INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FOR INCLUSION

Belgium (Flemish speaking community)

1. Policy Frameworks

This information was provided by Jan De Craemer (Assistant to the Director, Flemish Ministry of Education).

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

- The ICT curriculum provides the general quality framework for ICT and integration. It is up to education providers, curriculum designers and the schools themselves to decide how these competences are taught in practice to all pupils, course participants and students and what the principles of digital didactics should be. The key system for rolling out basic ICT competences is to incorporate them into daily activities in the classroom. New cross-curricular final objectives and developmental objectives for ICT were rolled out on 1 September 2007.
- Since 2007, considerable efforts have been made to support the use of ICT for pupils with special needs, both in special and normal education. Under the ICT Without Limits (*ICT Zonder Beperkingen*) programme in 2009, specific actions were set up to boost the use of ICT by children with special needs.

The aims of ICT Without Limits were:

- the development of a coherent vision on the use of ICT with pupils with special educational needs (SEN) in both normal and special education;

- to support special schools in reaching the ICT attainment targets;

- to raise awareness about and to boost the use of ICT in special needs education (SNE) contexts;

- to remedy the lack of specific tools and resources in the area of SNE.

The programme's action lines were:

- A region-wide awareness campaign including publications, study days, etc. See also (Dutch only): http://www.vlaanderen.be/nl/publicaties/detail/ict-zonder-beperkingen-tips-voor-het-gebruik-van-ict-door-leerlingen-met-specifieke-onderwijsbehoeften

- Thematic in-service training organised by REN Vlaanderen (the former official in-service training organisation run by the Ministry of Education);

- A dedicated section on our educational portal: www.leerzorgsite.be (Dutch only);

- Development of specific learning materials:
  - a manual on the use of interactive whiteboards in SEN contexts;
  - a mathematics course on handwriting for deaf pupils;
  - a set of pictograms for pupils with mental disability and/or autism;
  - a DVD with manuals, additional pictograms and tools for using visualisation techniques.

A ten-point school policy was also promoted under the ICT Without Limits programme. The ten key elements were:

1. Focus on the pupils' possibilities and strengths instead of their limitations and disabilities;
2. Put together an ICT-SEN working group at school level;
3. Use ICT as a tool and not as a target in itself;
4. Curriculum features should be the focus of ICT use at school;
5. Look for appropriate, tailor-made ICT activities for individual pupils;
6. Check if the preconditions for effective use of ICT are fulfilled;
7. Pay attention to e-safety and health issues;
8. Provide enough technical support;
9. Adapt the computer to the child and not vice-versa;
10. Start using assistive technologies as soon as necessary.

- On 2 July 2009, the United Nations (UN) Convention on the Rights of Persons with Disabilities was ratified by the Belgian authorities. The ratification guarantees the right to inclusive education and the right to use reasonable adjustments. The ratification was used to promote the use of dyslexia software in education.

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.

A major challenge for ICT policy is the digital divide. It is absolutely vital to provide equal opportunities for all young people in the knowledge society now and in the future. Bridging the digital divide and the equal opportunities dimension of ICT for people with disabilities was a specific aim and focus of the two policy plans, Competences for the Knowledge Society and Media Literacy Policy Plan.

The main emphasis in special education is on the compensatory and remedial opportunities offered by technology. Adjustments to the hardware, such as a bigger mouse ball, a bigger keyboard and a joystick with appropriate software, can help children with motor or multiple disabilities to write texts, play games, send emails and do exercises, for example. For children with very limited motor functions, computers can be vital tools for increasing self-independence. This involves the 'prosthesis function' of computers. A good example of this is children with speech problems who are helped with supporting speech technology, so that they can communicate with their environment.

The highly structured and serial nature of much educational software is an ideal tool for children with intellectual disabilities, and also very much so for autistic children. A logical structure, step-by-step exploration, suitably adjusted graphic design and the connection to a visual or auditory reward system encourages children to continue and improves their concentration.

Computers offer children the opportunity to act on their own initiatives, thus enhancing their self-esteem and self-respect, increasing their motivation to work, play or learn and affording higher concentration levels.

1.2 (ii) Access to appropriate ICTs as an entitlement

The Flemish Parliament Act of 10 July 2008, which provides a framework for the Flemish equal opportunities and equal treatment policy, ensures equal treatment throughout the

school career. According to Article 15 (6), the refusal of reasonable accommodation for a person with disabilities is considered as discrimination.

By signing the Flemish Parliament Act of 8 May 2009 on the adoption of the UN Convention on the Rights of Persons with Disabilities (UNCRPD) and the Optional Protocol to the Convention on the Rights of Persons with Disabilities, drawn up in New York on 13 December 2006, the Flemish Parliament ratified the UN Convention. Article 24 defines the right to reasonable accommodation in line with the needs of the person with disabilities.

In cooperation with several stakeholders, the Flemish Ministry of Education and Training developed a brochure for schools, teachers, parents and support services about the use of ICT in general and more specific software for pupils with severe problems in written communication.

At the moment, new legislation for compulsory education is being prepared. In this decree, the right of pupils to receive reasonable accommodation will be included in the mission statements of primary and secondary schools. It will ensure the translation of the principles of the UNCRPD and the Flemish Act of 2008 into educational legislation.

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

The learning outcomes of teacher education are described as basic competences. There are three groups and ten subgroups of basic competences. ICT and media literacy are integrated in several of the subgroups.

It is not compulsory to follow in-service training. Schools have full autonomy to develop an in-service training plan and policy. However, every school in Flanders receives an earmarked budget for in-service training.

Increasing teachers' digital literacy is also an objective of the present Media Literacy Policy Plan. Between 2000 and 2011, about 10,000 teachers per year received specific ICT training within the framework of the REN Flanders project. As from the 2011-2012 school year, the ICT in-service training for teachers is funded by the Flemish government and organised by the educational guidance services. ICT training no longer stands alone (such as through separate ICT courses); rather it constitutes an integral part of subject-oriented or theme-oriented training.

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

We have indications that at higher education level, research is being conducted on ICT, but there is not much about ICT and SEN. This kind of research is done occasionally, but not systematically or on a large scale.

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

ICT monitor (MICTIVO)

In the lead-up to the future policy assessments, scientists from the Universities of Ghent and Leuven developed a unique (web-based) monitoring instrument, MICTIVO, providing information about 4 types of indicators:

- ICT competences of pupils and teachers;
- ICT infrastructure (computer/pupil ratios, PCInternet/pupil ratios, type and age of PCs, internet facilities, etc.);
- the use and integration of ICT in the learning environment (level and type of ICT use, use of electronic learning environments, methods, etc.);

- relevant stakeholders' perceptions about the educational use of ICT.

Special education is monitored separately.

For 2012, ICT monitoring was expanded towards the issue of media literacy. New monitoring results will be available during the course of 2013 (September).

1.3 Strategic plans for implementing policy on ICT for inclusion

Since 2000, three strategic plans have impacted upon developments in ICT use in both special education and inclusive education settings.

1. Competences for the Knowledge Society (ICT Policy Plan 2007-2010)

This policy plan was drafted on the occasion of the introduction of a new ICT curriculum in 2007. A number of key preconditions have to be met in order to implement the ICT-related final objectives. These preconditions refer to the policy-making capacity and the support of educational establishments, teacher training, infrastructure and teaching aids. In order to cater to this, the Flemish government applied a five-point implementation policy:

1. Strengthening the policy-making capacities of educational establishments at institutional level;
2. Promoting the professionalism of educational staff;
3. Providing a high-quality infrastructure;
4. Developing a suitable teaching aid policy;
5. Research and ICT monitoring.

A number of programmes and projects were developed under each of these pillars. The ICT Without Limits e-inclusion programme was one of them.

The full English version of this policy plan can be found here: http://www.ond.vlaanderen.be/ict/english/competencies_knowlegde_society.pdf

2. Dyslexia Software! What Now? (*Dyslexiesoftware! En nu?*)

This is a policy note referring to the existing policies, regulations and practices to support pupils with dyslexia in both inclusive and special education settings. The full version of this note (Dutch only) can be found here: http://www.vlaanderen.be/nl/publicaties/detail/dyslexiesoftware-en-nu

3. Media Literacy Policy Plan

Following the 2007 policy plan, Competences for the Knowledge Society, a new policy regarding ICT and media literacy was drafted in 2012. The Media Literacy Policy Plan was approved by the Flemish government in July 2012. The concept paper broadens the policy on ICT towards the field of digital media in general and includes an action plan with 40 actions. Some of these actions are taken from older programmes and projects under the previous ICT strategy.

The Media Literacy Policy Plan was developed by two ministers: the minister responsible for education and training and the minister responsible for media. The general rationale behind our media literacy policy is to equip citizens with the necessary competences to live and deal with an increasingly mediatised society in a critical and active manner. This must strengthen the position of citizens in society and contribute to their personal wellbeing. The policy plan has four strategic targets:

1. To develop a coherent and sustainable strategy framework for media literacy. The aim is to develop a common vision, a single definition and a common focus in the

media literacy field. Different support structures and funding schemes have to be in line with each other in order to avoid overlap or underfunding for specific issues. The government's role and the roles of stakeholders such as media companies, public broadcasters, educational media content providers and game developers have to be agreed. We also want to provide platforms where all those actors can meet and discuss.

2. The second target of the media literacy policy plan is the stimulation of media competences. This is the core business of education. However, we do not want to focus solely on compulsory education. Adult education has to play an important role too. Although one of the main concerns is how we can improve media learning in schools, the action plan also wants to stimulate media competencies in non-formal and informal learning contexts, such as open computer rooms in libraries, youth work, youth care, on-the job-training sessions, museums, etc.
3. A third target is the focus on an e-inclusive society. The digital divide is not a fixed and clear divide. It has many forms, and elements such as gender, socio-economic status, age and profession all play a role. Some groups of people lack the necessary competences and governments need to play a key role in this field.
4. Finally, the fourth target of our policy plan is e-safety. Respect for intellectual property, care of personal information, e-privacy and cyberbullying are some of the issues that schools have to deal with. Teachers have an important duty of care to their pupils, and this includes helping them to use new digital technologies safely and responsibly, wherever and whenever they go online.

The Flemish government will try to contribute to these four key targets by means of an action plan with some 40 concrete actions, ranging from pilots about future schooling, to the launch and development of new serious games, and from new funding mechanisms, to e-safety campaigns.

[The full English version of this policy plan can be found in the file attachment linked to this report].

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

MICTIVO 2007 results: http://www.ond.vlaanderen.be/ict/onderzoek/files/MICTIVO.pdf (in Dutch only);

MICTIVO 2012 results: these will be available during the course of 2013 (September).

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

2007: introduction of a new ICT curriculum. The attainment targets are compulsory for normal education and the development goals for special education.

2008: protocol between the Flemish Minister for Welfare and the Flemish Minister for Education concerning support for pupils with dyslexia by means of adapted software (financing free software for pupils with dyslexia in primary and secondary education).

2009: ICT Without Limits programme.

2009-2010: ICT for special needs was a specific theme for in-service training offered by REN-Vlaanderen (one of three annual thematic training lines).

2009-2011: ADIBib as a pilot project in compulsory education.

2011: ADIBib as a structural supported programme.

2011: Publication of the Dyslexia Software! What Now? guideline.

1.6 Current issues in relation to ICT for Inclusion

ICT is not used enough in education in general. Furthermore, the big discrepancy between home and school use is worrying. The central issue is mainstreaming the use of ICT in general and in inclusive settings in particular.

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

- The implementation of a policy framework concerning the principle of the right to receive reasonable accommodation, including ICT for SEN, and the implementation in school and classroom practice;
- Support and professionalisation of teachers in this field.

2. Country Practice

This information was provided by Jan De Craemer (Assistant to the Director, Flemish 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 new ICT curriculum since 2007

In 2007, the curriculum was reformed by adding a specific ICT curriculum in primary education and the first grade of secondary education.

General characteristics of the compulsory education curriculum

For compulsory education, curricula are defined by the ministry's Agency for Quality in Education and Training. The principle of learning outcomes is very important in the Flemish educational administration. In Flanders there is a distinction between final objectives (*eindtermen*) and developmental objectives (*ontwikkelingsdoelen*). Final objectives are minimum objectives with regard to knowledge, insight, skills and attitudes, which the educational government regards as necessary and attainable for compulsory education. Developmental objectives are minimum objectives which the educational government regards as desirable for special education. Final objectives and developmental objectives are used by the Flemish government for quality control. Both final and developmental objectives can be subject-related or cross-curricular. Subject-related objectives are stipulated at a certain stage for all pupils.

Cross-curricular final objectives are minimum objectives which do not specifically appertain to one area of learning, but which can be aspired to by several areas of learning or educational projects. The cross-curricular final objectives entail an obligation of effort for the school.

Curricula are generally structured as follows:

In primary:

Subject-related final objectives: Physical Education, Dutch, French, Environmental Studies, Expressive Arts, Mathematics.

Cross-curricular final objectives: ICT, learning to learn, social skills.

In secondary (first grade):

Subject-related final objectives: Physical Education, Dutch, Modern Foreign Languages (French, English), Natural Sciences, Geography, History, Expressive Arts, Mathematics, Technology Education.

Cross-curricular final objectives: ICT, learning to learn, social skills, health education, environmental education, citizenship.

ICT in the curriculum

The ICT-related cross-curricular final objectives and developmental objectives are designed to be deployed in primary education and/or the first level of secondary education. No separate objectives are defined for pre-school education.

The aim is definitely not to create a separate subject in basic education as a result of opting for cross-curricular final objectives. ICT provides opportunities within all subjects and fields of study.

Starting from the second level of secondary education, ICT is deployed in a more specific and subject-based way in the light of the type of education and educational level. Specific or more specialised components are then added in accordance with the training needs.

The focus in primary education and the first stage of secondary education is on social independence. The eight cross-curricular final objectives and developmental objectives for primary education and the ten for the first stage of the secondary education section of the compulsory education system form the basis for creating the ICT curriculum. Technical and instrumental knowledge and skills are not a part of the curriculum targets.

The cross-curricular final objectives and developmental aims of ICT are as follows:

Normal primary education, special primary education types 1, 2, 7, 8 and training form 3 of special secondary education (= special vocational training aiming at integration into a regular environment or work environment).

type 1: mild mental disability

type 2: moderate or serious mental disability

type 7: deaf or hearing impaired

type 8: serious learning disabilities

1. The pupils have a positive attitude towards ICT and are willing to use ICT in support of their learning.
2. The pupils use ICT in a safe, sensible and appropriate way.
3. The pupils are able to practise independently in an ICT-supported learning environment.
4. The pupils are able to learn independently in an ICT-supported learning environment.
5. The pupils are able to use ICT to express their own ideas in a creative way.
6. The pupils can retrieve, process and save digital information that is appropriate for them, by means of ICT.
7. The pupils are able to use ICT for presenting information to others.
8. The pupils are able to use ICT to communicate in a safe, sensible and appropriate way.

First stage of secondary education A and B streams and first stage of special secondary education – education type 3:

1. The pupils have a positive attitude towards ICT and are willing to use ICT in support of their learning.
2. The pupils use ICT in a safe, sensible and appropriate way.
3. The pupils are able to practise independently in an ICT-supported learning environment.
4. The pupils are able to learn independently in an ICT-supported learning environment.
5. The pupils are able to use ICT to express their own ideas in a creative way.
6. The pupils can retrieve, process and save digital information by means of ICT.
7. The pupils are able to use ICT for presenting information to others.
8. The pupils are able to use ICT to communicate in a safe, sensible and appropriate way.
9. The pupils are able to make an appropriate choice among different ICT applications, depending on the objective to be reached.
10. The pupils are willing to adjust their actions based on reflection upon the use of ICT by themselves or others.

- pICTos planning tool for ICT at school level. Local ICT strategy planning with pICTos-software.

pICTos (Planning for ICT in Schools) is an online software tool developed to support school teams in the development of a local (school-based) ICT-strategy. It is used during a one-day, team-based in-service training session. The team has to go through different steps towards an integrated ICT policy plan. In the first phase, the teachers have to individually answer some questions about their teaching style. The computer then processes an overall view of the teaching styles in a particular school. In the second phase, each teacher has to fill in how they work on each of the ICT curriculum items. When this is done, the team reviews the state of affairs in order to determine their progress regarding the different curriculum aspects and identify any gaps. In the next phase, teachers discuss how they could improve their ICT activity. In the final phase, they have to enter new actions and activities into the tool. The software can provide reports at all stages. Different versions of pICTos exist for primary and secondary education. See: http://pictos.ictbeleidstool.be/

- ICT co-ordination at school level

In 2003, a programme on local ICT support was launched. The government funds specific ICT co-ordination time: earmarked hours within the total amount of human resources. This means that every Flemish school has an in-house ICT co-ordinator for at least a number of hours per week. The school communities within compulsory education represent the ideal level for decisions to be taken about ICT support. The ICT co-ordination times are assigned to the school communities, while the Inspectorate's assessments show that the school communities' size is perfect for maximising the effectiveness of the ICT co-ordination resources. It is up to the school (community) to decide about the specific task profile of the ICT co-ordinators. Key to that decision-making process is the balance between technical and pedagogical ICT support by the school's ICT co-ordinator.

2.1 (ii) Access to appropriate ICTs as an entitlement

Three projects are currently funded or co-funded by the government to guarantee access to learning through ICT.

The Ministry of Education funds and supports three service organisations in the field of ICT for SEN:

1. First of all there is the WAI-NOT internet project, where a learning environment and email client has been developed for children with a mental disability: www.wai-not.be
2. Next is the Bednet project that enables sick children to undertake distance learning via the appropriate technology and remain in contact with their school, teachers and classmates: www.bednet.be
3. The NGO Dieslektikus seeks to raise awareness about pupils with learning problems (dyslexia, ADHD, etc.). This organisation also runs the ADIBib project, which provides enriched digital versions of classic handbooks for children with severe dyslexia: www.letop.be
4. Dyslexia software initiatives

- The ministry has an annual budget for the purchase of specific dyslexia software (Sprint or Kürzweil). Schools submit a request and can be granted a fixed number of software licenses.
- In 2010, a campaign was launched to raise awareness about the rights and obligations of schools with regard to the use of specific hardware and software tools by pupils with serious dyslexia. A set of guidelines was published and two study days were organised: one for inspectors and school guides, and the other for teachers.
- ADIBib

The ADIBib project seeks to create opportunities for students with written communication impairments to enable them to fully participate in social life and achieve higher academic goals (unrestricted by their impairment). The project targets primary and secondary education students with serious reading and writing disorders.

Another major goal was to develop software to automate the process of converting text in PDF files into a ready-to-read version for text-to-speech. The adapted version has to be usable irrespective of the user's software application.

The participation of publishers was key in order to reach this goal and to make a wider selection of materials available to students with learning disabilities. Accordingly, a long-term agreement between ADIBib and publishers was drafted. See: http://www.adibib.be/

5. *Learning and Working with Autism*

There was also a DVD with specific tools and an autism e-portfolio project to support pupils with autism in the transition from (vocational) secondary education to the workforce. The DVD was called *Learning and Working with Autism* and was the result of a three-year pilot with schools and the school networks associations.

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

As a result of a temporary project, ICT in an SNE context was a specific theme for in-service training during the 2009-2010 school year.

The idea was to lower the threshold in using ICT for the development of communicational aids in special education. In this project, support was given by offering screencasts on the subject. These screencasts are step-by-step instructional videos which will help the teacher or carer. These videos are presented in a website format on a DVD in order to ensure that they are easily accessible and offline accessible, with extra information and a printout with the basic steps.

The following goals were achieved:

- 138 instructional videos were created in order to help teachers develop communicational aids.
- The offline accessible DVD presents these videos in a website format. In doing so, its content is easily accessible by everyone, including the IT layperson.
- The DVD offers over 100 hyperlinks, background information on software, pictograms and photography. This information helps teachers in the practical development of the communicational aid of their choice.
- The instructional videos can be browsed by choosing one of 15 communicational aids or by choosing software that schools or institutions already use.
- The DVD was distributed widely amongst teachers and carers (10,000 copies released). All videos are currently available through the educational portal Klascement.
- The DVD was launched during a seminar. Afterwards, the DVD was used during in-service training run by REN Vlaanderen. http://www.ikwilvisualiseren.be/

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

We are unable to provide data on this issue. Nevertheless, there is a general feeling that multi-stakeholder approaches in R&D are rather rare and mostly part of specific innovative research lines, experimental research design or pilot projects.

One interesting case is the development of a serious game called Theraplay KungfuKeuken. The Theraplay project involves designing and developing a so-called exergame, i.e. a digital game that combines physical exercises and play. A player's physical actions are registered by sensors delivering input for the game application. By doing so, Theraplay aims to provide support for occupational therapy treatments.

The target group for this game is pupils with rehabilitation needs, motor or mental disabilities. It was developed by the Leuven Engineering College Group T e-Media Lab together with the Centre for Usability Research of the Catholic University of Leuven as a research project funded by the IWT (Flemish Agency for Innovation by Science and Technology). Each step was tested together with the specific target group. See: http://theraplay.groept.be/ (in Dutch only).

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

The ICT monitor provides information about the ICT competences of pupils and teachers, ICT infrastructure (computer/pupil ratios, PCInternet/pupil ratios, type and age of PCs, internet facilities, etc.), the use and integration of ICT in the learning environment (level and type of use of ICT, use of electronic learning environments, methods, etc.) and relevant stakeholders' perceptions about the educational use of ICT. Special education is monitored separately.

A short survey was done in the framework of the implementation of support for pupils with dyslexia by means of adapted software (free software for pupils with dyslexia in primary and secondary education funded by the Ministry of Education and Training). The results of this survey have been made available and elements are being used to set up professionalisation projects for teachers.

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 are no indications about the existence of country-based networks to support teachers in their use of ICT to promote learning in inclusive settings. However, support systems do exist at the level of individual schools and in relation to the needs of individual pupils (e.g. special needs teachers helping teachers in inclusive settings in the use of Braille and low-vision materials, etc.)

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

There is no overview of the state of the art concerning the way teachers undergoing initial training are prepared to use ICT. In some initial teacher training curricula, students learn about ICT materials in the context of the ‘supportive communication’ subject, but this is mainly on a general level and not in detail. One teacher training institution is going to offer a separate module next academic year to deal with this topic in more detail.

In in-service training there are opportunities for teachers to find out more about the use of ICT in the learning process.

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

Please see answer under (i).

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

- Educational portal Klascement

One of the key projects is the creation of an educational portal serving as a multipurpose electronic knowledge centre. The portal acts as a central access point for educational information and support. This involves developing and offering information, examples of good practice and thematic files to various target groups. These may be general or specific themes (such as dimensions involved in the integration of ICT, learning participation, lifelong learning, special needs education, etc.). The portal site also has to offer the opportunities for effective digital teaching aids (eLearning opportunities) in an accessible and structured way. Consequently, a framework has to be developed allowing individual teachers and also publishers to publicise their software, examples and curricula online so as to reach out to a wider target group (www.klascement.be). The Klascement educational portal has been at the forefront of educational Web 2.0 use for several years. First of all, Klascement is a Web 2.0 application in itself. The content is largely user-generated since the portal is meant to be an exchange platform for content by and for teachers. On top of this, the content is rated and actively commented on by the users themselves. Moreover, the portal hosts several learning objects on the educational use of Web 2.0.

A specific section of this portal is dedicated to learning materials for SNE. This is the so-called *leerzorgdatabank*, http://www.leerzorgsite.be/ All teaching resources on leerzorgsite.be are selected from the large database of KlasCement.be for their usability with children with special needs. Moderators review each new addition to the site and evaluate its use for children with disabilities. If it is found to be useful, they add metadata to quickly sort the available materials by type of disability, age, topic, etc.

- The KOC is the Knowledge and Support Centre of the Flemish Agency for Disabled Persons (VAPH – *Vlaams Agentschap voor Personen met een Handicap*). The KOC hosts a database of resources, tools and adjustments for people with disabilities. The Agency itself is responsible for the funding of these adjustments and tools. See: www.hulpmiddeleninfo.be, www.vlibank.be and www.vaph.be
- Modem Communicatie- en Computercentrum: Modem (NGO) is a support and advice organisation for people with disabilities and their (educational or professional) environment. Modem provides advice and support with regard to computer adjustments (hardware and software) and communication aids. Advice is independent and always tailor-made. Modem has its own demo room and provides in-service training for teachers and carers. It is funded by local authorities. See: www.modemadvies.be.
- Eureka is an NGO which supports and organises projects in the field of learning disabilities. ICT is a major aspect of these projects. Eureka runs the online support service www.letop.be and the ADIBib-service and is funded by the Flemish government.
- SIHO (Support Center for Inclusive Higher Education): SIHO promotes equal opportunities and full participation in higher education for students with disabilities. SIHO specialises in taking actions to remove any obstacles to full participation. ICT (adjustments and tools) is just one area in which SIHO is active. http://www.siho.be/english

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

- Hardware and software barriers

A lot of special hardware devices exist. Sometimes adjustments or tools are expensive or are not completely refunded. For software the situation is different. There is a lack of

quality digital learning objects for SEN in Dutch. Due to a relatively small market, developers and publishers are not always eager to create learning materials for the target group of pupils with special needs.

- Pedagogical barriers

The lack of mainstream ICT use in general is a problem. Sometimes teachers are unable or even unwilling to allow pupils to use ICT devices or adjustments. On top of that, traditional didactical approaches are still very much text-based, while pupils with disabilities and learning problems need much more auditory and visual support. Developments are also needed in new didactical approaches, such as the use of ICT for differentiation and compensation.

- Training needs (initial teacher training and continuing professional development)

There are also major needs in terms of teachers' professional development, especially in initial teacher training. Training needs include general use of ICT for teaching, specialised use of tools for inclusive education (e.g. the capability to support pupils in learning with dyslexia software) and innovative didactical approaches with regard to differentiation, stimulation and compensation.

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

- Local school policy development and leadership

Educational establishments are required to make a lot of strategic choices in the context of teaching with ICT: what infrastructure to provide, the location in computer rooms, in standard classrooms, what purchases should be made in terms of software, what in-service training courses have to be taken and by whom, etc. Schools need to have a clear perspective and sufficient policy-making capacities. The Inspectorate of Education's annual report for 2005 (*Onderwijsspiegel*, 2005) showed that ICT integration is most advanced in those educational establishments that have an effective perspective on the issue.

A clear policy developed in co-operation with the whole school team and effective leadership at school level seem to be crucial.

- Infrastructure and content

The availability of quality content and resources and sufficient hardware and computer adjustments is of great importance. The availability of technical support at school level is also very important.

- A clear framework in legislation about the entitlement/right to reasonable accommodation, including use of ICT.

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

The implementation of the new legislation for compulsory education that is currently being prepared will see the right of pupils to receive reasonable accommodation included in the mission statements of primary and secondary schools.