusion, especially for people with a mental disability. An important emphasis is put on safe internet accessibility, specifically for the target group. This should work in both ways: by creating an environment adapted to the target group, but also by creating awareness about making existing content on the internet accessible for this target group.

DENMARK

In this area we summarise key developments in the use of ICT in innovative learning environments to support the integration of learners with special needs into mainstream education.

TEACHING MATERIALS AND TECHNICAL AIDS[2]

The educational-psychological advisory service (PPR) in a given municipality is responsible for estimating whether specific teaching materials or aids could enhance a pupil's learning opportunities or compensate for difficulties such as a handicap. For instance, the PPR estimates the necessity of providing a computer in school or at home for a pupil. The PPR does not always possess the internal expertise needed in a given situation, and therefore planning - including budgetary planning - must include expenses of buying external expertise in order to meet with the professional requirements that are expected from the service at the basis of a proposal developed by its staff.

ASSISTIVE TECHNOLOGY FOR USE IN EDUCATION[11]

PRIMARY SCHOOL

Special education and other special educational assistance may, under the terms of the regulations on special education and special educational assistance provided by the municipal primary and lower secondary school, be given to pupils at the municipal primary and lower secondary school (kindergarten plus grades 1-10), if their development requires

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[11] http://www.hmi.dk/media/provisionassistivetechnology.pdf, p. 20-

special consideration or support which cannot be provided within the framework of normal teaching.

Special education and other special educational assistance covers measures necessary for the pupil's participation in the education, or which serve to promote the aims of the education. Assistive technology is a component of the special educational assistance. Assistive technology required in connection with prep work at home is also covered.

For children in the municipal primary and lower secondary schools, the necessary educational materials are to be provided free of charge. For example, these may be teleloop systems for the hard of hearing, Braille machines for the blind or partially sighted or aids for the teaching of dyslexics.

For those children who are under school age, special educational assistance is provided if their developmental needs require such special consideration. The special educational assistance is provided under the terms of the regulations on special educational assistance provided by the municipal primary and lower secondary school to children of preschool age.

UPPER SECONDARY SCHOOL, ADULT UPPER SECONDARY LEVEL COURSE, HIGHER PREPARATORY COURSE, VOCATIONAL EDUCATION AND TRAINING, UPPER SECONDARY VOCATIONAL COURSES, TRAINING FOR SOCIAL AND HEALTH ASSISTANTS ETC.

Students with handicaps requiring special education or some other special educational assistance shall be offered this, cf. the Education Acts. The institutions can apply for grants to cover expenses at the Danish State Education Grant and Loan Scheme Authority. Grants can normally be provided in the form of assistive technology and instructions for its use, support lessons with the aim of compensating for disability, sign language interpretation etc.

ACCESSIBILITY TO EDUCATION[12]
The Ministry of Children and Education runs a national portal for Danish education called the EMU (www.emu.dk). This portal comprises a huge section dedicated to accessibility to education for all. Here you will find essential information about the Danish education system, with a particular focus on accessibility to education for children, young people and adults with functional disabilities. The site also provides a number of useful links to relevant educational institutions, knowledge centres and user organisations.

An English version[13] summarizes the main points of information and provides a more detailed overview of specific support services for students from abroad.

HJÆLPEMIDDELBASEN[14]
The National Board of Social Services runs a national catalogue Hjælpemiddelbasen (Assistive Technology Data, Denmark) of assistive technologies where users may find assistive products for persons with autism, dementia, epilepsy, obese persons and other target groups.

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[12] http://tilgaengelighed.emu.dk/
[13] http://tilgaengelighed.emu.dk/tilgaengelighed/English/index.html
[14] http://www.hmi-basen.dk/en/indexdk.asp

MATERIALEBASEN - AN INITIATIVE FOR PUPILS WITH READING DIFFICULTIES[15]

Materialebasen is an initiative launched by the Municipality of Frederiksberg. It aims to collect digital learning resources in a database so that pupils with reading difficulties may use them under the Primary Education Act § 18 (special permission). It is a joint project where all participants are invited to contribute by submitting scanned texts, so the pool of digitized books grows larger. All contributors benefit jointly - especially pupils – and the initiative demonstrates the needs for a concerted effort in this area.

MATERIALEPLATFORMEN® - THE DANISH NATIONAL REPOSITORY OF LEARNING RESOURCES[16]

Materialeplatformen is run by the Danish Ministry of Children and Education. It aims to simplify search and retrieval of learning resources through a common gateway holding descriptions of learning resources from a multitude of sources; to build upon common standards to increase visibility of, and ensure updated information about, learning materials, and to support knowledge sharing and knowledge transfer among teachers – including increased visibility of teacher-produced learning resources. Currently the repository describes 2.400 titles that professional publishers have tagged SEN, and contains 60 free SEN resources submitted by teachers.

ESTONIA

Tiger Leap Foundation's education portal www.koolielu.ee contains files or links of thousands of study materials (also materials for SEN students), structured on the basis of the national curriculum. There are also web-based courses in Koolielu and in the beginning of 2013 there will be a web-based course on ICT and SEN pupils in mainstream schools.

The website www.hev.edu.ee is created by The National Examinations and Qualifications Centre as part of the European Social Fund's program "Preparation of Study Materials for Students with Special Educational Needs"(2008-2013). Key information on special educational needs, electronic supplementary material and teacher's materials are available on this website.

ITALY

A major part of innovative learning environments has been developed within national research projects or educational experimentations. Hereof we provide a list of the main initiatives carried out by the Ministry of Education or by Universities and research centres from the year 2005 onwards. The main targets of these projects are the schools – that, according to the Law have a certain degree of autonomy in the management of educational offer - and the teachers, both subject teachers and SEN teachers. It is worth mentioning that

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[15] http://www.emu.dk/gsk/skolebib/materialer/materialebasen.html

[16] http://materialeplatform.emu.dk

even though these projects are mainly targeted to the school professionals, they also include networking activities with all the stakeholders involved in the school integration process.

T-islessia(2005-2006), a research project on the use of digital terrestrial TV for the treatment of dyslexia and the improvement of reading and writing competences in children of the first classes of primary school.

Nuove tecnologie e disabilità (Handitecno)ran from 2005 to 2008 and was a website aimed at promoting the use of ICT for inclusion. The project consisted of seven measures:

1) Research on available technologies and on school experiences,

2) Creation of a knowledge sharing system

3) Accessibility of educational software

4) Creation of a Local Support Centres (CTS) network

5) Local teacher training

6) Research projects for innovation

7) Intervention plans for students with dyslexia.

ProgettoNiki. Niki has been obliged to live on a boat since he was very little because of a rare and severe form of asthma. Since he could not attend the school, his parents equipped their boat with a "touch panel" monitor, connected via satellite to his class where he could be virtually present during lessons. In this way, he could finish the compulsory school and can now attend the higher school. More at http://www.youtube.com/watch?v=GXw-SIXX-qc,

I-care (2007-2009) was an experimental project on integration policy in mainstream schools, mainly through the ICT use. The operative actions of the project, addressed to all schools of any level of education, are on four axes: class, school, family and community. In particular, within the class activities, evaluation of SEN pupils through the use of ICT is investigated. Website: http://archivio.pubblica.istruzione.it/dgstudente/icare/presentazione.shtml,

WISE project. Wiring Individualized Special Education (2010-2012), http://www.wisefirb.it/, is a project financed by the Ministry of education, aimed at supporting those SEN pupils that for a disability are obliged to stay at home (also identified as "homebound"). The project covers the following areas: mainstream education, university and the labour market, with experiences of distance working.

Progesis. This project, http://progesis.itd.cnr.it/, aims to guarantee safety and accessibility at school, especially for disabled students. The project methodology is based on action research with a limited number of schools but has a great potential for spreading the project results to the whole school system.

Motil. *Mobile Technologies in Lifelong Learning: best practices)* (2009-2010http://www.motill.eu/) is based on two key concepts: lifelong learning and mobile technologies. MOTILL explores how implementation of these technologies can help to disseminate a new model of society in which education and knowledge are increasingly available to all, without social, economic or cultural discrimination.

L4ALL project. This project (http://www.learningforall.it/) has 5 research tracks: 1) Educational paradigms and pedagogical approaches, 2) Formats for learning experiences supported by new technologies, 3) Testing of educational experiences supported by new technologies, 4) Monitoring of teaching experiences supported by new technologies, 5) Dissemination of results.

What we provide hereof is an overview of the main Italian resources and information portals available for teachers, families, professionals dealing with SEN and school integration.

SD2, http://sd2.itd.cnr.it/BSDindex.php#, service of the Institute of Educational Technology (ITD) of Genoa, providing access to 2 database, one on software for SEN teaching and learning and one on digital material. The software database can be searched by curriculum subjects, methodology, topic, language, operative system, disability classification, school level and licence type.

SIVA portal, http://www.eastin.eu/it-IT/searches/products/isoSearch, managed by the Don Gnocchi Foundation, allows users to search assistive products for SEN people according to ISO classification codes and on manufacturer's name. The portal is multilingual.

Handitecno, http://handitecno.indire.it/, is the national portal on disability and inclusion. The site provides access to many interesting sections such as: database on SEN school practices; guided teaching examples; assistive technology; centres for SEN counselling; legislation; bibliography and sitography; news. Information is organized according to disability type.

School in hospital, http://pso.istruzione.it/, is the Ministry portal on initiative of teaching to hospitalized pupils. The site provides examples of practices, a legislation section, materials, a blog and a forum for community communication and other useful pieces of information for teachers and head teachers dealing with SEN pupils in hospital.

Other interesting resources made by teachers are available and very popular among schools:

- GLIC portal, http://www.centriausili.it, is the portal of the centres for assistive technology that are banded into the national network to provide mutual knowledge and develop instruments and proposals for the effective development of the entire field of assistive computer and electronic.

- Foundation ASPHI, http://www.asphi.it/, is a non-profit social organization that takes care of computing and disability, with the aim of promoting the participation of people with disabilities in all areas of life, through the use of ICT.

- Handylex, http://www.handylex.org/, is a website dealing with the rights of disabled persons and provides laws and regulations fostering integration and inclusion.

PORTUGAL

To concentrate resources to support SEN pupils, reference schools for blind/low vision and deaf pupils were selected and provided with specialized human resources. Whenever possible families are advised to make the enrolment in these schools. As the number of pupils with multiple disabilities and autism spectrum disorders is bigger, special units were opened in many schools to support the inclusion of these children.

Special needs institutions that used to take care of many of the children with severe special needs - at present included in mainstream schools - established agreements and negotiations with the Ministry of Education to provide technical/therapeutic support to the children. These staff usually provide services in schools, according to what the special needs teachers (school) and technical/therapeutic staff of the institutions consider required for the child.

An agreement between the Ministry of Education and Portugal Telecom (PT) is maintained to provide a (limited) number of videoconference systems to pupils/students absent from school for chronic illness reasons. Most of the cases relate to cancer.

Pupils/students have periods of hospital treatment and recovery at home that leads to absence and videoconference allows them to keep in touch with teachers, schoolfellows and learning activities. The technological solution provided by PT includes common functionalities, such as chat, file sharing, applications sharing, and an extra functionality of remote control of the camera (position and zoom) installed in the classroom, by the pupils/student at home.

Other free videoconferencing tools have been recommended by the ICT Resources Centres to overcome needs of other pupils/students.
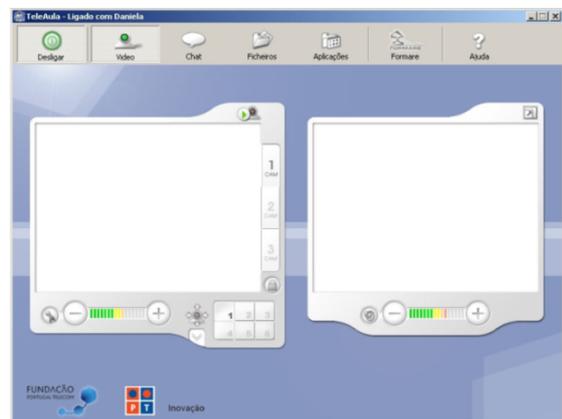
A website was created gathering many free applications for accessibilities and other assistive aids. It is a repository that collects freeware for different purposes, including:

- AAC (symbol communication),
- Screen readers,
- Magnifiers,
- Speech synthetizers,
- Voice recognition,
- Virtual keyboards.

Other free learning resources are included as well as a blog with videos regarding inclusion and special needshttp://freewarenee.weebly.com/.

TURKEY

A crucial part of the educational identification is the The Guidance and Research Centres. The acronym RAM is used for these centres; capital for RehberlikAraştırmaMerkezleri. RAM's are responsible for the assessment, identification of students with special needs. Moreover, they provide guidance and training programs on the psychological counselling

services. The most appropriate learning environment is also determined by the IEP team at these centres. In September 2012 there were 218 RAMs in the 81 provinces.

In Turkey, there are more than 55 foundations, more than 11 confederations and 284 associations that serve people with disabilities. These non-governmental organisations carry out projects and services, works related to parents' and teachers' education, awareness activities, social and cultural events. Among these, several even provide educational materials to be used in classes.

Interactive whiteboards and wired Internet connection with multi-functioned printer and documented camera under the component of classrooms' equipment and software will be provided to all of schools, tablets will be provided for our every teacher. In addition, tablet computers will be provided to every student in the second phase of the project. Individuals with the needs of special education related to communication technologies will be met in a relevant method.

For individuals with special needs, courses supporting computer based contents enriched with multi-environmental components such as audio-visual and animation relevant to the curriculum which can be used online or offline will be prepared.

PART 3: TEACHER EDUCATION

The focus of reports in this section is on developments relating to increasing mainstream teachers' awareness and capabilities in using ICT to support learners with special needs.

INTERNATIONAL

UNESCO ICT COMPETENCY FRAMEWORK FOR TEACHERS

The ICT Competency Framework for Teachers is aimed at helping countries to develop comprehensive national teacher ICT competency policies and standards, and should be seen as an important component of an overall ICT in education master plan. The 2011 update of the ICT Competency Framework for Teachers is the result of the successful continued partnership between UNESCO and CISCO, INTEL, ISTE and Microsoft. In this version, the Framework has been enriched on the basis of feedback from subject matter experts and users worldwide, and enhanced with the inclusion of example syllabi and exam specifications for Technology Literacy and Knowledge Deepening.

Competency framework: http://iite.unesco.org/publications/3214694/

UNESCO REPORT ON ACCESSIBLE ICTS AND PERSONALIZED LEARNING FOR STUDENTS WITH DISABILITIES

At a consultative two-day meeting in November 2011, convened by UNESCO in cooperation with Microsoft Corporation it was acknowledged that there is a huge amount of information resources on accessible ICT in existence and available to teachers. Frustrations remain at the low levels of awareness and implementation of accessible ICTs for the purposes of including more students more effectively in mainstream classrooms. This is particularly poignant as most technologies in use in schools today have features that enable users to customise the look and feel of the interface to suit their individual accessibility requirements. Similarly, modern office applications for creating documents and presentations now contain "accessibility checkers" that can potentially help teachers and others create accessible content for class.

These technology trends and advances notwithstanding, the support and training of teachers to learn and facilitate the use of these features as well as other forms of accessible and assistive technology (AT) in the classroom was deemed to be critical in realising the potential accessible ICTs have to assist in part with making inclusive education a reality.
Report:
http://www.unesco.org/pv_obj_cache/pv_obj_id_435EBD9F6B1BF83453CC6B80122AE28A69A71100/filename/accessible_ict_personalized_learning_2012%20.pdf

These findings are echoed in *Special needs education*, published by the Network of Experts on Social Aspects of Education and Training (NESET).
Report:http://www.nesetweb.eu/news/special-needs-education-nesse-report

The Teacher Education for Inclusion (TE4I) project has explored how all teachers are prepared via their initial education to be 'inclusive'. The three year project set out to identify the essential skills, knowledge and understanding, attitudes and values needed by everyone entering the teaching profession, regardless of the subject, specialism or age range they will teach or the type of school they will work in.

A key output was the Profile of Inclusive Teachers. Four core values relating to teaching and learning have been identified as the basis for the work of all teachers in inclusive education. These core values are associated with areas of teacher competence. The areas of competence are made up of three elements: attitudes, knowledge and skills. A certain ATTITUDE or belief demands certain KNOWLEDGE or level of understanding and then SKILLS in order to implement this knowledge in a practical situation. For each area of competence identified, the essential attitudes, knowledge and skills that underpin them are presented.

The Profile has been developed around this framework of core values and areas of competence:
- Valuing Learner Diversity - learner difference is considered as a resource and an asset to education. The areas of competence within this core value relate to:
    o Conceptions of inclusive education;
    o The teacher's view of learner difference.
- Supporting All Learners - teachers have high expectations for all learners' achievements. The areas of competence within this core value relate to:
    o Promoting the academic, practical, social and emotional learning of all learners;
    o Effective teaching approaches in heterogeneous classes.
- Working With Others - collaboration and teamwork are essential approaches for all teachers. The areas of competence within this core value relate to:
    o Working with parents and families;
    o Working with a range of other educational professionals.
- Personal Professional Development - teaching is a learning activity and teachers take responsibility for their lifelong learning. The areas of competence within this core value relate to:
    o Teachers as reflective practitioners;
    o Initial teacher education as a foundation for ongoing professional learning and development.

Final Profile: http://www.european-agency.org/agency-projects/Teacher-Education-for-Inclusion/profile

COUNTRIES

AUSTRIA

"*[C]ompulsory general school teachers* (primary, secondary general, special and pre-vocational school) are educated at University Colleges of Teacher Education (public and private) which end with a Bachelor of Education. ....

Teachers at academic secondary schools must complete at least 4.5 years of university studies that end with a diploma."[17]

There are numerous courses in the field of media education offered by these institutions – many of them are compulsory. They include media pedagogy, "Teaching with new ICT" or courses on subject didactics/teaching methodology.

In addition, a lot of the institutions also offer courses on their learning management systems or support students and their educators alike via their centres for e-learning or media pedagogy.

Continuing education of teachers is mainly organised via the University Colleges of Teacher Education. In addition to a large number of on-site courses and workshops, the "Virtuelle PH[18]" (Virtual Teacher Training College) offers about 60 1- to 4-week online courses on the use of learning management systems, software and tools in education or media didactics. In addition, one-hour eLectures are organised frequently. A lot of them focus on media-related topics such as the use of learning management systems, using the Internet safely or the use of media in class. The seminar program of the "Virtuelle PH" is updated 3 times a year thus giving a large number of teachers the chance to participate in any of these offered courses.

In addition, Education Group works closely with the two University Colleges of Teacher Education in Upper Austria and with the "Kindergarten- und Hortreferat des Landes OÖ" (responsible for kindergartens and after-school care in Upper Austria). It offers a large number of on-site seminars and workshops on the use of media and media pedagogy for teachers of each educational level including some for teachers working in special schools.

BELGIUM

Within the framework of an awareness campaign, a brochure, *ICT without Limitations,* was distributed in Flemish schools of mainstream and special education in September 2009. The guide with specific tips highlights different possibilities regarding ICT for pupils with specific educational needs. In this way the Flemish government hopes to support the integration of the new ICT development objectives.

Klascement is the Flemish educational portal site, which stimulates the exchange of class materials and the collaboration between all people involved in education. Klascement already

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[17]https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Austria:Teachers_and_Education_Staff

[18]http://www.virtuelle-ph.at

started different innovative projects concerning ICT. One section of the website ('leerzorg') is for teachers who work with pupils with special needs.

DENMARK

TEACHER TRAINING - BASIC AND SPECIALIST TEACHER TRAINING[19]

Special education legislation outlines the qualifications required from the educators and teachers involved. For teaching infants, teachers must have completed initial training as teachers or educators as well as a special one-year course in special education at the Danish University of Education.

Special needs assistance in primary and lower secondary school up to the 10th grade is provided by teachers with specific course training. Special needs assistance in pre-school classes may be provided by social educators with similar pre-requisites. The same applies to special needs assistance in subjects or areas with coordinated education pursuant to the Act on the Folkeskole.

Special education follows the basic principle that if the teacher is responsible for all teaching of one or more pupils, he or she must have completed a course of education qualifying him or her to the given task. If teaching is a supplement to mainstream teaching in one or more subjects, there are no particular qualification requirements. It is not formal, but real qualifications that are important.

EPICT – EUROPEAN PEDAGOGICAL ICT LICENCE®

During 2000 – 2006 about half of Danish teachers in compulsory schools took the EPICT – European Pedagogical ICT Licence®. In this comprehensive in-service training programme, run by the Ministry of Education, one of the optional modules is "ICT as compensating tool"[20] with the introduction "Students with special needs may experience large educational and personal gains and opportunities in the use of ICT. ICT tools can support reading and writing processes, but also the customized set up of the computer and the office tools can hold pedagogical potential. Teachers need to be aware of compensating technology and alternative ways of controlling the computer." Focus is on students' use of some of the general compensatory tools in an inclusion perspective. The topics of the module are; available options to adjust the computer, to make learning material accessible and to compensate through tools for reading and writing.

ITALY

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[19] http://www.european-agency.org/country-information/denmark/national-overview/teacher-training-basic-and-specialist-teacher-training

[20] http://epict.org/modules_10.shtml

The SEN teacher profile was created only recently in the Italian school system, namely in 1977, when the Law on the integration of SEN pupils in mainstream education was promulgated.

Before that time, teacher training was focused on subjects contents. However, the new professional profile required a specific training so those teachers wishing to work with disabled pupils would attend a supplementary two-year specialization course after they graduated. In 1984, the profile was defined by the Ministry as follows: SEN teachers are professionals having specific pedagogical competences, with a broad cultural background in disabilities, mastering a variety of teaching strategies and approaches in order to best accommodate to pupils' individual characteristics.

In the 90ies, with the introduction of school autonomy and the changes in the teacher recruitment policy, the SEN teacher profile was modified. New programs for postgraduate courses were approved in 1995. SEN teachers were identified as essential professionals, but they should not left alone in the implementation of school integration since all school personnel was considered to be responsible for that.

Recently, the Ministry of Education has established, in collaboration with Universities, an important and ambitious training plan to increase teachers' competences in SEN education. Many postgraduate courses have been created focusing on specific disabilities (i.e. autism, mental illness, ADHD syndrome, sensorial disabilities, etc.) and learning disorders. As required by Art. 19 of Law 111/2011, this training programme is primarily addressed to subject teachers who are co-responsible for school integration but it also concerns SEN teachers who need to get permanent in-service training in order to be updated in such an evolving field. Some of these courses are devoted to the use of ICT with SEN students. Within those modules, the Local Support Centres (LSC) are involved as trainers especially in hands-on and lab activities and this may assure a certain continuity in the coaching activity to teachers given that LSC are in touch with schools and teachers.

PORTUGAL

A network of 25 ICT Resources Centres for Special Needs provides evaluation services to pupils/students with disabilities and to recommend assistive technology (AT), granting them digital accessibility. These Centres are located in schools, and they evaluate pupils/students with disabilities regarding their needs for ICT and assistive technology and covering schools from a neighbouring district area. The Centres have recommended assistive technology to pupils which the Ministry of Education has financed in the last four years.

ICT Resources Centres for Special Needs play other complementary roles, namely:
(i)   Training teachers in the use of ICT and assistive technology
(ii)   Raising awareness for the benefits of these media among parents and school staff;
(iii)   Looking for partnerships with Higher Education Units (devoted to assistive technology and Special Needs research), with Special Needs private associations, with health services, with companies specialized in assistive technology.

ICT Resources Centres have an important role in the dissemination of ICT and AT. They organize public sessions, in collaboration with companies that trade assistive technology, addressed to teachers, technical staff and parents. They also organize online teachers'

training on specific software. Peer training, either on an individual or small group basis, is also carried out by the ICT Resources Centres for Special Needs. Formal teacher training in the field of Special Needs and assistive technology is also provided by the Teacher Training Centres, which is certified for career development.

ICT and assistive technology can make a whole difference for the autonomy of people with disabilities. If the adequate devices are made available people can act independently. To help pupils/students to become autonomous learners and to witness such an accomplishment can be rewarding for any educator. The expertise of the educator can be obtained by training, experience and help from other experts. Partnership with entities with expertise in the different fields of disability is highly important.

A virtual community, in the Moodle platform of the central department (DGE), gathers the teams working in the 25 Centres and the respective school directors.

Through the virtual platform frequent messages and resources are exchanged, as well as some disciplines/lines of work, namely:
  (i)   Repository of special needs resources
  (ii)   Case studies
  (iii)   Videocasts
  (iv)   Online training course on augmentative communication.

Other virtual communities were organized to gather SEN teachers working in reference schools for blind and deaf pupils and SEN teachers working in special units for multiple disabilities and autism spectrum disorders.

TURKEY

Training will be provided for school headmasters, educational managers and education inspectors to gain information and skills providing active usage of communicative technologies equipment and educational contents related to the individuals with the needs of special education.