swing
SUSTAINABLE WAYS TO INCREASE HIGHER EDUCATION STUDENTS

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Accessibility Centre Model Report

Sustainable ways to increase higher education students' equal access to learning environments

Report Prepared for:
Teachers, students, trainees,
administrative and professional services staff

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www.swingproject.eu

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1. Introduction

The SWING project (Sustainable Ways to Increase Higher Education Students' Equal Access to Learning Environments) aims to bring together expertise in higher education institutions in the EU and Egyptian and Moroccan partner institutions to share best practice in supporting people with disabilities in accessing and optimizing their chance of succeeding in higher education.

To date the project team has investigated the current state of accessibility for disabled people in the EU and the partner countries in terms of national and international legislation, higher education policy and practice and the experiences of students with disabilities already in higher education in Egypt and Morocco. National and international legislation as it cascades down, usually acts as a primary policy driver for more localized interventions. However, in contrast to legislation in the EU countries which ensures equal opportunities for disabled students and promotes positive measures to provide necessary means, support and resources to ameliorate discrimination on the grounds of disability, legislation in Egypt and Morocco remains under-developed.

In depth insight into accessibility issues at an institutional level was gained through the collection of data from the partner institutions through the implementation of gap analyses completed by senior management personnel.

Although active denial of access to higher education for students with a disability was not evident, affirmative measures, such as the existence of a disabled student support office, were recognised as variable, addressed in an ad hoc manner and dependent on the institution and influential individuals championing the issues. Nevertheless, all partner institutions acknowledged scope for improvement, expressed commitment to, and were optimistic that the SWING project will help to achieve necessary progress in promoting inclusive education.

A series of focus group interviews with students with disabilities already in higher education, their parents and staff, provided first-hand insight into the impact of a variety of disabilities on their higher education experience. While some experiences were positive, provision of resources was variable and many students appeared to muddle through.

In some cases access to certain disciplines, predominantly scientific and technical disciplines, was restricted.

In many cases students' needs did not appear to have been formally assessed and although students seemed to be frequently aware of the adjustments that would make life much easier the mechanisms to put these adjustments in place did not exist. In some cases computing and IT equipment (assistive technology) was totally absent.

In addition to developing contextual knowledge of the current accessibility issues for disabled people in Egypt and Morocco, the team undertook a parallel strand of activity which aimed to identify aspects of good practice in EU institutions that would be transferrable to the partner countries.

An important output from the SWING project was the development of an accessibility model. The accessibility model is a conceptual framework that has been developed which captures best practices of the partner higher education institutions combining them to produce a blueprint for enhancing opportunities for people with disabilities to gain access to and succeed in higher education.

The objective of the SWING Accessibility Centre Model is to analyse and describe how the provision of services to students with disability, such as guidance, training and access to specialized assistive technology, can be organized in an effective way that will have a real impact upon students' everyday life. This report will provide a basis for the development of the SWING Accessibility Centres in the Universities of Ibn Tofail (Morocco), Abdelmalek Essaadi University (Morocco), Alexandria University (Egypt) and Arab Academy for Science, Technology and Maritime Transport (Egypt). It targets academics, students, trainees as well as administrative and other non-teaching staff. The Accessibility Centre Model Report therefore describes what the newly-established accessibility services will offer (both virtually and in person) in Partner Universities.

Rationale for an Accessibility Centre Model

An important output from the SWING project is the development of an accessibility model. Models are beneficial in that they are visual representations which highlight the main ideas or variables in a process or system (McIllrath & Huitt, 1995). Models therefore promote understanding but importantly in a complex field such as the SWING project the accessibility model synthesises knowledge to provide a roadmap to implementation. The model is essentially a roadmap for anyone wishing to establish an Accessibility Centre providing a rationale and a methodology to be used.

The accessibility centre model is a conceptual framework that has been developed which is responsive and addresses identified needs by capturing best practices of the EU and partner higher education institutions combining them to produce a blueprint for enhancing opportunities for people with disabilities to gain access to and succeed in higher education.

The accessibility centre model is underpinned by:

1. **The SWING team's conception of disability**
2. **Empirical evidence based on gap analysis, focus groups and best practices identified in EU and partner institutions**
3. **A background literature review.**

Knowledge developed through these sources shows considerable overlap and synergy.

1. The SWING team's conception of disability

The SWING project has adopted the International Classification of Functioning, Disability and Health (ICF) (WHO 2001) which is the WHO's framework for health and disability that emphasises health and functioning, rather than disability. The ICF framework views disability and function as outcomes of the interaction between health conditions (disease, disorder and injury) and contextual factors (WHO 2002). As such the ICF embraces both medical and social models of disability in favour of the biopsychosocial model which acknowledges that disability is a complex mix of biological, individual and social factors. This conception of disability when applied in a higher education context suggests the need to focus holistically on the higher education experience in its widest sense, thus enabling students to enjoy the full benefits of involvement in student life.

Rationale for an Accessibility Centre Model

2. Empirical evidence based on a needs analysis (including a SWOT analysis), focus groups in partner institutions and identified best practices from EU institutions, resulted in a series of recommendations for the SWING project as follow:

Definition

Agree on a common definition for disability and a SWING Accessibility Model

Discrimination

Raise awareness through a dissemination campaign of the SWING project to eliminate prejudices and all kind of discrimination as a first step for achieving integration

Training

Provide adequate training by European partners on:

- Assistive technology tools tailored by disability category: visual and hearing, motor and dyslexia;
- Services for disabled students
- Assistive technology approaches
- Disability and International Classification of Functioning, Disability and Health
- Accessible technologies directed towards the teaching and learning process
- Making the curriculum accessible online and encouraging its use

Employment

Recognise the importance of employment services that supports students to achieve economic independence

Services

Support the building of disabled students' service oriented towards the use of assistive technology

Networking

Support students' networking and engagement with stakeholders inside and outside the university and foster interaction among SWING partners and beyond with other centres for disabilities

Strategy and Monitoring

- Develop short and long term strategies on the use of assistive technology for each partner university and develop minimum standards on the use of assistive technology
- Commit to continuous monitoring and evaluation of the implementation of assistive technology

Identified needs of students with disabilities and the needs analysis of existing practice in Egypt and Morocco when contrasted with the plethora of ideas for strategies and interventions already tried and tested in EU institutions highlighted the enormous potential for transfer to the partner countries. The examples of good practice were widely varied and included actual physical departments, support frameworks with identified processes to be followed, staff specialised in assessing and supporting students with disabilities, use of a variety of assistive technologies many of which are open source, peer mentoring schemes, volunteer schemes, disabled student networks, staff training, transport services and employment advisory services

These examples again illustrate the need to consider all aspects of the students' experience from entry to higher education to gaining employment. As a consequence the 'journey' metaphor is used as a reminder that support for students with disabilities needs to be on-going, that needs are likely to change as the student progresses through their programme and meets new challenges, that students with disabilities have similar aspirations to other students to gain employment at the conclusion of their studies or wish to extend their studies to higher degrees

Background literature

The research literature around models of accessibility for disabled students is scant. However, this is not to suggest a lack of debate around disability and its treatment in higher education or to think that the literature cannot shed light on how accessibility is approached. Of particular relevance to the SWING project is Forrest's (2003) observation that there are wide cultural differences in academia's willingness to resolve inequalities in access to higher education for disabled students. Comparing Japan, where disabled children were often kept at home rather than educated, with the USA and Canada, Forrest concluded that change was slow and could only be achieved through exposure to best practices that were often transformative.

Forrest's (2003) research also concluded that the message about expectations for non-disabled students that they will go on to postsecondary education, which is discussed amongst students' families, teachers, and their peers, was different to that which reached students with disabilities. This finding highlights the importance of an accessibility model that is not limited to higher education but takes account of preparation for higher education and the postgraduate period that leads to either further study or employment. Indeed, contrary to conceptions of a limited vision for disabled people's employment, for instance, evident in social work in the United Kingdom a decade ago (LTSN, 2004), the aspiration of gaining employment in a wide variety of work, including technical occupations, can be realised with appropriate support. Research in the UK (Clouder et al. 2014) confirms that students with a wide variety of disabilities can prove their fitness to practice as health and social care professionals.

Models and processes

Titchkosky (2010,1) whose insights originate in a Canadian university context highlights the bureaucratisation of university life and its impact on how disability is viewed. She argues that:

Time is space framed, occupied and controlled by Western bureaucratic practice and, as such, the inclusion and exclusion of disability is also framed, occupied and controlled by bureaucratic practice.

Drawing on Weber (1946) she highlights how bureaucratic time is read and measured out in terms of the development of policy, plans, programs and procedures that aim to address a problem in a consistent and unified fashion through regularized use of rules. Suggesting that disability is apprehended as a problem for bureaucratic organizations, and thus in need of a bureaucratic solution to make it not a problem, she argues that it is through 'bureaucratically based practices' that universities notice disability.

These observations do indeed seem to be evident when searching the grey literature which includes policy documents, reports, conference proceedings, websites and online resources, that describe services for disabled students in terms of their structural presence. Accessibility is embodied in the majority of cases in a physical presence with departments variously named. 'Disability services' vary from central units to those where staff with disability support roles are situated in each faculty/school.

Less easy to determine from policies and programmes, is the extent to which accessibility is enacted.

Research investigating the experience of higher education from the perspective of disabled students at a university in the United Kingdom, identified the need for a central policy which supports the philosophy of an accessible learning environment for all students; central co-ordination to implement the policy with practical guidelines to departments; ongoing monitoring and evaluation procedures which involve disabled students; staff training and awareness; student advocacy (Holloway 2001). Almost a decade on Vickerman and Blundell's (2010) research also based in the UK found that there was still much work to be done in levelling higher education experiences for disabled students. They identified five key issues that needed to be addressed to facilitate access to higher education: pre-course induction support, commitment by higher education institutions to facilitating barrier-free curricula, consultation with disabled students, institutional commitment to develop support services and embedding of personal development planning.

These two studies illustrate that even where higher education institutions espouse commitment to supporting students with disabilities the reality can still be far from satisfactory across a range of physical and attitudinal aspects of services.

Use of Assistive technology

Of particular interest in the context of the SWING project is the use of assistive technologies to support students with disabilities. Given the contemporary imperative for online presence, Universities recognise the importance of projecting their services for students with disabilities, especially on their websites, which then link to policies and other useful resources. Many websites provide some insight into the assistive technology or accessibility software available to students with a range of impairments and it is not uncommon to itemise the disabilities that are catered for.

However, interestingly Forrest's (2003) research concluded that students with disabilities use computers in a variety of ways:

- General equipment is used for what it was intended (e.g., computers for word processing)
- Adaptive technology is used for what it was intended (e.g.,Openbook)
- Existing general-use technology is used as an adaptive aid (e.g., scanning a document to enlarge diagrams or text for easier reading).

In fact, students were found to "cross use" technology by using technologies intended for individuals with different disabilities (e.g., students with learning disabilities using voice synthesis intended for students with visual impairments). Many students were frustrated not by the actual availability of the technology, but by their inability to access to the technology as adaptive technologies were expensive. However, the SWING project has identified an increase in the availability of Open Source software which provides opportunity to improve equal access for students.

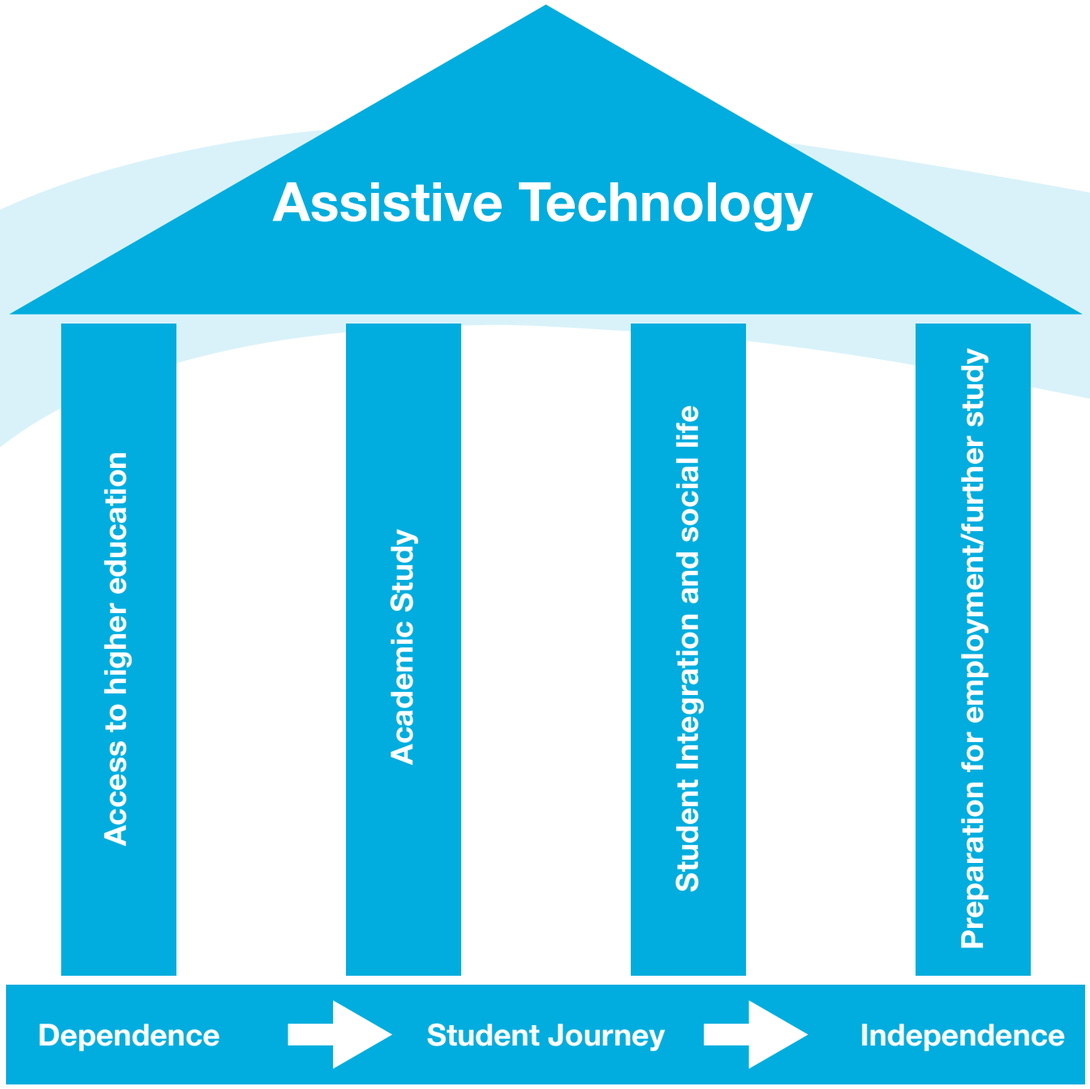
2. The SWING Accessibility Centre Model

The accessibility model is a conceptual framework based on the understanding that disability is a complex mix of biological, individual and social factors.

Given this complexity it seemed crucial to develop a student centred model *(See Figure 1.)*. Regardless of impairment whether minimal or profound the model has applicability and some suggestions have potential to improve the experience of all students.

By identifying what is feasible and what adjustments have been trialled and work for students with disabilities the model will guide policy and practice. At both levels it challenges existing cultural assumptions about the capabilities of people with disabilities and their capacity to succeed in higher education and subsequently in the workplace.

Figure 1. Accessibility Centre Model



Student Support Service

Provides an infrastructure of people and processes, which offers needs assessment of students with disabilities/special needs and training for all stakeholders and facilitates communication between students and academic and administrative staff, IT services and academic registry.

The student journey

The journey from dependence to independence begins prior to entry to higher education because it involves the student making an informed decision about what higher education can offer in terms of programmes of study, as well as their disability/special needs support and how support can be accessed. The proposed Accessibility model places the student as the central focus by thinking about the four major accessibility themes with regard to the student journey: access to higher education, academic study, integration and social life and employability.

Student Support Service

Student support services is a major infrastructural investment which forms the foundations for all support and training of stakeholders. It provides a point of access for students which also functions to connect administrative systems, academic registry, pastoral support, IT and assistive technology processes.

The infrastructure should involve a core of specialist paid staff and potentially might involve volunteers. The head of support services must be an effective conduit for information flow up to senior management and down from senior management team to support service staff. A hub and spoke system in which representatives work from the central support services to work with Faculties or Schools ensures equality and quality of provision across an institution.

Each School/Faculty should ideally have its own Learning Support Tutor who is a link to student services and acts as a go between and liaises with academic staff/module tutors and students.

A defined staged process is required to provide efficient and timely needs assessment, provision of support and on-going review. A formal example support process is provided in *Appendix 1*. All staff and students should be aware of the process.

Assistive Technology

Assistive technology can be defined in several ways. In its broadest sense it refers to:

'a broad range of devices, services, strategies, and practices that are conceived and applied to ameliorate the problems faced by individuals who have disabilities' (Cook & Hussey, 2002).

Assistive Technology (AT) usually refers to the devices or services aimed at compensating for functional limitations, facilitating independent living, or enabling older people or disabled people with activity limitations to realize their full potential (University of Bologna).

In the context of SWING, the focus is on AT driven by ICT, which includes ICT tools and services:

a) Used by students with disabilities in order to perform learning activities and participate in university life.

b) Used by academic staff for their teaching activities and that can be useful for students with disabilities.

c) Used by administrative staff in order to provide university facilities and that can be useful for students with disabilities.

The main problems encountered by students during their academic studies concern the following:

- Provision of a clear set of guidelines on their rights and access to services;
- Communication with the academic and administrative staff;
- Access to educational material and processes (lectures, participation in laboratory exercises, etc.);
- Access to – mainly electronic-resources;
- Physical access to premises.

Assistive technology can help overcome four out of five of these challenges. Assistive technology can inform students on their rights and services provided, ease communication with academic and administrative staff, help to the design and delivery of electronic learning material and enrich their studies by providing access to electronic resources. **(See Appendix II for AT tools considered essential to be offered to students with disabilities in the SWING project)**.

AT is a broad range of tools and services. AT solutions usually involve the integration of mainstream products and services, accessible hard and software, and specifically designed devices. AT should be customizable, adaptable and where possible open tools that can be either disability-specific or not specific tools, software and hardware, everyday aids and objects, strategies, etc. AT should not be regarded as standard tools for standard needs: there are no off-the-shelf solutions.

AT is a system rather than a solution that is a single tool or piece of equipment. Most of time it is a system composed of different tools, services and skills that interact together.

AT should not be seen as the end itself. How the technology is used is more important than the technology itself. In some situations AT may not be the solution. Above all, solutions need to be appropriate and personalized. An appropriate solution is one that is within the everyday reach of the user and that is fundable, usable, and acceptable to the user across a range of environments.

AT is a mediator (between the person and the context). Disability is always an interaction between features of the person and features of the overall context in which the person lives. Within this interaction AT can be either a barrier or facilitator (ICF model).

AT Accessibility

1. AT are interfaces (between human and environment)
Every AT solution is a combination of hard and software interfaces (e.g. icons, buttons, visual and sound feedback, etc). Accessibility depends on design and interaction of these interfaces.

2. Universal Design
The most pertinent definition of universal design is the provided by the United Nations (UN) Convention on the Rights of Persons with Disabilities.

"Universal design" means the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

3. The seven principles of Universal Design
Equitable Use: The design is useful and marketable to people with diverse abilities.

- Flexibility in Use: The design accommodates a wide range of individual preferences and abilities.
- Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
- Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- Tolerance for Error: The design minimises hazards and the adverse consequences of accidental or unintended actions.
- Low Physical Effort: The design can be used efficiently and comfortably with minimum fatigue.
- Size and Space for Approach and Use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.

4. e-Accessibility
The definition of e-accessibility is provided by EDF (European Disability Forum):

'Access to mainstream ICT products and services by the widest possible number of people, regardless of their age or disabilities'.

Information on e-Accessibility can be found on the wiki-like eAccess+ hub that has been published by the eAccess+ network project.

5. AT Adaptability and Personalisation
AT can be developed and modified with the user involvement (User-Centred Design). Students with disabilities can design workarounds, ways of overcoming the flaws of existing devices.

Technological innovation should be intended not only as achievement of new products but also as new patterns, new ways of employing technological devices that already exist.

REFERENCES: Fab Lab; Open Design; Users as designer (WAAG Society, Netherlands 2011).

Awareness of assistive technologies and expertise in their use will mean that student support services can assess students' needs and suggest appropriate technologies to empower students to move from dependence to independence, and finally to employment. Steps to accessibility for students with disabilities involve asking the following questions:

- **Access** - can I access the ICT tools needed?
- **Skills** - Do I know how to use them?
- **Support** - Am I getting training and technical support?

Training in the use of technology

You need to create a welcoming environment where one can study and have technologies available to use that is shared and known by those who support the process. During the academic year, it may be helpful to think and collaborate with the student to develop a "progress report", to evaluate the effectiveness of the course and its possible reorganization.

In summary it is proposed to:

- provide and improve the service offered to students
- put yourself in their shoes and experience firsthand the effectiveness of technological tools
- encourage the use of technology by teachers, both in teaching class, as well as students' examinations
- promote the exchange of experiences between students who make use of the technology

The purpose of the services and aids offered is to give the student with a disability an equal opportunity to participate in lessons and all school academic activities. Disabled students must be able to access the course material and the information presented in class at the same time as all other students. Necessarily, teachers play a vital role in ensuring that educational materials are available, if necessary, in an alternative format and in a timely manner.

The conversion of printed material in alternative formats, whether they are Braille, audio, CD-ROM or enlargements, is complex and long. So it is important that the Disability Service is informed about the textbooks and lecture notes the teacher intends to use in the course as soon as possible when there are one or more disabled students in the class.

Services may vary for each student because particular disabilities lead to different functional limitations. Skills compensation and strategies vary from one student to another just like teaching methods vary from teacher to teacher. So it is necessary that teacher and student discuss needs specific to individual students.

The Disability Service provides reasonable services, assistive devices and service support individualized to and based on a documentation of disability, functional limitations and on a thorough and concerted appraisal of needs of the student.

Suite of Training Modules

The SWING project team has developed a suite of ten modules suitable for training trainers of students with disabilities and for student themselves (*see Appendix V*).
The modules include indicative core content that will need to be customised to the particular local context. They include:

Module 1
Support Structures for Disabled Students

Module 2
Supporting Students to Support Themselves

Module 3
Assistive Technology: An Introduction

Module 4
Practical Assisted Technology Session 1

Module 5
Practical Assisted Technology Session 2

Module 6
Practical Assisted Technology Session 3

Module 7
Key Employability Competency Awareness and Self-awareness

Module 8
Practical Employment Skills

Module 9
Develop Global Awareness

Module 10
Post-graduate Education Opportunities

Expanding the themes

Four major pillars are identified as common themes in the student journey:

1. **Accessing higher education**
2. **Engaging in academic study**
3. **Integrating fully into university life (both academically and socially)**
4. **Preparing for employment / further study.**

The four major themes incorporate a wide range of ideas on the ways in which students' needs can be met throughout the journey. Aside from specific assistive technologies, many involve technological ideas that would benefit all students.

ACCESS to HIGHER EDUCTION

- **Students need information on what the university offers**

Careers staff can provide a direct link between schools, sixth-form colleges and university. Establishing such links can ensure the provision of detailed information for families and students that will be crucial for helping students make decisions about their course of study. Such information should also be available online.

- **Disclosure of disability**

Research findings suggest that the relationship between disclosure and reasonable adjustment is not always fully appreciated by students therefore this relationship should be made more explicit and students encouraged to disclose their disabilities. Disclosure needs to be presented in a positive light to tackle perceptions of possible stigma and its associated impact. However, the decision to disclose or not to disclose is the responsibility of the student although those with visible disabilities have no choice.

Disclosing a disability also depends on whether or not the student perceives it to be disabling. Admissions tutors, support staff and academic tutors should encourage students to disclose early in their programmes of study and on an ongoing basis as a prerequisite for assessing changing support needs. Disclosing a disability should mean that students are more actively involved in the process as not doing so can have profound implications and it is important that students appreciate this.

The consequences of non-disclosure need to be emphasized in guidance so that students understand its importance for their progress. Willingness to disclose a disability is dependent on staff establishing a good relationship with students and this is a crucial message for Admissions Tutors, Disability Support Tutors, Academic tutors and employers.

The question whether disclosure is ‘to one person or to all’ is also very pertinent; reinforcing disclosure throughout the course is ideal. However, this openness might be challenging for some students and should be sensitive to the individual’s needs.

- **AT Needs assessment**

1. Evaluation of AT related students needs

The needs of the student, the student’s environments within which technology will be used, the attitudes and expectations of the student and people significant to the student should be taken into account during assessment and support of AT (compatibility and sustainability).

- **The ICF's based checklist as a tool for AT assessment:**

a) Identifying student's needs in relation to University domains of activities and participation (e.g. Lessons, Studying, Exams, Social engagement, Orientation).

b) Within these domains, pinpoint existent facilitators and barriers (e.g. environment, tools, resources, networks) in different contexts (e.g. university classroom, library, canteen, etc.).

c) Identifying possible appropriated AT solutions (e.g. ICT devices; mobility, hearing and visual aids, etc).

An example of needs assessment questions is provided in *appendix III*.

An example of a completed needs assessment can be found in *Appendix IV.*

- **Negotiating Reasonable Adjustments**

It is crucial that students make the link between disclosure and reasonable adjustment. However, what is meant by 'reasonable' and what might be available is ambiguous. Accessibility Centres should give guidance on what might be deemed reasonable adjustments and provide examples that are tried and tested in all situations that the student will find themselves in, including in the workplace. Time needs to be devoted to the more effective dimensions of making adjustments, such as devoting time to develop a good understanding of students needs.

Recognising the individual nature of adjustments that are required without compromising competence standards is important. Whilst the student needs to negotiate appropriate adjustments it is important to recognise that some students will lack the skills of negotiation. Information given to students should promote the idea that negotiation is acceptable in support of those students who feel awkward about asking for adjustments, for example, those students who have hidden disabilities. Openness to experiment and be creative with adjustments to see if they work is important.

The fact that adjustments might not be working as well as they might or that needs change necessitating revisiting adjustments to see if they continue to be effective is also an important. Often it is the little things that make a difference – just implementing suggestions like putting notes on Moodle [online learning platform].

Provision of information on reasonable adjustment in the workplace is useful for potential employers too. Again by providing examples of adjustments in the workplace employers have a point of reference for what might be 'reasonable'.

- **Associations for disabled students**

Many universities have a disabled students' association as it is an efficient way to improve visibility of disabled students within the university. Equally important this type of Association supports, encourages and facilitates the contest for disabled rights within Higher Education Institutions. It encourages disabled students to take an active role in the development of policies and regulations for disabled students. The Association might provide a platform for ensuring the exchange of information and best practices on learning methodologies. The Association can also act towards improving employment opportunities for disabled students.

Besides the University Association, it is also possible to create a national inter-university network for knowing the different actions as national level as well as speaking with a common voice. This association can act at national level to influence political decisions to improve the quality of education.

- **Social network for contact with other students**

Platforms for online social networks such as a Facebook, Twitter and YouTube can help students to get to know each other even before they enroll at university. Many social networks are used by students following acceptance on their programme which allows them to make friends and exchange ideas. The social networks are interesting tools for disabled students to get integrated within the social network with other students and with teachers. Social networks also help to get a higher student engagement and better communication flow, as students can express themselves more comfortably.

- **Website with detailed information (FM)**

University Websites are usually very informative as they are an important means of attracting students to the institution. An Accessibility Centre page is a crucial reference point for students with disabilities. The Accessibility Centre should outline the facilities for disabled students and provide key contact information so that students can access detailed information. Online delivery has the benefit of allowing for regular updating of content to keep information current. It also allows text to be supplemented with additional supporting media such as audio, video and a BSL signer which we recommend. Case studies should appear in textual form for people with hearing impairments but they can also be presented through video and/or audio links. The information could be narrated for people with visual impairments. Hyperlinks that take a visitor immediately to other relevant sites can provide a one-stop-shop, negating the need to navigate between different websites and finding relevant pages.

- **University welcome**

The transition to university is challenging for all students and also for their parents who are keen to see where their daughters and sons will live and study. It is useful to invite parents to a Freshers' event so that they feel actively involved in the transition and can talk to staff members. Such a welcome can help students to settle in and to negotiate any special requirements necessary to do so.

- **Induction videos to introduce students to the physical space**

Universities produce online resources and interactive maps to help students become orientated to their university and in the following example to assistive technology available to support study. The example can be found at:

curve.coventry.ac.uk/cu/file/da6c9261-a799-45d7-bd12-b9d20c19aa1c/1/SWING.zip/SWING/MAP2/Map_Ground.html

- **Knowing where to go for help**

It is crucial that students know where to go for support once they arrive at university. Designated support tutors and personal tutors should be prepared to be available during office hours and in some cases an online support system may be available. The physical Accessibility Centre provides a focus for students.

ACADEMIC STUDY

- **The Institutional Accessibility Centre (AC)**
  The AC will provide a focus for coordinating the assessment of individual students' needs, dealing with day to day issues, training for students and also training for all staff supporting students with additional needs. As well as ensuring an increase in general awareness of the impact of disability amongst academic staff, and differences in disabilities, it is crucial that all academic staff receive training in the use of specific Assistive technologies.

- **IT literacy and up to date computers**
  While many students will be IT literate an optional induction programme should be put in place for any students needing support to bring them to a functional level with IT. Provision of up to date computers is also necessary.

- **The institutional online platform (Moodle)**
  The online platform acts as a virtual reference point for students and a repository for all course information and teaching and learning materials, such as Powerpoint presentations which can be uploaded for revision and reflection for all students. Uploading material prior to a lecture is particularly helpful for most students. The availability of course handbooks online means that students can always access the detailed information about their courses.

- **Asynchronous discussion forums**
  Asynchronous discussion forums are useful for students to discuss their course work and can be built into assessment. Those lacking confidence to speak out in class often have a lot to say when they can draft a response to a question or offer an opinion with the potential to reflect on it and revise before posting to the forum. Alternatively messages can be spoken rather than written or a video can be added to the post which may be particularly useful for students with a hearing impairment.

- **Bring your own device (BYOD)**
  Some institutions support the idea of students bringing their own devices instead of relying on university computers. All the student will need is the ability to connect to the university Wifi network. A Learning Technologist might be needed to help students to set this up. "When students bring their own smartphones and tablet computers into the classroom, this action changes their relationship with the school and with their teachers," (Open University, 2014). The report says, because they are "equipped not only with individual technologies that they maintain and improve, but also with their own personal learning environments and social networks" Lecturers can therefore "become managers of technology-enabled networked learners", not simply providers of resources and knowledge. BYOD also has the potential to reduce the cost of ICT provision (Open University, 2014). BYOD's is efficient and cost effective and varied abilities are catered for so people's confidence is raised.

  www.open.ac.uk/iet/main/files/iet-web/file/ecms/web-content/Innovating_Pedagogy_2014.pdf

- **Utilizing Accessibility features for operating systems**
  All operating systems have their own accessibility features of which students might not be aware. For example, Windows 7 access centre includes features to support additional needs, such as changes to size and colour of the font and bespoke settings.

- **Alternative ways of presenting teaching materials**
  'Portable document format' more commonly referred to as PDFs are easy to create from word documents but also have built in features – backgrounds can be changed for ease of reading, zooming and read aloud technology is included. All that is needed is a Adobe Reader. PDFs are a very simple and quick win and Adobe Acrobat also has an accessibility evaluation tool.

- **ebook or other electronic book format**
  Ebooks are the digital representation of a print text. In the shift from print textbooks to e-textbooks, accessibility can be moved to another level. Suddenly text isn't an unchangeable objectz; it can be scaled up or down depending on the student's needs. Images can be read aloud through tagging tools. Access to print-fidelity page images means students can follow along in lectures page by page. Simultaneously, access to text representation (suited to screen readers and text-to-speech software) means students can adjust their e-textbook according to their needs (Guardian - Sunday 28 April 2013).

- **Room accessibility and physical barriers**
  The university has to provide an adequate number of accessible rooms especially for students in wheelchairs; this information should be available for students and for administrative staff when preparing the classroom agenda and schedule. For old buildings or buildings with no elevator it is important to place the class on the first floor and to have an accessible toilet.

  Room accessibility information must contain information about the entrance to the building, the vertical access, accessible toilets and access to rooms. This information should be provided for all the buildings in particular for the library, classrooms, language center and administrative building.

- **Provision of technical support (Learning technologist)**
  It is important that both staff and students have ready access to Learning Technologists who are able to support them in accessing online resources and optimizing their use of AT. Without support students and staff will quickly become disillusioned. Technical support can be provided by employing other students.

- **Access Library Services**
  Online access to library resources such as university library catalogues, e-books and e-journals negate the need to travel to the library. A librarian who is specialized in Assistive technology will enable students to optimize their success while minimizing the physical effort of getting to and around a library.

- **Curriculum design use of multimedia in teaching – breaking up lecture content**
  Students' concentration span is limited to approximately 20 minutes. Therefore it is accepted practice that lectures need to be punctuated with activities that encourage students to shift focus in order to reenergize attention. The use of multimedia provides different types of stimuli which might also appeal to students with different learning preferences.

- **Accessibility is part of the design process**
  It is important to work 'with' the people for whom the learning is being designed – i.e. design from bottom up rather than top down. A Learning Technologist or Instructional Designer can advise on the achieving the greatest level of accessibility of resource materials.

- **Lecture Capture for ready access to lecture material prior to and following lecture delivery**

Echo 360 is an example of an automated lecture recording system which allows lecturers to record their presentations as they deliver them in the lecture theatre without any additional preparation. By simply scheduling the lecture capture, it is automatically recorded. Alternatively, lectures can be recorded at a personal computer or laptop in the privacy of an office. The presentation is then uploaded and can be viewed online, typically through an institutional virtual learning environment such as Moodle. This allows students to access the resource in their own time.

The Echo360 system allows the lecturer to see how their teaching resource is being used via the EchoCenter. Heat maps show which parts of the presentation is most frequently viewed, possibly revealing aspect of the material that students find most interesting or difficult to understand. Analytics also show participation across the student cohort allowing insight into students less engaged and therefore at risk.

Echo lecture capture breaks down the traditional barriers to learning for many students providing 'education on demand'. However, it is especially useful for disabled students, such as those with sensory impairments (hearing and sight), dyslexia, or with physical disabilities, as the oral recording and slides are available ideally before the lecture and following it so that they do not have to try to take in all content simultaneously.

Although these students often have a digital Dictaphone supplied in their support package in a large lecture theatre this may experience sound distortion and it affects the students' confidentiality. The lecture capture facility is also superior to a Dictaphone as the recording is delivered simultaneously to the lecture slides and also allows the students to observe the speaker's non-verbal communication. In addition, students can add bookmarks, create discussions and the opportunity for reviewing the lecture is limitless.

At Coventry University, initial resistance by some lecturers to have their lectures captured was justified by arguments such as the students will not bother to attend the lectures. However, this has not been a problem. When asked to comment on the use of Echo360 the students were very positive. Those with disabilities such as dyslexia and hearing impairments found the recordings invaluable and a welcome additional support for their learning. In fact the vast majority of all students found the recordings were most beneficial for ensuring completeness of their notes, revision, and for those students who missed lectures due to illness.

- **Flexibility in assessment**
  The negotiation of reasonable adjustment may mean making changes to assessment processes. For example, students with Dyslexia are frequently given extra time to complete an examination (an additional 15 minutes per each hour of exam). An alternative assessment format (deemed comparable in effort with the original assessment) can help students with particular disabilities. Heavy reliance on writing skills can result in some students being habitually disadvantaged. Alternative assessments can be used to test other capabilities such as thinking skills. Creating a mind map, building a website or producing a digital story are all examples of alternative assessments.

- **Video Tutorials**
  Whilst lecture capture helps students to recall and revise lectures, video recordings of sessions, such as practical demonstrations of techniques or scientific experiments, can be uploaded onto the Moodle platform and are a valuable guide to students practising techniques in their own time.

STUDENT LIFE - Integration

- **Volunteers/ buddies/ pairing students from different disciplines**
  The Volunteering programme should be coordinated by the student support unit and by the University. Volunteers can collaborate by: taking notes, campus accompaniment, scanning documents, support in subjects, language support, transcription in exams, guiding visits and supporting disabled students in their mobility programmes.
  In exchange for the volunteering service students provide they should get some compensation depending on each university. They may be able to obtain credits for their study or a certificate of their tasks as a volunteer. It is also important to adequately train the volunteers to perform certain tasks.

- **Open days**
  University Open Days or Careers events provide an ideal opportunity for students to gain valuable insight into the facilities available to them to support their specific needs. Because it is not always obvious who students need to approach to discuss their personal needs it is vital that up to date information is provided. This information should be included in any verbal presentation by Admission Tutors who should provide contact information for subsequent queries, but should also be made available online and in hard copy for students and their parents to take the information away with them. Providing information in other formats such as in Braille and as an audio guide also helps to maximize accessibility and should be relatively easy to achieve.

- **Counselling services (including mental health)**
  Student counselling services can provide students with a range of support. Aside from supporting students face to face in consultations information sheets should be available online on the most common sources of anxiety such as exam stress, bereavement, bullying, eating disorders etc. this information should me made available in a range of formats to maximize accessibility across a range of disabilities. The first meeting with the student is an important moment of orientation. Advice must have an educational approach: for both service provider and student. An awareness of the difficulties and potential is an important goal to achieve. The student must immediately become the main actor in her/his journey, with clear objectives and expectations together with awareness of the difficulties in the university setting. The methodological and technological issues that emerge during the meeting must take into account the study methods of young people along with the schedule of assessment and individual growth of autonomy. At the conclusion of the consultation a shared educational project can be devised, which may often include an initial stage of training in the use of tools identified. These meetings are aimed at learning self-directed use of the tools identified in counselling.

- **Coaching**
  The coaching service should help disabled students to gain their fullest potential and to have the same opportunities as the other students. A coach must have as much information and experience as possible on each disability type. The coach and the student establish a collaborative relationship that facilitates the process of personal and professional development. A personal plan for development can include some or all of the following areas: learn how to overcome obstacles, balance your studies and personal life and special needs, and obtain the benefits related to them, improve self-esteem and succeed in the academic year.

- **Adequate access to bars, cafes, library and toilet facilities**
  As in teaching facilities it is crucial that students are able to physically access all social spaces. The location of such spaces should be considered in all building design.

- **Information on clubs and social activities website**
  Student portals should provide information on the range of activities available to all students. Sports Centres may be proactive in instigating clubs that meet the needs of those with a variety of disabilities. For example, archery is easily accessible to students in wheelchairs. A positive inclusive statement may be necessary to encourage some students to join clubs and social activities.

- **Family associations or groups**
  Peer-support networks for families of students with disabilities can be a valuable resource for both parents and students. Parent groups can support each other, share information, and work together with young adults to create meaningful change in the Universities. Parents of students with disabilities share the concerns of all parents about education and also have additional concerns related to their children's disabilities. The SWING Workshops about Best Practices in Partner Universities highlighted some of these concerns: mobility to and around the University, safety from injury in the University campus, services provision – including basic provision such as accessible toilets, relations with other students and the need for personal assistance, usually provided by one of the student's parents. Although it is unwise to generalize about all parents of disabled students, making the assumption that they face the same disabilities or that they have the same approaches and backgrounds, the fact is that they all face practical problems and therefore are involved in some way or another in their children's education. Understanding the concerns and perspectives of these parents is essential to working with them effectively as partners.

EMPLOYMENT

- **Work buddy project**
  On the first day at work lots of information is given and immediately forgotten. For people with disabilities, especially cognitive disabilities, this is problematic. The 'work buddy' tool provides bite size learning in the workplace, increasing independence which boosts confidence and reduces dependence on others. The user's potential to work more effectively also reduces cost to employers.

- **Internships**
  Studies have proven that volunteering or participating in an internship are the best predictors of future success in the workplace. The SWING project encourages the Career Centres in Partner Universities to create a database of resources, as part of their Accessibility Centre, to be used by their disabled students in order to find an internship. This database will be different in each University since national provisions vary; yet it could include common themes for all Partner Universities presentation of international and European internship opportunities. The Accessibility Centre Internship Resources are expected to provide students with disability the chance to jumpstart their career path and gain a competitive edge.

- **Support for students and employers to help students to complete work-based placements as part of vocational programmes**
  Placements form a substantial aspect of vocational programmes and can be a significant source of stress for all students if not well prepared. Forward planning is a key message regarding negotiation of and putting into place reasonable adjustment leading to positive placement experiences: This is preferable to placement staff having to discover that the student has a disability. A pre-placement visit can be useful for helping student to get orientated and allows staff to get to know the student and asses their needs.

  Structured planning between university and clinical placements is helpful. Risk assessments may have to be drawn up.

  An important point to acknowledge is that most placement staff are operating within severe time-constraints and therefore making time to ensure that individual students' needs are met can be difficult. Nevertheless, a pre-placement visit and good communication between student, university and placement provider can address concerns. It may be that the placement needs to be carefully chosen with respect to levels of support available. Bridging gaps between the university and the workplace can be achieved with the use of AT that students can take with them and use regardless of situation.

  Strategies that can be used to help students settle in and perform to the best of their abilities include 'paired placements' and peer support. The list of reasonable adjustment on placement include: provision of a quiet space for report writing, extra time for report writing, facility to have written reports double checked by someone else, access to computers, regular breaks, adjusted seating arrangements, altered working hours, use of a communications support worker and use of assistive technology. To meet people on placement who have disabilities yet have succeeded and built successful careers can be tremendously inspiring for students.

- **Further study or professional training advice**
  Post graduate opportunities are generally publicized by a postgraduate office.

- **The role of Careers Advisors**

Careers staff may have expertise in different areas but it is helpful if one advisor is identified as a lead in diversity and disability issues. It is vital that knowledge of government policy on quotas, legal rights of disabled employees and government support for reasonable adjustments is current and in this respect Careers Advisors play a vital role in getting more students into employment.

Advisors should provide careers information advice and guidance either in 1:1 sessions or group workshops. 1:1 appointments (either face to face, by Skype, or telephone) are conducted in flexible time slots; group workshops (approximately 8 people) can be generic or course specific where the programme is adapted to meet students' needs.

It is important that a needs analysis is conducted during the year to ensure that the needs of students are being met. Students with certain disabilities might require help writing CVs, or paper based or online application letters etc. Students should be assessed for suitability for certain types of employment considering capabilities required through a process of exploration and challenging dialogue.

Careers guidance must have a presence on the student portal so that online interaction with students is possible but also they can access information when required. Provision of materials on careers from a variety of perspectives is recommended. For instance, information sheets on how to write a CV, how to succeed at interview, psychometric tests are helpful. However, this guidance should be available in a variety of formats to ensure the widest possible access for students with impairments. Some Careers Guidance services also produce their own careers videos e.g. on careers fairs as a means of meeting lots of employers in short space of time.

Careers guidance services should also have links with schools, colleges and with recruitment agencies. They are well positioned to work with the university 'international offices' to open up opportunities for international mobility and encourage students into international experiences.

- **Use of social media**
  Social media helps to fulfill different needs for interaction. Students should be encouraged to join networks such as Linked-in where they can development and publicize their professional profile.

- **Association of alumni/ former students**
  The majority of universities have very active Alumni networks. Alumni who have achieved their ambitions are role models for current students and especially those with disabilities aspiring to enter employment. These networks can also provide a means of potential support for students looking for employment.

- **Employer engagement activities**
  Employers are increasingly becoming involved in course design. In some cases accredited collaborative courses are delivered in partnership with employers. University/employer relationships make for strong networks with companies. Employer presentation events and visits provide opportunity for students to gain valuable insight into different careers and careers Information on internships and graduate vacancies can be posted onto a student portal by employers. An electronic (and paper) catalogue/database of employers is a useful resource for students.

- **Job fairs**

One of the SWING Partners' ambitions is breaking through the barriers that have hindered job seekers with disabilities in the past. Job fairs, to be held annually at the Arab Academy for Science, Technology and Maritime Transport, Egypt, will connect Partner Egyptian universities and employers to provide accredited teaching to students with disabilities.

Employers from both private and public sectors will be invited to participate in the job fair. Employers from different business sectors will be included to help cover a wide range of disabilities.

Examples include: IT, telecommunications, and administrative jobs in most other kinds of sectors.

For Job seekers this will be a unique opportunity to engage with recruiters for possible part-time employment, internships for current students, and graduate vacancies.

For Businesses actively recruiting qualified job seekers with disabilities, or interested in exposure of their commitment to building diverse and inclusive teams, this will be a chance to find eligible job seekers.

Taking the following kinds of steps can help employers obtain these benefits and ensure that individuals with disabilities are included in their recruiting efforts:

- Including people with disabilities in diversity recruitment goals;
- Creating partnerships with disability-related support organizations;
- Contacting career centres at colleges and universities when vacancies occur;
- Posting job announcements in disability-related publications, Web sites and job fairs;
- Establishing summer internship and mentoring programs targeted at youth with disabilities.

Business registration includes:

- A custom-branded employer flyers, and page with the ability to display open positions, videos, benefits information and more;
- A full Candidate Report with information about each candidate who attends the event and their resume;
- 8'x10' Booth (6'x3' Draped Table, 2 chairs, signage, and wastebasket);
- or 8'x20' Booth (2-6'x3' Draped Tables, 4 chairs, signage, and wastebasket);
- Larger Booths can be available upon request;
- Hotlink to the company's website.

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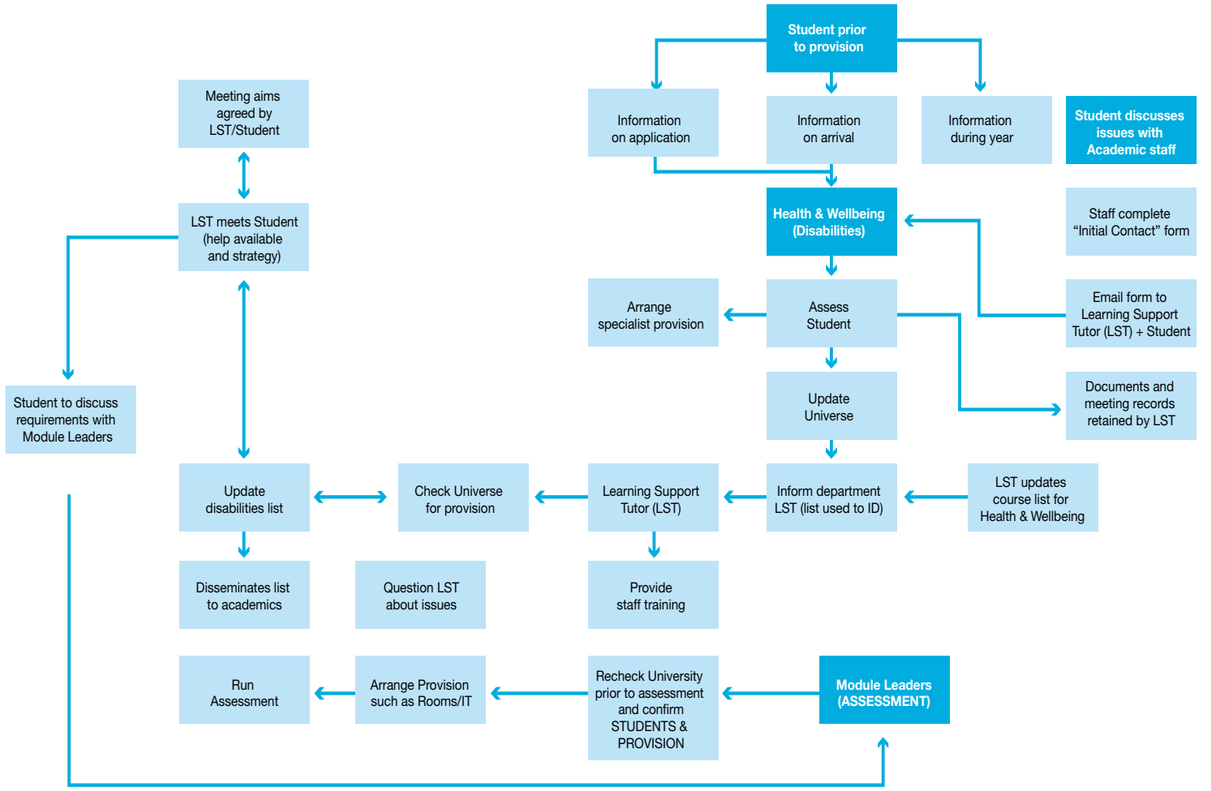
APPENDIX I – A Formal Student Support Process



APPENDIX II
Assistive Technology Tools

SWING has undertaken an extensive survey[1] on the Assistive Technology (AT) tools that are considered essential to be offered to disabled students. AT consist of a wide variety of software and hardware devices that respond to various needs. Some are open and free to download – and therefore can be used in student-owned devices – whilst others are for the Universities to provide.

Screen readers, document accessibility and text to speech are the technologies considered as essential by all partners. The last two, i.e. document accessibility and text to speech are recurring technologies that score high in five out of six types of disability examined in the study[2] (but hearing impairment). In addition, very highly scored OCR and concept maps software.

[1] See SWING Assistive Technology Survey Report

[2] The disabilities examined in the study are: blindness, low vision, dyslexia, mobility/ dexterity limitations, hearing impairment, speech impairment.

Case study: the University of Bologna

A comprehensive provision of AT for disabled students is made by the University of Bologna. University of Bologna allows disabled students to try and choose between different software and hardware (free, opensource or commercial) in AT centers that are part of its network.

When University faculties and departments want to install AT software in their pc laboratories, the following solutions are suggested:

Screen Reader:
NVDA (free and opensource), JAWS (commercial)

Text to speech:
LeggixME or Balabolka (free)

Concept Maps:
VUE (Visual Understanding Environment), Cmaps

OCR:
FineReader, Kurzweil 1000, Omnipage (commercial)

Speech Recognition:
Dragon Naturally Speaking (commercial)

More precisely, the following AT tools were suggested by SWING partners:

JAWS	Blind and visually impaired
Balabolka	Blind and visually impaired
NVDA	Blind and visually impaired
Windows Narrator	Visually impaired
Windows Magnifier	Visually impaired
PDF Accessibility Checker	Blind and visually impaired
LeggiXme	Blind and visually impaired
OCR software	Visual impairments, physical disabilities, dyslexia
Dragon Naturally Speaking	Dexterity limitations
Visual Understanding Environment (VUE)	Deafness, Dyslexia, difficulties in text reading and comprehension
CmapTools	Deafness, Dyslexia, difficulties in text reading and comprehension
Magnetic loop	Deafness

Appendix III

eadhe
european action on disability within higher-education

Users' direct assessment (on-line survey)

Work-package 2 "Survey" Deliverable n.5

Introduction

Higher education should be accessible to all students. For some students there are some barriers due to personal or environmental aspects. With this survey we want to know more about support and facilitators that improved your study circumstances. We would like you to share with us good examples off compensations and support you really needed to reach your present level of studying.

This study is made possible by the financial support of European Commission to the project: European Action on Disability within Higher Education. (EADHE. Like us on Facebook)

For any question regarding EADHE Project or assistance in replying the questionnaire (also orally), you can contact the local responsible at ……@.....

The questionnaire is completely anonymous. The results of this survey conducted through six European Universities (Bologna, Coimbra, Gothenburg, Gent, Leipzig, Aarhus) will be finally available on the project website www.eadhe.eu.

Lifelong Learning Programme

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This document reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Sociodemographic aspects

1. University of (x all partners)

2. Year of study?

3. Which course do you study?

4. Do you study:

- on site ☐ yes ☐ no
- at distance (e-learning) ☐ yes ☐ no

5. Generally speaking, would you consider to have special needs? ☐ yes ☐ no

Do you have any disability? ☐ yes ☐ **no**

(The double option of the question is in order to let partners choosing the most suitable one, according to their local reality and especially, privacy rules)

6. Generally speaking, do you require any special support/assistance to attend university? ☐ yes ☐ no

7. Did your special needs/your condition of disability have an impact on the choice of your course of studies? ☐ yes ☐ no

If yes, which aspects have played a role for the choice of your current course of studies? Rank the aspect with the most impact on your choice with 1 and continue with 2, 3, etc

- ☐ Recommendations from advisors
- ☐ Recommendations from my social environment
- ☐ Relatively good employment prospects with my disability
- ☐ Practical possibility to study this course
- ☐ Good equipment/accompanying offers and/or accessibility of the university
- ☐ Availability of the necessary support at the university site
- ☐ Few barriers during the admission procedure
- ☐ Other(s): (describe it)

Topic 1: accommodation

8. Where do you live (when attending university):
☐ at home ☐ apartment ☐ student residence/dormitory?

a) If the reply is "at home":

9. Do you live:

☐ With your family ☐ With friends/ colleagues

☐ With the partner ☐ Alone

☐ Other (please describe it)

_____

_____

_____

10. Do you usually need the special support from a person at home?
☐ yes ☐ no

If yes, what kind of support?

☐ Cooking ☐ Personal hygiene

☐ Movements ☐ Getting dressed

☐ House cleaning ☐ House works

☐ Do the grocery

☐ Others (please describe it)

_____

_____

_____

11. Was any adaptation necessary at home to fit your needs?
☐ yes ☐ no

If yes, what kind of adaptations:

☐ Access ☐ Adapted bathroom

☐ Adapted kitchen ☐ Adapted room

☐ Automations ☐ Communication devices

☐ Presence of an assistant

☐ Other(s)…. (describe it)

_____

_____

_____

12. What impact the need of support at home had on your studying at University?

Rank box 1-5
(1 highest impact/5 no impact at all): ☐

b) If the reply is "in a student residence/dormitory":

9. Do you usually need any special support at the residence?
☐ yes ☐ no

If yes, what kind of support for? For each selected element, rank on a scale 1/5 (1 highest importance/5 no importance at all) the importance to meet that need and rank 1/5 (1 perfectly met/5 not met at all) how well that need is met in your case:

☐ Cooking ☐ Personal hygiene

☐ Movements ☐ Getting dressed

☐ House cleaning ☐ House works

☐ Do the grocery

☐ Others (please describe it)

_____

_____

_____

10. Who provide the support you require?

☐ Social Services ☐ University services

☐ Specialized services ☐ Volunteers

☐ Other students/ roommates ☐ Technological devices

☐ Other (s)

_____

_____

_____

11. Does your residence/dormitory offer special adaptations?
☐ yes ☐ no

If yes, what kind of adaptations?

For each selected element, rank on a scale 1/5 (1 highest importance/5 no importance at all) the importance to benefit of that adaptation and rank 1/5 (1 perfectly met/5 not met at all) how efficient is the adaption you have:

☐ Accessibility ☐ Adapted bathroom

☐ Adapted kitchen ☐ Adapted bedroom

☐ Automations ☐ Communication devices

☐ Presence of an assistant

☐ Other(s)…. (describe it)

_____

_____

_____

12. What impact the need of support at home had on your studying at University?

Rank box 1-5
(1 highest impact/5 no impact at all): ☐

Topic 2: waking up and getting ready

13. Do you need assistance to wake up and prepare for the day? ☐ yes ☐ no

14. Do you need extra time to prepare yourself? ☐ yes ☐ no

If yes, why and for what?

_____

_____

_____

_____

_____

Rank the impact on assistance/extra time to prepare yourself for the day on a scale from 1-5 (1 highest impact): ☐

15. Which aspects must you think of before taking off to University? What do you have to take with you? Try to comment how important it is not to forget these aspects (ex. special devices,)

_____

_____

_____

_____

_____

Topic 3: travelling to university

16. How do you travel to campus/ classes/libraries?

☐ Foot ☐ Bike

☐ Own Car (Reserved Parking) ☐ Car sharing

☐ Public transport ☐ Special transport

☐ Other

17. Do you need the support/company of a person during the journey?

If yes, do you actually have this support?
If yes, provided by:

☐ Relatives ☐ Peers/friends/flat mates

☐ Social-services ☐ Other

18. What would make transportation more accessible for you?

_____

_____

_____

_____

_____

19. Rank the impact of the dependence for mobility in attending university, on a scale from 1-5 (1 highest importance/5 no importance at all) ☐

Topic 4: attending lessons

20. Select the elements you consider important to easily attend classes; then for each selected element, rank on a scale 1/5 (1 highest importance/5 no importance at all) the importance to meet that need and rank 1/5 (1 perfectly met/5 not met at all) how well that need is met at your university:

☐ Accessibility to classrooms

☐ Acoustic amplification (e.g. use of microphones by speakers)

☐ Enlarged dimension of contents at the white/black board

☐ Sign language simultaneous translation

☐ Written simultaneous translation

☐ Making use of support (writing, hearing, …)

☐ Written notes about classes' contents

☐ Braille format for course material

☐ Digital course material (i.e., Pdf, etc.)

☐ Digital audio/video recordings of classes

☐ On-line broadcasting of classes

☐ Other reasonable adjustments or adaptive devices: …

Topic 4: attending lessons

21. We would be grateful if you could tell us more about the solutions you implement to meet your needs. Your strategies may be helpful for other students all over Europe, with needs like yours. (not compulsory reply)
(2500 words maximum)

Topic 5: studying

22. What are your main needs for studying?
Select the elements you consider important, then for each selected element, rank on a scale 1/5 (1 highest importance/5 no importance at all) the importance to meet that need and rank 1/5 (1 perfectly met/5 not met at all) how well that need is met in your case:

- ☐ Speech synthesis software
- ☐ Enlarging monitors
- ☐ Concept/mind mapping software
- ☐ Braille format for texts and books
- ☐ Digital texts and books
- ☐ E-learning repositories with learning materials
- ☐ Mentor supporting you in organizing studying activities
- ☐ Accessible libraries
- ☐ Mobile/tablet applications
- ☐ Other kind of support and/or adaptive devices (hardware/software/human): …

23. Considering needs you mentioned as being effectively met (rank 3/5), who supported you in finding the best solution?

- ☐ Disabled Students Service at your University
- ☐ Anyone else at your University, teachers, study counsellors, teaching assistants
- ☐ Medical/Social services
- ☐ Specialized organizations (NGOs or similar)
- ☐ Specialized companies
- ☐ Relatives
- ☐ Peers
- ☐ Nobody
- ☐ Other…

24. We would be grateful if you could tell us more about the solutions you implement to meet your needs. Your strategies may be helpful to other students all over Europe, with the same needs as you. (not compulsory reply)
(2500 words maximum)

Topic 6: having an exam and practical course/internship

25. What are your main needs when you have an exam? Select the elements you consider important, then for each selected element, rank on a scale 1/5 (1 highest importance/5 no importance at all) the importance to meet that need and rank 1/5 (1 perfectly met/5 not met at all) how well that need is met in your case:

- ☐ Alternative/adjusted modalities of examination (i.e. oral instead of written)
- ☐ Extra time
- ☐ Extra sessions
- ☐ Digital documents
- ☐ Mentor reading and/or writing texts on your behalf
- ☐ On-line exams
- ☐ Other:

26. Do you feel you are required to achieve the same competencies as other students in your course, to pass the exam? If not, feel free to tell us more about it. ☐ yes ☐ no

27. Do/did you need any adjustment for having your practical course or internship? ☐ yes ☐ no

If yes, what kind?

- ☐ Adapted methods/activities for practical course/internship
- ☐ Replacement of the practical course/ internship with equivalent activities
- ☐ A mentor/assistant dedicated to your support
- ☐ Other

28. We would be grateful, if you could describe the solutions you implement to meet your needs, your comments may be helpful for other students all over Europe, with needs like yours. (not compulsory reply) (2500 words maximum)

Topic 7: dealing with professors and administrative staff

29. In your experience, rank in a scale 1-5 (1 totally/5 not at all) how much academic staff (teachers and researchers) is aware about the rights of students with special needs. ☐

30. Rank in scale 1-5 how much academic staff is helpful and ready to provide you adaptations/support you need? ☐

31. According to your experience, rank in a scale 1-5 (1 totally/5 not at all) how much administrative and technical staff (i.e. at administrative offices, libraries, etc.) is aware about the rights of students with special needs. ☐

32. Rank in scale 1-5 how much administrative and technical staff is helpful and ready in providing you adaptations/support you need? ☐

33. Feel free to express in this box, any positive or negative experience you might have had in dealing with academic and administrative/ technical staff. (not compulsory reply)

Topic 8: relations with supporting staff at University (offices directly in-charge of supporting disabled students)

34. How important is the support of the Disabled Student office for your studies?
Rank 1/5 (1 fundamental/5 not important at all) ☐

35. Which are the main services/support/ solutions you receive/received from the Office? For each selected element, rank on a scale 1/5 (1 highest importance/5 no importance at all) the importance for your studies to have that solution and rank 1/5 (1 perfect/5 not effective at all) how effective is the solution.

- ☐ Transportations and mobility
- ☐ Digital texts and books
- ☐ Technological devices (hardware/software)
- ☐ Translations in sign language
- ☐ Written/oral/video recordings
- ☐ Learning mentors
- ☐ Support in choosing the academic course of study
- ☐ Support in planning academic career
- ☐ Support for international mobility
- ☐ Psychological support
- ☐ Support in relations with academic staff
- ☐ Support in relations with the family
- ☐ Support in relations with social services
- ☐ Others…..

36. Is there any situation the Office helped you in effectively meeting a need not especially easy to overcome? If yes, feel free to tell us more.

_____

_____

_____

_____

_____

_____

_____

_____

37. Is there any service that you would need but not available at your University? If yes, what?

_____

_____

_____

_____

_____

_____

_____

_____

Topic 9: peers relations

38. Can you have coffee breaks, breaks and lunches together with other students? ☐ yes ☐ no

39. Do you get any support from other students? ☐ yes ☐ no

40. Rank in scale 1-5 (1 totally/5 not at all) how much your colleagues are generally helpful and ready in supporting you. ☐

41. Rank in scale 1/5 (1 totally/5 not at all) do other students integrate you in their working group easily? ☐

Topic 10: social life (going out)

42. Rank in scale 1/5 (1 very often/2 often/3 sometimes/4 once/ 5 never) how often you go out with your University colleagues? ☐

43. Is there any student/sport/cultural/ religious organization related to University you take part in? Rank in scale 1/5 (1 very often/ 2 often/3 sometimes/4 once/ 5 never) how often you participate to its activities/events? ☐ yes ☐ no

44. Do you think your University should do more in promoting social life and socialization of students with disabilities? If yes, what?

- ☐ Providing more resources (financial, facilities, etc.) to existing organizations
- ☐ Providing spaces
- ☐ Promoting new kind of associations/organizations
- ☐ Organizing social events
- ☐ Other

Topic 11: International mobility

45. How important is it in your opinion, to participate in such international programs?
Rank 1/5 (1 highest importance/ 5 no importance at all) ☐

46. Have you ever taken part in any academic program of international mobility (i.e. Erasmus, Erasmus Placement, Globus, Overseas, etc.)?
☐ yes ☐ no

If yes:

Where?

For how long?

What kind of support you get from your home-University and from the hosting-University?

If not, would you like to participate to any of those programs? ☐ yes ☐ no

If yes: what would you need in order to participate?

- ☐ More information about the programs
- ☐ Specific information about the possible destinations
- ☐ Specific information about the services available at destination, according to your needs
- ☐ Extra economic support
- ☐ Other.

Topic 12: Job placement

47. Does your university have a career service?
☐ yes ☐ no ☐ I don't know

48. Do you think you need special/extra support to find a job when you have a disability?
☐ yes ☐ no ☐ I don't know

49. How important is it for you to get special support in finding a job?
Rank box (1 highest importance - 5 no importance at all): ☐

50. Does your university offer a special support for placement of students with special needs? ☐ yes ☐ no

Thank you for your time!

EADHE Project

Appendix IV

Progetto AlmaBraille

Investiagte

University, students with disabilities, IT tools

DATI STUDENTE

Name and surname:

Daye of birth:

Degree: Mathematics

Year of enrolment: 2009/2010

PARTE A: First interview [Date: 12 /09/2012]

Try to identify, if there are, the five most important issues at encountered at University, in class, in study, laboratory and training, and conduct of examinations (oral and written). These may be things that you cannot do at all, or that you can do, but not in the way or within the time which would you most like. Think in particular to specific problems you have encountered in the last month.

Once you have identified five problems, give each of them a score of importance and one of difficulty.

a) The degree of importance (as it's important for you to solve this problem) is expressed on a scale from 1 to 5 (1 - not at all; 2 - not much; 3 - a bit; 4 - a lot; 5 - very important)

b) The degree of difficulty (currently, with how much difficulty do you experience this issue) is expressed on a scale from 1 to 5 (1 - none, 2 - a small amount; 3 - a bit; 4 - a lot; 5 - insurmountable)

No.	Description of the problem	Imp	Diff.	Importance x Difficulty
1	"In mathematics class I cannot see what the teacher writes on the board to take notes."	4	4	16
2	"When the class ends late, I struggle to find my way back home"	2	4	8
3	"In study, I struggle to organise, edit and arrange notes"	5	2	10
4	"In the student residence, I do not recognise everyday objects when someone moves them such as boxes of food, drugs and clothe,."	5	3	15
5				
	Sum of scores (Importance x Difficulty)			**49**
	Score before the introduction of information technology (sum of the scores / n)			

CHECKLIST First interview

(not exhaustive - to help the interviewer to facilitate the student in identifying five problems)
"We propose to retrace a number of key milestones that define the life of a university student ..."

Lessons	Examples: going to class / Listening to and understanding the teacher's words / lecturer asking questions / taking notes / Reading and understanding what is written or projected on the board / Focus on the explanation
Study	Examples: organisation and method of study / production processes / literature searches, use of teaching aids
Exams	Examples: verification tests / multiple choice test / oral / written
Social Relations	Examples: interviews with teachers / relationships with other students
Orientation	Examples: autonomy when moving / autonomy in student house (kitchen, daily living, personal hygiene) / identification of facilities / knowledge of regulations and opportunities / handling of administrative practices.

Description ICF deficit and Disability Student (Body Functions and Structures)

[Ref. ICF Checklist of www.openicf.it]

BODY FUNCTIONS	Description	Qualifier
b1. Sensory functions		
b21000.4	Reduced sharpness of binocular vision at distance	Complete deficit
b2101.4	Reduction of the peripheral visual field	Complete deficit
b21020.2	Hypersensitivity to light	Medium deficit
b21022.4	Difficulty in discriminating contrasts, with dazzling light colours	Complete deficit

First Qualifier of Body Functions

xxx.0	NO deficit	(absent, negligible)
xxx.1	SLIGHT deficit	(light, small)
xxx.2	MEDIUM deficit	(moderate, fair)
xxx.3	SERIOUS deficit	(notable, extreme)
xxx.4	COMPLETE deficit	(total)

First qualifier of Body Structures

xxx.0	NO deficit	(absent, negligible)
xxx.1	SLIGHT deficit	(light, small)
xxx.2	MEDIUM deficit	(moderate, fair)
xxx.3	SERIOUS deficit	(notable, extreme)
xxx.4	COMPLETE deficit	(total)

BODY STRUCTURE	Description	Qualifier
s2203.463	Retina	(full disability - deviant position - both sides)

First qualifier of Body Structures

xxx.0	NO deficit	(absent, negligible)
xxx.1	SLIGHT deficit	(light, small)
xxx.2	MEDIUM deficit	(moderate, fair)
xxx.3	SERIOUS deficit	(notable, extreme)
xxx.4	COMPLETE deficit	(total)

Second qualifier of Body Structures (nature of change)

xxx.0	No change in the structure
xxx.1	Total absence
xxx.2	Partial absence
xxx.3	Partly excessive
xxx.4	Abnormal dimensions
xxx.5	Discontinuity
xxx.6	Deviant position
xxx.7	Qualitative changes in the structure

Third qualifier

xxx.0	More than one region/area
xxx.1	Right
xxx.2	Left
xxx.3	Both sides
xxx.4	Frontal
xxx.5	Dorsal
xxx.6	Proximal
xxx.7	Distal

Problem Description ICF, Technology and contextual resources

(Personal Activity Limitation and Restriction in Participation + Environmental Factors)

ACTIVITY and PARTICIPATION	Description	Qualifier Performance	Qualifier Capacity (without aids or barriers)	ENVIRONMENTAL FACTORS
d110.23 (Watching)	Looking at the blackboard and making notes of what is written by the teacher	(reduction in average attendance)	(sever limitation in activity)	E1151. +2 **Binoculars** (facilitator medium) difficulty in maneuvering and taking notes at the same time e1300. -3 **Slate blackboard in white on black** (serious barrier e1300. -3 **Marker on white background** (serious barrier) e1300. -4 **Board with pen on white background** (complete barrier) e3. -2 **Doesn't express his difficulties to others** and sits in the front row when there is no room (medium barrier)
d4602.32 (Moving and navigating while walking outside)	Moving and navigating in walking back home from the faculty	(medium restriction)	(medium limitation)	e2400. -3 **Light intensity** (weak): serious barrier
d1638.3x (Thinking, organising, editing and combining ideas and concepts)	Organizing, editing and arranging notes	(severe restriction on participation)	To be investigated	e1300. -3 **Notes taken with a big tip black marker on white notebook paper** (serious barrier)
d6508.31 (Recognising objects in the home, preparing meals, taking medications)	Recognising boxes of food, drugs, navigating to the communal pantry and cupboards	(Medium restriction in participation)	(slight limitation)	e325. -3 **Community life in student housing** (serious barrier)

ACTIVITY and PARTICIPATION:

First qualifier (Performance: degree of restriction on participation) - Second qualifier (Capacity: the degree of limitation of activity);

xxx.0	NO deficit	(absent, negligible)
xxx.1	SLIGHT deficit	(light, small)
xxx.2	MEDIUM deficit	(moderate, fair)
xxx.3	SERIOUS deficit	(notable, extreme)
xxx.4	COMPLETE deficit	(total)

ENVIRONMENTAL FACTORS:

First qualifier (Barrier or Facilitator)

xxx.0	NO barrier	NO Facilitator
xxx.1	SLIGHT barrier	SLIGHT Facilitator
xxx.2	MEDIUM barrier	MEDIUM Facilitator
xxx.3	SERIOUS barrier	SUBSTANTIAL Facilitator
xxx.4	COMPLETE barrier	COMPLETE facilitator?

ANALISI

Tools	Favourable aspects	Critical aspects	Alternative/ Supplementary Proposal	Favourable aspects	Critical aspects
BINOCULARS e1151. +2	Easy to carry	Prevents you from having your hands free	**Video magnifier -Videocamera**	Hands-free stability	Cumbersome problem of transport, positioning and pointing. Need to sit in the front row. Cost consideration
BLACK BOARD e1300. -3	Favourable contrast and glare (white on black). Breadth suitable for mathematical proofs		**LIM** (Interactive whiteboard)	Ability to record the flow of the lesson and allow students to see the whiteboard on personal devices (PC or tablet)	Small in size. Cost consideration for the university. A need for training in the use
ORIENTING YOUR WALK WITH VISUAL REFERENCES e2400. -3	Natural strategy	Loss of references with low light (night, in bad weather)	**GPS with Speech on mobile**	Voice help	Buying a mobile device, training in the use of the GPS
TAKING NOTES with black marker on notebook paper e1300. -3	Consolidated strategy, functional, and low cost.	Production of many written pages; difficult to read, navigate and revise the notes under study.	**USE THE PC + Audio Recording**	Material easily organized digitally	Learning to use the PC (keyboard + monitor)
RECOGNISING by touch and spatial memory COMMONLY USED OBJECTS e325. -3	Consolidated strategy, functional, and low cost.	Not suitable in areas of community life	**Use of electronic labeling systems objects with NFC**	Ability to associate objects with textual information; take advantage of speech	Cost of NFC sensors; programming difficulties; mobile reading

TRIAL STARTED:

- HD camera (supplied by Alma Braille) connected to a laptop and pointing at the blackboard. Recording the video stream. Then VLC to capture a screen and work on the contrast. CASE: use HD camera attached to a bracket on the transmission on WIFI tablet (GO PRO)
- Evernote and OneNote to take notes with a PC and synchronise with sound (keyboard large print) - training for writing ten fingers. .. Experimentation FLESKY
- Testing Tablets (with purchase of the student contribution ER.GO) GPS with voice synthesis, APP Ariadne (developed by Luca Cavazza Institute Ciaffoni
- Tagging system with QRCode App recognition and speech synthesis developed by + AlmaBraille in collaboration with the student through the Android development environment AppInventor.

Second interview [Data: ___/___/_____]

For some 'time you have been using certain technologies. Currently, how much difficulty do you experience in each of these issues? Express it with a score from 1 to 5 (1 - not at all; 2 - not much; 3 - a bit; 4 - enough; 5 - very much)

No.	Description of the problem	Imp	Diff.	Importance x Difficulty
1	"In mathematics class I cannot see what the teacher writes on the board to take notes."	4		
2	"When the class ends late, I struggle to find my way back home"	2		
3	"In study, I struggle to organise, edit and arrange notes"	5		
4	"In the student residence, I do not recognise everyday objects when someone moves them such as boxes of food, drugs and clothe,."	5		
5				
	Sum of scores (Importance x Difficulty)			
	Score before the introduction of information technology (sum of the scores / n)			
	INDICATOR Appropriateness of the proposed technology (total score before - after the total score)			

- CALZOLARI low vision + physical disabilities;
- Ebooks (+ Arduino Leonardo FBReader for custom sensors + eViacam) ;
- = / Volunteer reads aloud, audiobook,;
- navigation, highlight, write notes, search;
- What does exam study mean? Software that recreates the possibility of manipulation, processing, annotation, text search.

Appendix V

SWING Training Seminars in Partner Countries

1. Support Structures for Disabled Students
2. Supporting Students to Support Themselves
3. Assistive Technology: An Introduction
4. Practical Assisted Technology: Tools for Facilitating ICT Access
5. Practical Assisted Technology: Reading through Screen Readers & Magnifiers
6. Practical Assisted Technology: Speech, Text & Braille Assisted Technology
7. Key Employability Competency Awareness and Self-awareness
8. Practical Employment Skills
9. Develop Global Awareness
10. Post Graduate Education Opportunities

Module 1

Support Structures for Disabled Students

Module duration: 3 hours

Trainees addressed:
Training will take place in the participating universities and will address Disabled Students studying at the university for the first time.

Brief description:

This module opens the Training Seminars to be delivered during the SWING trainings in Partner Countries. It will take place at the beginning of the academic year and will have the format of an Information Day. It focuses on **"Support Structures for Disabled Students"** within the partners' universities and it will serve as an introduction to the university policy on disability and the special services in place for disabled students. In particular, it will focus on disabled students rights, accessibility, academic support, student guidance, counselling and volunteer service. When necessary the module will close with a tailored plan for each special need of students.

The aim of the first Module is:

- To inform about students' rights
- To present the Accessibility policy to support staff and teachers
- To interact with students in order to facilitate their integration within the university
- To act as a reference point throughout the year
- To create, when necessary, a tailored plan for disabled students

Learning Outcomes:

- Discover the difference between deficit and disability
- Be able to identify the most common incorrect assumptions for different disabilities
- Be able to identify competences beyond disability
- Be able to work to reduce disability
- Discover the university services available for disabled students
- Understand their rights in the learning process and study life
- Get to know the workers from the Support Office

Content:

Module 1 is divided into 3 sessions:

1 session: 30 minutes

Introduction to disability and its different typologies with its peculiarities in order to understand the special needs of each student.

- A definition of disability
- Difference between deficit and disability
- Overview of the university legislation, the national laws and regulations and the UN convention on the rights of persons with disabilities. A special emphasis will be placed on the rights and duties of disabled students in Higher Education

2 Session: 30 minutes

- Presentation of the Support Service and its organization
- Information about the University own resources to facilitate the learning process, accessibility, Assistive technology, academic support, student guidance and counselling
- Presenting the voluntary service

3 Session: 30 minutes

Tailored plan for each disabled student in particular concerning the academic support and the use of Assistive technology.

Learning Methodology:

1. **Theoretical session:** Dynamic explanation of the disability and legislation, interaction with students should be fostered and questions and doubts answered giving practical examples when possible.

2. **Practical and theoretical session:** A short talk about the importance of the Support Structures, the voluntary system and accessible spaces. Brainstorming about the opportunities and shortcomings of the university regarding the integration of disabled students. Disabled students who have benefitted from the support service can present their experience, show the benefit of it and give some advice to new entry students.

3. **Practical session: individual plan** An individual plan will be started together with the student based on a questionnaire. The plan will contemplate issues of academic guidance, accessibility issues, voluntary help needed, etc. The plan will be carefully designed and completed by the Support Service and presented to the student after its finalised.

All SWING sessions can utilise the following teaching strategies and tools:

Teaching strategies suggested:	Learning tools suggested:
• Testimonies from students • Brainstorming	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Videos • Interactive presentations

Infrastructure needed (estimation):

- Room that can accommodate up to 30 students/staff
- Promotional Materials about the university and the Support Service
- Projector
- Photocopier

Accompanying training material:

Legislation on disabled students rights and teaching material developed by SWING project.

Teaching material developed by SWING project:

- Materials on differences between deficit and disability
- Basic Glossary

Module 2

Supporting Students to Support Themselves

Module duration: 1 hour + personal counselling

Trainees addressed: Training will take place in the participating universities and will address Disabled Students studying at the university.

Brief description:

This module is the second module of the Training Seminars to be delivered during the SWING trainings, it will take place at the beginning of the academic year and can happened together with Module 1 during the Information Day. The title is **“Supporting Students to support themselves”** and it will focus on the external academic activities and on boosting students’ self-confidence. It can be coupled with an individual counselling service that will be made on individual appointments.

The aim of this Module is:

- Inform about: Student union, social life, student organisations, sport teams, mobility opportunities as the Erasmus Mundus
- Provide a counselling service about students doubts in their self-esteem, career choice, fear of public speaking, coping with anxiety and stress before exams, time organization and planning, study skills, teamwork and about various personal situations that are seriously interfering with the student's academic performance and academic life

Learning Outcomes:

- Discover the university external academic activities and socialise with other students
- Provide support and boost self-confidence through a counselling service

Content:

Information package about the University activities on Student union, social life, student organisations, sport teams, mobility opportunities as the Erasmus Mundus.

In the presence of difficulties related to academic perfomance, the Support Structure should try to offer a complete answer, with group and individual activities:

- Advice to improve learning process
- Vocational counselling
- Study technique workshops
- Workshops to help face exams
- Building up self-confidence
- Getting involved in Social Networks and groups activities

Methodology:

1. Theoretical session: Dynamic explanation of the Student union, social life, student organisations, sport teams, mobility opportunities as the Erasmus, interaction with students should be fostered and questions and doubts answered giving practical examples when possible.

2. Counselling service: Made on individual appointment. The session can be organised as follow:

- The problem is evaluated
- Advice on advisable changes on the way of thinking, behaving and socializing
- Students will be oriented to specialized centres or professionals
- Students will be given objective information on their personal problems

In this SWING Module the following teaching strategies and tools can be applied:

Teaching strategies suggested:	Learning tools suggested:
• Counselling • Testimonies from students • Brainstorming	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Videos • Interactive presentations

Infrastructure needed (estimation):

- Room that can accommodate up to 30 students/staff
- Promotional materials about the university extra academic Service
- Projector
- Photocopier

Accompanying training material:

- Information package about the university extra academic offers and counselling service.

Module 3

Assistive Technology: An Introduction

Module duration: 2 hours

Trainees addressed:
Training will take place in the participating universities and will address 30 disabled students.

Brief description:

This module will provide a short overview of the use of Assistive Technology that is provided by partner institutions and which is accessible to students beyond their institutions. It will focus on the use of Moodle in the institution, and this can be used to support students using Assistive Technology. It will also address the use of social media and the broader accessibility of the Internet.

At this point, students will not have undertaken training to use Assistive Technology (to be undertaken in modules 4, 5 and 6), so the delivery of this module should require minimal use of Assistive Technology. Alternately, trainers may prefer to adapt the content of this module and integrate it into later training sessions depending upon the needs of their students and Assistive Technologies available to them.

Learning Outcomes:

During Assistive Technology: An Introduction, students will:

- Learn which Assistive Technologies are available to them at the institution and which they will be undergoing training for in Modules 4, 5 and 6
- Learn how to find, access and use their institutional Moodle using Assistive Technology
- Learn where to look for accessibility information on social media, and who to go to for help in their institution

Content:

Content for this module should include:

- A general overview of the Assistive Technologies available at the institution and those which students will be undergoing training for in modules 4, 5 and 6
- An introduction to the use of the institutional Moodle and how this can be accessed using a variety of Assistive Technologies. Students should also be advised of who to contact on their courses about the accessibility of Moodle
- Information on how to find accessibility information for popular social media websites, e.g:
  - Advert-free youtube, which is easy for screenreaders or students with limited visibility to use: icant.co.uk/easy-youtube/
  - Accessibility information for Facebook: www.facebook.com/help/141636465971794
  - More accessible version of Twitter (not provided by Twitter): www.easychirp.com

This information may need to be adapted according to student preferences in partner countries.

Learning Methodology:

Trainers delivering this module should be aware of the fact that students have not yet been trained in the use of Assistive Technology and should keep its use to a minimum. However, this module is also an opportunity to assess students' current understandings and expectations of Assistive Technology, in order to inform modules 4, 5 and 6.

Teaching strategies suggested:	Learning tools suggested:
• Tutorial • Discussion with students • Assessment of students' current understandings and expectations of Assistive Technology, Moodle, and social media	• Videos • Power point • Simulations

Infrastructure needed (estimation):

- Computer room
- Projector
- Photocopier

Module 4

Practical Assisted Technology: Tools for Facilitating ICT Access Session 1

Module duration: 2 hours

Trainees addressed:
Training will take place in the participating universities and will address 30 Disabled Students in total.

Brief description:

This module is the first of three practical AT sessions to be delivered during the SWING trainings. It focuses on **“Tools for Facilitating ICT Access”**, that is speech recognition tools, special keyboards, trackballs, joysticks, mouse and buttons.

All three SWING practical AT sessions aim at:

- The successful integration of Assistive Technology in participating universities so that students with disabilities have equal access to the learning process
- Providing effective and appropriate learning activities, based on collaborative learning techniques, that will train disabled students on how to use AT tools and create mini-projects in authentic learning practices
- Giving 30 disabled students the opportunity to have an in-depth, hands-on experience of AT tools.

Learning Outcomes:

During Practical AT Session 1 students will:

- Discover what assistive technology is and how it works in practice
- Comprehend the significance of assistive technology tools for their learning process
- Be able to use Special Keyboards, Trackballs, Joysticks and Buttons in order to use a computer and surf on the web
- Be able to use “Speech Recognition” Tools in order to edit a report, navigate the web, write properly and transcript the voice of others
- Acquire collaborative skills that will help them collaborate, create learning products and share their knowledge with their peers

Content:

Practical AT Session 1 will introduce disabled students to different tools for facilitating ICT access:

1) Speech recognition tools

2) Special keyboards, trackballs

3) Joysticks

4) Mouse and

5) Buttons

It will focus on accessing learning resources in the web and/or university moodle.

Learning Methodology:

All three SWING Practical AT Sessions will provide experiential learning. In this context the following teaching strategies and tools can be applied:

Teaching strategies suggested:	Learning tools suggested:
• Role playing • Scaffolding • Think aloud strategy • Think pair share • Jigsaw • Brainstorming	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Simulations • Games • Itunes • Videos • Interactive presentations

During Practical AT session 1 a collaborative learning strategy can be used. Students can be divided in pairs or groups for accessing a Computer and searching for learning resources. Based on hand-outs provided by facilitators, students can undertake practical activities using speech recognition tools, special keyboards, trackballs, joysticks, mouse and buttons.

Collaboration is the social process that supports learners' development of capabilities in which they learn to do without assistance things that they could initially do only with assistance. By collaborating, students can learn to approach and solve new problems so that they develop the capability to solve problems that do not exist at the moment of learning. Rather than simply absorbing material, learning rules, and displaying the material and rules on demand, students learn to develop capabilities that they first experience in assisted or collaborative learning situations.

Infrastructure needed (estimation):

- Computer room that can accommodate up to 30 students/staff
- Projector
- Assistive technology software
- Photocopier

Accompanying training material:

- Teaching material developed by SWING project (D3.2)

Module 5

Practical Assisted Technology: Reading through Screen Readers & Magnifiers
Session 2

Module duration: 2 hours

Trainees addressed:
Training will take place in the participating universities and will address 30 Disabled Students in total.

Brief description:

This module is the second one of three practical AT sessions to be delivered during the SWING trainings. It focuses on **"Reading through Screen Readers and Magnifiers"**.
A screen reader is an ICT application that attempts to identify and interpret what is being displayed on the computer screen. This interpretation is then represented to the user with text---to---speech, sound icons, or a braille output (see Module 6). Screen readers are a form of assistive technology (AT) potentially useful to people who are blind, visually impaired, or learning disabled, often in combination with other AT such as screen magnifiers.

All three SWING practical AT sessions aim at:

- The successful integration of Assistive Technology in participating universities so that students with disabilities have equal access to the learning process
- Providing effective and appropriate learning activities, based on collaborative learning techniques, that will train disabled students on how to use AT tools and create mini-projects in authentic learning practices
- Giving 30 disabled students the opportunity to have an in-depth, hands-on experience of AT tools

Learning Outcomes:

- Discover what assistive technology is and how it works in practice
- Comprehend the significance of assistive technology tools for their learning process
- Be able to use Screen Readers and Magnifiers
- Acquire collaborative skills that will help them collaborate, create learning products and share their knowledge with their peers

Content:

Practical AT Session 2 will introduce disabled students to different tools for reading so that they can read printed and electronic material and look at photographs and illustrations:

1) Screen readers and

2) Magnifiers

Learning Methodology:

All three SWING Practical AT Sessions will provide experiential learning. In this context the following teaching strategies and tools can be applied:

Teaching strategies suggested:	Learning tools suggested:
• Role playing • Scaffolding • Think aloud strategy • Think pair share • Jigsaw • Brainstorming	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Simulations • Games • Itunes • Videos • Interactive presentations

During Practical AT session 2 a collaborative learning strategy can be used. Students can be divided in pairs or groups per disability for using screen readers and magnifiers. Then they can brainstorm on their experience.

Collaboration is the social process that supports learners' development of capabilities in which they learn to do without assistance things that they could initially do only with assistance. By collaborating, students can learn to approach and solve new problems so that they develop the capability to solve problems that do not exist at the moment of learning. Rather than simply absorbing material, learning rules, and displaying the material and rules on demand, students learn to develop capabilities that they first experience in assisted or collaborative learning situations.

Infrastructure needed (estimation):

- Computer room that can accommodate up to 30 students/staff
- Projector
- Assistive technology software
- Photocopier

Accompanying training material:

- Teaching material developed by SWING project (D3.2)

Module 6

Practical Assisted Technology: Speech, Text and Braille Assisted Technology
Session 3

Module duration: 2 hours

Trainees addressed:
Training will take place in the participating universities and will address 30 Disabled Students in total.

Brief description:

This module is the final one of three practical AT sessions to be delivered during the SWING trainings. It focuses on **"Speech, Text and Braille AT"**. Text in electronic form is a key and increasingly important intermediary in allowing access to information by visually impaired and blind people using assistive technology. Once text is in electronic form it can be transmitted to distant recipients, read aloud using synthetic speech, converted to Braille media and displayed in large print for visually impaired readers. The AT technology used for this purpose is speech-to-text (STT), text-to-speech (TTS), Braille-to-text (BTT) and text-to Braille (TTB).

All three SWING practical AT sessions aim at:

- The successful integration of Assistive Technology in participating universities so that students with disabilities have equal access to the learning process
- Providing effective and appropriate learning activities, based on collaborative learning techniques, that will train disabled students on how to use AT tools and create mini-projects in authentic learning practices
- Giving 30 disabled students the opportunity to have an in-depth, hands-on experience of AT tools.

Learning Outcomes:

- Discover what assistive technology is and how it works in practice
- Comprehend the significance of assistive technology tools for their learning process
- Be able to use speech-to-text (STT), text-to-speech (TTS), Braille-to-text (BTT) and text-to Braille (TTB) technologies
- Acquire collaborative skills that will help them collaborate, create learning products and share their knowledge with their peers

Content:

Practical AT Session 3 will introduce students to speech, text and braille conversion technology. It will focus on students producing their own documents and essays.

Learning Methodology:

All three SWING Practical AT Sessions will provide experiential learning. In this context the following teaching strategies and tools can be applied:

Teaching strategies suggested:	Learning tools suggested:
• Role playing • Scaffolding • Think aloud strategy • Think pair share • Jigsaw • Brainstorming	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Simulations • Games • I tunes • Videos • Interactive presentations

During Practical AT session 3 a collaborative learning strategy can be used. Students can be divided in groups that will produce short essays or other written material that will then be presented and assessed by all groups (peer assessment). In this way the facilitator can implement scaffolding activities for the use of the AT tools.

Collaboration is the social process that supports learners' development of capabilities in which they learn to do without assistance things that they could initially do only with assistance. By collaborating, students can learn to approach and solve new problems so that they develop the capability to solve problems that do not exist at the moment of learning. Rather than simply absorbing material, learning rules, and displaying the material and rules on demand, students learn to develop capabilities that they first experience in assisted or collaborative learning situations.

Infrastructure needed (estimation):

- Computer room that can accommodate up to 30 students/staff
- Projector
- Assistive technology software
- Photocopier

Accompanying training material:

- Teaching material developed by SWING project (D3.2)

Module 7

Key Employability Competency Awareness and Self-awareness

Module duration: 6 hours learning (approx)

Trainees addressed:

1) Career advisors and University staff (CAUs)

2) Accessibility Centre staff (ACs)

3) 30 Disabled Students (STU)

Brief description of module content:

- Development of knowledge and self-awareness relating to some key personal skills that will help students in the graduate recruitment market. The module includes three workshops:
- Developing Effective Communication Skills (indicative content: body language/ development of a personal pitch etc…)
- Assertive Communication (indicative content: relevant theory and practical exercises to help students to identify the benefits of assertive communication in the workplace and in the graduate jobs market)
- Personality Traits and Organisational Cultures (indicative content: relevant personality trait theory and practical exercises including a SWOT).

Learning Outcomes:

- Have further understood and developed the skills required to communicate assertively
- Have learnt about effective self-presentation skills and have an opportunity to practice public speaking
- Have begun to understand how developing an understanding of personality and personality models can help in your graduate recruitment search

Content:

Available in Module 7 – CU Moodle – LWX101

Learning Methodology: Learning will be based on the core material produced by Coventry University and extended to suit local provision. The learning approach is based on active and cooperative learning techniques that will give emphasis on hands-on activities.

Teaching strategies and tools:

Teaching strategies suggested:	Learning tools suggested:
• Role playing • Scaffolding • Think aloud strategy • Think pair share • Jigsaw • Brainstorming	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Simulations • Games • I tunes • Videos • Interactive presentations

Infrastructure needed (estimation):

- Computer room that can accommodate up to 30 students/staff
- Projector
- Assistive technology software
- Photocopier

Accompanying training material:

- The training programme, the modules description and a brief outline of the aims and activities of the SWING project should be **available in local language before the training begins.**

Module 8

Practical Employment Skills

Module duration: 4 hours learning (approx)

Trainees addressed:

1) Career advisors and University staff (CAUs)

2) Accessibility Centre staff (ACs)

3) 30 Disabled Students (STU)

Brief description of module content:

- CVs and Applications (indicative content: advice on how to create a good CV and how to make strong graduate applications).
- Interview Techniques (indicative content: advice on how to behave at interview and practical opportunities to practice interview technique).

Learning Outcomes:

- Produce a high quality CV, targeted to the job you are applying for
- Get an understanding of the types of questions on application forms and how to answer them
- Distinguish between positive and negative interview behaviours
- Identify the components that make up a comprehensive interview answer (CARL)
- Describe the preparation and research that will improve interview performance

Content:

Available in Module 8 – CU Moodle – LWX101

Learning Methodology: Learning will be based on the core material produced by Coventry University and extended to suit local provision. The learning approach is based on active and cooperative learning techniques that will give emphasis on hands-on activities.

Teaching strategies and tools:

Teaching strategies suggested:	Learning tools suggested:
• Role playing • Scaffolding • Think aloud strategy • Think pair share • Jigsaw • Brainstorming	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Simulations • Games • I tunes • Videos • Interactive presentations

Infrastructure needed (estimation):

- Computer room that can accommodate up to 30 students/staff
- Projector
- Assistive technology software
- Photocopier

Accompanying training material:

- The training programme, the modules description and a brief outline of the aims and activities of the SWING project should be **available in local languages before the training begins.**

Module 9

Develop Global Awareness

Module duration: 4 hours learning (approx)

Trainees addressed:

1) Career advisors and University staff (CAUs)

2) Accessibility Centre staff (ACs)

3) 30 Disabled Students (STU)

Brief description of module content:

- **Module 9 - Workshop 1:** Become a Global Graduate. This session will help students to explore issues relating to the development of global graduate capabilities.
- **Module 9 - Workshop 2:** Developing your Online Profile. This session will help students to explore why an online presence is so useful for graduate recruitment. It will also provide opportunities to reflect on their current online profiles and provide practical time to improve them.

Learning Outcomes:

- Students will be able to reflect on what it means to be a global graduate and identify how this is relevant to graduate recruitment
- Students will be able to identify the employability benefits deriving from various forms of international engagement
- Students will develop their awareness of how and why employers seek out candidate online profiles.
- Students will learn how to develop a positive digital footprint.

Content:

Available in Module 9 – CU Moodle – LWX101

Learning Methodology: Learning will be based on the core material produced by Coventry University and extended to suit local provision. The learning approach is based on active and cooperative learning techniques that will give emphasis on hands-on activities.

Teaching strategies and tools:

Teaching strategies suggested:	Learning tools suggested:
• Role playing • Scaffolding • Think aloud strategy • Think pair share • Jigsaw • Brainstorming	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Simulations • Games • I tunes • Videos • Interactive presentations

Infrastructure needed (estimation):

- Computer room that can accommodate up to 30 students/staff
- Projector
- Assistive technology software
- Photocopier

Accompanying training material:

- The training programme, the modules description and a brief outline of the aims and activities of the SWING project should be **available in local languages before the training begins.**

Module 10

Post Graduate Education Opportunities

Module duration: 4 hours

Trainees addressed:
Training will take place in participating universities and will address Disabled Students finishing an undergraduate programme at university.

Learning Outcomes:

- Know the post-graduate opportunities and finding sources
- Be able to apply for post-graduates studies
- Make informed based decisions about post-graduates careers

Brief description:

This module closes the Training Seminars to be delivered during the SWING trainings it will ideally take place near in the middle of the academic year and will have the format of an Information Session. It focuses on **"Post-graduate education opportunities"** within the partners' universities and it will serve as academic counselling for future post-graduate students. The Module will look into post-graduates opportunities at home and abroad.

The aim of the first Module is:

- To inform about students' post-graduate opportunities
- To present the post-graduate opportunities abroad
- To inform about the findings sources
- To boost self-confidence from students to start an application procedure

Content:

The content of Module 10 will focus on the following aspects:

- Introduction about choosing to study post-graduates degrees and the different learning opportunities and format (Master, PhD, etc…)
- Information on how to choose a postgraduate course, a University, country and applying for a course while ensuring the maximum chances of success
- Exploring the funding opportunities: University, National, Regional or European
- Providing further information as organisations, websites and useful contacts

Learning Methodology:

To conduct this Module support should be sought from the international mobility's service and postgraduates' studies department.

The first 2 hours should be in the form of dynamic presentations about the opportunities for international mobility and post-graduates studies. During the following 2 hours students can conduct role play about topics related to the Module such as undergoing a selection interview, explaining the motivation behind their candidature, as it will help motivate students to start the application procedure. Also testimonies from former students can be presented during the Module 10.

The following teaching strategies and tools can be applied:

Teaching strategies suggested:	Learning tools suggested:
• Testimonies from students • Role Playing	• Graphics, diagrams, pictures • Infographics • Study guides, course overview, course accompanying material • Videos • Interactive presentations

Infrastructure needed (estimation):

- Room that can accommodate up to 15 students/staff
- Promotional Materials about learning opportunities abroad and post-graduates studies
- Projector
- Photocopier

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