



ENTELIS+ Glossary of terms

Authors: Susanna Laurin/Jon Switters (Funka), Katerina Mavrou (EUC), Valentina Fiordelmundo (AIAS), Sophia Kargouni (Margarita), Aashish Verma (JKU). Based on the original ENTELIS Taxonomy and Glossary written by Katerina Mavrou/Maria Meletiou-Mavrotheris (EUC), Evert-Jan Hoogerwerf (AIAS), Merja Sallinen/Anne Karke (SAMK).

The ENTELIS+ project is co-funded by the European Commission under the ERASMUS+ programme: Key Action 3 Support for Policy Reform. This document reflects the views only of the author, and the European Commission cannot be held responsible for any use which may be made of the information contained therein. The contents of this document are confidential. Reproduction or forwarding without written approval from the ENTELIS+ Consortium is forbidden.



Table of Contents

Table of Contents	2
1. Introduction	3
1.1 The need for a glossary of common project concepts.....	3
1.2 Navigating the glossary.....	3
2. Taxonomy	5
2.1 Areas of education - In which are of education does the learning take place?.....	5
2.2 Setting of learning – In which physical/virtual environment does the learning take place?.....	7
2.3 Reasons for learning – Why is the learner motivated to learn?	8
2.4 Format of learning.....	10
2.5 Expected outcomes of learning	12
2.6 Assessment of the learned.....	14
2.7 Formal output of learning	17
3. Controlled vocabulary	18
3.1 Education	18
3.2 Accessibility	27
3.3 Information and Communication Technology (ICT)	40
4. Glossary of Project Concepts	48
4.1 Terms in alphabetical order.....	48



1. Introduction

1.1 The need for a glossary of common project concepts

As part of the ENTELIS+ project Work Package 2: Knowledge Brokering and training, Task 2.1 focuses on generating a common vocabulary with definitions of key concepts related to the key themes of the project, such as inclusive education and accessibility. This collection of terms has resulted in the creation of the ENTELIS+ glossary that is featured in this document.

The ENTELIS+ glossary of project terms builds on the Taxonomy and Glossary that was developed for the ENTELIS project that was funded by the European commission under the Lifelong Learning programme. The ENTELIS project taxonomy and Glossary focussed largely on Information and Communication Technology (ICT), learning events and processes in various educational settings. Meanwhile, the ENTELIS+ glossary will build on this approach, providing a stronger focus on accessibility-related terms covering topics such as practices and procedures, tools, design methodologies, policies and frameworks and assistive technology (AT).

The main aim of this glossary is to establish a common vocabulary amongst project consortium partners that will provide a solid technical base for the design and development of ENTELIS+ training materials in T2.2. It will also provide additional reference material to accompany the other training materials that are produced. The glossary includes definitions that have been identified during the state-of-the-art research carried out in WP1 and the consortium's own definitions on specific subjects. All references to 3rd party sources have been clearly mentioned below the definition itself. This document may be updated during the project if new terms or concepts arise in the execution of Work Packages 2 and 3.

1.2 Navigating the glossary

The entries in the glossary are presented in different ways:

1. The first part of the glossary has taken the form of a taxonomy based on the classification of descriptors in specific domains: areas of education, setting of learning, reasons for learning, format of learning, expected outcomes of

learning, assessment of the learned, formal output of learning. This section comes directly from the ENTELIS project.

2. The second part of the glossary is a controlled vocabulary presenting key terms and that could be addressed in the ENTELIS+ training material, including: education, lifelong learning, design of curriculum and learning programmes, people involved in the learning process, accessibility, policies and frameworks, methodologies and practices, ICT, Assistive Technology, content and user experience. This section contains some terms from the ENTELIS project combined with new terms directly related to the ENTELIS+ project.

In the last part of the glossary all terms are listed in an alphabetical list of entries.



2. Taxonomy

As was defined in the original ENTELIS taxonomy and glossary, Taxonomy is a classification of concepts.

An important property of taxonomy is whether its categories are mutually exclusive or whether multiple categories are allowed to characterize the phenomenon of interest. Taxonomy may contain mutually exclusive categories, as well as non-mutually exclusive categories. An example of mutually exclusive categories is the distinction between formal and informal education. An example of non-mutually exclusive categories is the distinction between face-to-face learning and collaborative learning.

To classify and describe learning events many variables can be used, some of which contain mutually exclusive categories, while others contain non-mutually exclusive categories.

2.1 Areas of education - In which are of education does the learning take place?

2.1.1 Formal education

Formal education

Institutionalized school systems of teaching and learning based on a curriculum with predetermined purposes. Official school systems.

Early childhood/Pre-school education

Educational programmes and strategies geared toward young children up until the age of about eight, with a particular focus in the period before the commencement of compulsory education at primary school.

Primary education

Compulsory educational programmes following pre-school/early childhood education, aiming at basic literacy of all levels and aspects. Curricula of primary



education include objectives, content and methodologies for establishing foundations for all scientific fields.

Secondary education

Educational programmes usually in compulsory education following primary education. Curricula of secondary education may have academic or vocational content and objectives.

Tertiary Education/Higher Education

The educational level following the completion of secondary education, for the acquisition of an academic or professional degree, including universities and other institutions that provide qualifications for higher learning degrees.

Graduate/Postgraduate

Academic or professional programs following undergraduate education.

Undergraduate

Academic programs up to the level of a bachelor's degree, following secondary education.

2.1.2 Non-formal education

Non-Formal education

Organized educational activities that take place outside the formal educational system.

Adult Education

A non-formal learning situation where adults engage in systematic learning activities for acquiring skills, knowledge, attitudes or values (in this case relevant to digital competences). However, it should be noted that formal education (such as tertiary education) also offers programmes for adult education.

2.1.3 Informal education/Learning

Informal education/learning

Learning experiences outside formal or non-formal education settings.



2.2 Setting of learning – In which physical/virtual environment does the learning take place?

2.2.1 Educational institutions

Educational institutions

An educational organization that offers organized learning courses and activities.

Mainstream school

A general formal education school for all learners, which integrates learners with disabilities.

Inclusive school

A formal education school based on the philosophy of differentiation and equality of education and designed to accommodate all learners' needs regardless of disability, language, gender, religion or ethnicity, by providing accessibility in physical and learning environment. (Booth & Ainscow, 1998; Symeonidou & Phtiaka, 2014).

Special School

A formal education school only for learners with disabilities. A special school may be specific to a certain type of disability (e.g. targeting learners with visual disabilities) or not. It is connected to the philosophy of segregating education in contrast to inclusive education. Booth & Ainscow, 1998; Symeonidou & Phtiaka, 2014).

University

A formal tertiary (higher) educational school that offers structured educational programmes for the acquisition of an academic degree and where academic research is conducted.

Vocational Training Centre

An educational institution that offers programmes to prepare learners for specific occupations in industry, crafts, technical careers or other professional positions in various fields, traditionally non-academic.



2.2.2 Other

Day care centre

An institution that provides care, rehabilitation and other facilities for people with disabilities of all ages.

Home-based learning

Structured and organised learning activities that take place in the home environment.

Assistive Technology Centre

An institution that supports the development of assistive technology learning, through various activities of education, assessment and implementation of AT for people with disabilities of all ages, families and professionals.

Community

A social unit of any size where persons with disabilities of all ages may belong and share values and experiences. It can be a face-to-face (e.g. village, neighbourhood, club, region) or a remote community (e.g. digital community, social network).

Virtual Learning Environment

A learning environment based on the web, which is “designed to act as a focus for students’ learning activities and their management and facilitation, along with the provision of content and resources required to help make the activities successful.”

Source: JISC, Definitions: Technology enhanced learning environments areas (2008)

2.3 Reasons for learning – Why is the learner motivated to learn?

2.3.1 Personal factors

Personal/Intrinsic motivation

Reasons to learn which are driven by an interest or enjoyment in learning, and which exist within the individual.



Personal goals

The aims set by an individual as desired results of effort and actions.

Personal interest

An individual's feeling to want to learn and know about a subject.

Personal success

An individual's belief to accomplish personal goals.

Career

Opportunities to progress through an occupation and ongoing professional development.

Self-fulfilment

The fulfilment of an individual's hopes and ambitions.

2.3.2 External factors

External/Extrinsic motivation

Reasons to learn which are driven or rely on external factors and pressures or a desire for reward.

Reward

Anything (e.g. object, certification, grade, etc) provided in recognition of the completion of a course, or an achievement, or effort.

Expectations from others

Imagined expectations or real expectations imposed on the learner by other people in his/her life (e.g. parents, friends etc.)

Incentives

Any encouragement or motivation - external or internal – for learning, such as acknowledgment.



2.4 Format of learning

2.4.1 How the learning process is organised

Blended Learning

A learning approach that combines face-to-face and computer mediated learning and instruction (Duhaney, 2004). It is also referred to as hybrid learning, and it is a mixture of real time and space and virtual (online) setting that involves both synchronous and asynchronous learning.

Collaborative Learning

Learning environments in which small groups of learners work together, in a joint commitment to a shared goal (Littleton and Häkkinen, 1999). It is about mutual engagement in a single unified task with shared conceptions of a problem (Roschelle & Teasley, 1995), taking into consideration the social effects of working together. Collaborative learning represents a philosophy of interaction whereby learners are given more power over their own learning (McWhaw et al., 2003) and they elaborate their thoughts as part of the communication (Saab et al., 2005).

Distance Learning

Institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors (Simonson, 2012). Learners are not physically present in a traditional setting/classroom.

E-Learning

The use of various ICT tools and other electronic means for learning. It includes all kinds of educational technology that electronically support the process of learning and instruction. It also includes other concepts such as technology-enhanced learning (TEL), computer-based training (CBT), internet-based training (IBT), web-based training (WBT), online education, virtual education, distance education, or digital educational collaboration (Sun et al, 2008).



Face-to-face Learning

Any learning activity in which all participants, i.e. learners, instructors, facilitators, peers, meet together in the same place at the same time. It may involve the use of technology, but no remote communication technologies are required.

Learning by doing

The process of learning from direct experience (e.g. by using technology for other functions, following tutorials in software, etc).

Mobile Learning

Any activity that allows individuals to be more productive when consuming, interacting with, or creating information, mediated through a compact digital portable device that the individual carries on a regular basis (eLearning Guild, 2014). It involves the use of mobile technology alone or in combination with other ICT to enable learning anytime and anywhere (UNESCO, 2014), in formal, non-formal and informal learning environments.

Open Learning

An approach to learning which focuses on the needs of the learners as perceived by the learners (Coffey, 1988), and which gives them flexibility and choice over what, when, at what pace, where, and how they learn. Open learning activities, which often include aspects of e-learning, either enhance learning opportunities within formal education systems or broaden learning opportunities beyond formal education systems.

Peer-tutoring

Learners receive support from peers. A representation of a microcosm of the traditional classroom (Gillies & Ashman, 2003); i.e. an unequal relationship between the tutor (teacher) and the tutee (learner), with high focus on curriculum content (Topping, 2005).

Self-directed Learning

A process by which learners take the initiative to pursue a learning experience and the responsibility to complete their learning, without necessarily excluding the involvement of other individuals. According to Knowles' (1975) general definition, in



self-directed learning the learners organize their own learning by recognising their learning needs, setting learning objectives, identifying learning materials and resources, implementing learning strategies and evaluating their own learning outcomes.

2.5 Expected outcomes of learning

2.5.1 Direct learning outcomes

Awareness

Knowledge, information and concern about the necessity of reinforcing the digital competences of people with disabilities of all ages, in order to reduce the digital divide.

Knowledge

Facts, information, and skills acquired by a person through experience or education.

Learning skills

The ability to search, construct and critically process knowledge and information, and develop skills and attitudes based on own interests and needs.

ICT-AT competence

Skills and knowledge for using ICT-AT successfully.

ICT-AT competency

The demonstration of the ability to perform a specific task or achieve specified criteria for ICT-AT.

ICT-AT skills

The ability to use Assistive Technology based on ICT (ICT-AT) to successfully perform various tasks with digital technology. These may include:

Computer control

The ability to work efficiently and effectively using a computer. It requires familiarity with and understanding of the use of a computer and basic IT concepts (e.g. components of a PC and Operating Systems, files and file management,



classifications to manage electronic files and folders, understanding of the common types of software, etc.)

Internet use

The ability to effectively use the internet. It requires essential internet skills such as efficient use of search engines to find information, use of e-mail to send and receive messages, use of the internet for online transactions (e.g. online banking, online purchases), etc. It also necessitates familiarity with safety considerations when using internet tools, and with internet ethics.

Social media use

The ability to use social media sites such as Facebook, Twitter, and Myspace to communicate with others, and to create and sustain relationships with others (Boyd & Ellison, 2007).

2.5.2 Indirect learning outcomes

Autonomy

the perceived ability to control, cope with and make personal decisions about one's life on a day-to-day basis, according one's own rules and preferences" (Malanowski, Özcivele & Cabrera 2008).

Digital inclusion

The development policy for the reduction of the digital divide and the promotion of digital literacy. It includes the design and implementation of strategies for education, services and opportunities provision in order to respond to challenges of digitally included persons (Jaeger et al, 2014).

Employment opportunities

Prospects and chances provided to people with disabilities to obtain a work position in any professional, academic, scientific or other field.

Further learning opportunities

Prospects and chances provided to people with disabilities of all ages to get involved in formal or non-formal learning activities.



Quality of life

The individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (WHO, 2014).

Self-esteem

A person's overall sense of self-worth or personal value.

Social participation

A person's involvement and interaction with others

2.6 Assessment of the learned

2.6.1 Tools for Assessment

Assessment Rubric

A scaled scoring or grading guide, which provides a set of criteria and standards for judging performance and distinguishing between different levels of achievement.

Criterion-Referenced Assessment

An assessment where an individual's performance is compared to a specific pre-determined learning objective or performance (and not to the performance of other students).

Direct Measures of Learning

Processes used to provide direct evidence, in the form of student products or performances, of the actual learning that has occurred relating to a specific content or skill (e.g. objective tests, essays, portfolios, performances, projects, reflective essays, computer programs, and observations etc.)

Portfolio/Dossier Assessment

A type of performance assessment in which learners' work is systematically collected over a period of time and is carefully reviewed and assessed for evidence of progress, effort, and achievement with respect to established learning outcomes and standards. In addition to examples of their work (e.g. samples of projects,



exams, papers, presentations, videos of speeches and performances, reflective journals, etc.), most portfolios include reflective statements prepared by learners.

Formal tests

Tests in which the directions of administration are clear cut and allow little, if any, discretion on the part of the teacher (e.g. university entrance examinations). Formal tests are scored in a carefully prescribed manner.

Standardized assessment

An assessment designed to assist schools or other academic institutions in sorting out student performance along a continuum of ability and/or achievement. It is administered and scored in a predetermined, standard manner, so that the assessment results can be used to compare individuals or groups and highlight differences in achievement levels.

Summative assessment

Accountability-oriented assessment, usually high-stakes, which is employed at the completion of a particular sequence of learning activities to provide a macro view of teaching and learning. It includes marks or grades against an expected standard that sum-up or summarise the performance for individual learners, and/or statistics about the program as a whole for internal or external accountability purposes.

2.6.2 Format of Assessment

Diagnostic assessment/Pre-assessment

Assessment that occurs at the beginning of a unit of study, and which deliberately seeks to identify where learners' prior, or current, understandings and competencies are, in order to inform instruction accordingly.

Formative assessment

Ongoing, improvement-oriented assessment which is interwoven with the learning process, and which is intended to provide regular feedback that can be used to guide improvements in teaching and learning. Assessment activities are usually low-stakes or no-stakes.



Performance Assessment

The process of using student activities or products, as opposed to tests or surveys, to evaluate students' knowledge, skills, and development. In performance assessment learners either do something in front of an audience (e.g. the whole class) or make a product (such as a piece of artwork, a device that solves a problem, a working model, etc.).

Programme Level Assessment

Assessment interested in the cumulative effects of the education process; it does not focus on an individual learner, but rather on what and how an academic programme is contributing to the learning, growth and development of students as a group.

Self-Assessment

Assessment undertaken by the student herself or himself, on her or his own criteria, or using a shared rubric (e.g. use of a reflective journal).

2.6.3 Other

Evaluation

A value judgment about quality. When used in reference to educational settings, evaluation means to measure, compare, and judge the quality of student work, schools, or a specific educational programme.

Feedback

Information that the student gives the teacher or the teacher gives the student about learning processes and progress towards learning goals. Feedback can help students shape their learning approaches, and help educators shape their teaching programmes.



2.7 Formal output of learning

2.7.1 What will certify the learning process?

Award

A mark of recognition (e.g. a prize, an official document) provided to individuals in honour of achievement.

Certificate of attendance

A document provided to individuals that have attended a particular course, lecture or seminar which officially confirms the attendance of the course.

Certificate

A document provided to individuals that have completed a particular course which officially confirms participation in the course and completion of the requirements.

Degree

A diploma awarded in recognition of satisfactory completion of tertiary education programmes, academic or professional, in undergraduate or (post)graduate studies.

Diploma

A certificate awarded by an educational institution as evidence of an individual's successful completion of a course of study.



3. Controlled vocabulary

3.1 Education

3.1.1 General

Assistive Technology (AT) Learning

The acquisition of knowledge and skills, and the development of attitudes or values for the use of assistive technology, through practicing, studying, teaching and/or experiencing, in every aspect of life.

Assistive Technology Learning

The acquisition of knowledge and skills, and the development of attitudes or values about digital competences (i.e. the use Assistive Technology based on ICT – ICT-AT) by people with disabilities of all ages, through practicing, studying, teaching and/or experiencing, in every aspect of life.

Assistive Technology for learning

The use of ICT-AT by people with disabilities of all ages in order to receive, construct and process knowledge and develop skills and attitudes based on their individual needs and abilities.

Digital Divide

A term that refers to the gaps in access to information and communication technology (ICT) - threatens the ICT "have-nots", whether individuals, groups or entire countries. Education and learning lie at the heart of these issues and their solutions. The gaps that define the "learning digital divide" are thus as important as the more obvious gaps in access to the technology itself. Source: OECD.

Digital Literacy

The acquisition of knowledge and skills, and the development of attitudes or values for effectively choosing and using ICT and ICT-AT. It is a blend of information, communication and technology literacy, including the basic knowledge and skills for



using technology, acknowledging the possibilities it offers, and developing critical thinking for uses and resources.

Digital Skills

A range of abilities to use digital devices, communication applications, and networks to access and manage information. Source: [UNESCO: Digital skills critical for jobs and social inclusion](#).

Gamification

The application of typical elements of game playing (e.g. point scoring, competition with others, rules of play) to other areas of activity, typically as an online marketing technique to encourage engagement with a product or service. Source: [Oxford University Press: Definition of Gamification](#).

Inclusive education

Young people - no matter who they are - can learn together in the same school. This entails reaching out to all learners and removing all barriers that could limit participation and achievement. Disability is one of the main causes of exclusion; however, there are also other social, institutional, physical, and attitudinal barriers to inclusive education. Source: [UNESCO: Inclusive education - Planning school for all](#).

Inclusive pedagogy

An approach to teaching and learning that attends to individual differences between pupils but avoids the marginalisation that can occur when pedagogical responses are designed only with individual needs in mind. Instead of providing something different or additional for children who experience difficulties in their learning, inclusive pedagogy seeks to extend what is ordinarily available to everybody. Source: [Florian, L. and Black-Hawkins, K., 2011. Exploring Inclusive Pedagogy. British Educational Research Journal, 37\(5\), pp. 813-828](#).

Information and Communication Technology (ICT) Learning

The acquisition of knowledge and skills, and the development of attitudes or values for the use of ICT, through practicing, studying, teaching and/or experiencing, in every aspect of life.

Learning with ICT-AT

The acquisition of knowledge and skills, and the development of attitudes or values, through using digital technologies (ICT-AT) by people with disabilities of all ages.

3.1.2 Lifelong learning

All this section has been taken from the ENTELIS project taxonomy and glossary.

Continuing Professional Development (CPD)

Learning activities through which professionals maintain and enhance their knowledge and skills related to their profession. CPD necessitates commitment of professionals to lifelong learning, i.e. to the continued updating of their skills and knowledge in order to remain professionally competent and achieve their true potential. It can combine different methodologies to learning (e. g training workshops, conferences, e-learning programs, etc.) all focused for an individual to improve and have effective professional development.

Digital/ Information society

The modern society where new technologies (ICT) are utilized in every spectrum of social, political and economical sectors.

Initial education

Formal education of individuals before their first entrance to the labour market.

Lifelong learning

According to the European Commission in their publication "Making a European area of lifelong learning a reality", "Lifelong learning is all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment-related perspective." (p.10). Lifelong learning crosses sectors, promotes learning beyond traditional schooling and throughout adult life. It is flexible, diverse and available at different times and in different places.



Vocational education

Educational programmes that prepare learners for specific occupations in industry, crafts, technical careers or other professional positions in various fields, traditionally non-academic. Curricula of vocational education include learning objectives and strategies for the development of expertise in particular skills and techniques.

Vocational in-service training

Educational programmes delivered during an individual's employment, often organised by the employer, which provide learners with additional skills and expertise specific to their occupation.

3.1.3 Design of curriculum and learning programmes

This entire section has been taken from the ENTELIS project taxonomy and glossary.

Accreditation

A process through which official recognition of meeting all formal official requirements of academic excellence, curriculum, facilities, etc. is presented.

Assessment

A general term that describes the process of collecting, analysing, and interpreting information in order to measure the extent of achieving the intended outcomes for student learning, program effectiveness, institutional effectiveness, etc.

Assessment as learning

Assessment as learning occurs when learners are actively engaged in the assessment process; by reflecting on and monitoring their own progress to inform their future learning goals.

Assessment for learning

Assessment for learning involves the employment of formal and informal assessment activities at the beginning of instruction (diagnostic assessment), and throughout the teaching and learning process (formative assessment) in order to obtain evidence about students' knowledge, understanding and skills and to inform the planning of future teaching learning



Assessment of learning

The process of collecting, analyzing and interpreting evidence for the purpose of making judgments about a student's level of achievement in regards to specific learning expectations and standards. A synonym for "summative assessment", it usually occurs at defined key points during a unit of work or at the end of a unit, term or semester, and may be used to rank or grade students.

Certification

Formal procedure by which an accredited or authorized person or agency assesses, in accordance with established requirements or standards, and verifies (through the issuing of an official certificate) the attributes, characteristics, quality, qualification, or status of individuals or organizations, or procedures or processes.

Certified / Accredited ICT-AT course

A course in which learners are involved in activities for developing ICT-AT competences towards the acquisition of a particular certification (e.g. ECDL).

Competence framework

a structured overview of learning outcomes describing levels of competence and allowing the definition of progression in learning.

Curriculum

According to Hilda Taba (1962) "all curricula, no matter what their particular design, are composed of certain elements. A curriculum usually contains a statement of aims and of specific objectives; it indicates some selection and organization of content; it either implies or manifests certain patterns of learning and teaching, whether because the objectives demand them or because the content organization requires them. Finally, it includes a program of evaluation of the outcomes".

Course

A learning event developed and implemented with a particular set of learning objectives and activities for the acquisition of specific knowledge and skills.



Humanistic curriculum (model for ICT)

A curriculum where ICT-AT are considered as cross-curricular tools. It regards the computer (and technology), not as an isolated course but as a tool which empowers learners with knowledge, thinking skills and problem solving alternatives (Karagiorgi, 2013). Focus shifts from learning about computers to using computers in learning. Emphasis is placed on the learner as a constructor of knowledge, while traditional curriculum areas are approached in independent and flexible pathways (Nicholson, 1995).

ICT competences course

A formal or non-formal education course during which learners are engaged in learning activities for the acquisition of knowledge and skills, to use ICT, through practicing and studying.

ICT-AT specific course

A formal or non-formal education course during which learners are engaged in learning activities for the acquisition of knowledge and skills, to use digital technology for people with disabilities of all ages, through practicing and studying.

Inclusive curriculum

A common curriculum for all learners where the general aims are universal, but the programme objectives and teaching strategies can and should differ, whereas areas of learning can be either common or different (Norwich & Lewis, 2007).

Individualized Educational Programme (IEP)

A learning plan with individualised learning objectives, proposed learning/teaching methodology and evaluation strategies for the needs of an individual learner with disabilities.

Learning content

Generally the term content refers the knowledge elements provided in a course or learning programme on which the learning is based.



Learning goals or Goals for Learning

Broad statements used to express intended results in general terms (e.g. problem solving, ethical awareness, etc.)

Learning needs

The gap between a learner's current level and the desired level of knowledge, skills, or attitudes.

Learning objectives

Clear, concise statements that are used to express intended learning outcomes in precise terms. Refer to specific tasks needed to accomplish the goals of the programme, and serve as a guide in selecting appropriate assessment tools.

Learning outcomes (Outcome Behaviours)

Operational statements that identify the specific student behaviours that evidence the attainment of the intended learning objectives, e.g. the acquisition of desired knowledge, skills, abilities, capacities, attitudes or dispositions for ICT-AT.

Learning programmes

Learning programmes are intentionally designed and properly described educational interventions that aim at obtaining well specified learning outcomes.

Measures of learning

A general term to describe how we know if learners have learned what we wanted them to learn or have achieved the skills we wanted them to achieve.

Needs based course

A course designed, implemented and assessed according to the needs of the learners it is addressed to. A learning needs assessment process precedes the design and development of the course.

Non-certified ICT-AT course

A course in which learners are involved in activities for developing ICT-AT competences without the acquisition of a certification.



Structured curriculum

A plan for interaction with learners which involves instructional objectives, content, materials and process for evaluating learning. Content is organized in specific units/sessions and corresponds to objectives and evaluation strategies.

Technocentric curriculum (model for ICT)

A curriculum where ICT-AT competencies are considered as a discrete curricular subject. It aims to equip learners with the necessary skills deemed important for their future (Nicholson, 1995), considering ICT literacy as the acquisition of basic digital skills (Karagiorgi, 2013).

Universal Design for Learning

Universal Design for Learning refers to a process by which a curriculum (goals, methods, materials, and assessment) is intentionally and systematically designed from the beginning to address individual differences (CAST 2011, 9).

3.1.4 People involved in the learning process

Assistive Technology team

A multidisciplinary team including various professionals in education, rehabilitation and technology (e.g. assistive technology specialist, teacher/educator, special education teacher, occupational therapist, speech and language therapist, provider, designer, etc), family members/carers and the end-user that collaborate for the assessment of needs, selection of solutions, implementation and follow-up for the effective use of AT by a person with disabilities (end-user).

Assistive Technology Service/Provider

Any service that directly assists an individual with a disability in the selection, acquisition or use of an assistive technology device.

Carer/caregiver

A family member or a paid or volunteer individual that regularly supports a person with disabilities of any age.



Educator / Teacher

A person who provides instruction and supports learning process in educational environments of a person with disabilities.

End-User

A person with disabilities of any age that uses or will use any ICT-AT product or service.

Instructor

A person who provides instruction and supports the learner's learning process.

Family members

The group of people (e.g. parents, siblings, spouse, husband, children or other relatives) that support and have close interaction with a person with disabilities of any age and who are involved in the person's daily life.

Learner

A person with disabilities of any age who is involved in learning, in any learning setting.

Peer

A person who interacts in any way with a person with disabilities of all ages in the learning process and/or its implementation.

Pupil

A person with disabilities of school age (around 3-18 years) that attends a formal educational setting/school up to secondary education.

Student

A person with disabilities of all ages that attends any formal or non-formal educational setting/school.

Trainee

A person with disabilities of all ages who receives training (for ICT-AT competences).



Trainer

An instructor who delivers courses on ICT-AT skills for people with disabilities of all ages.

User

The end-user or any person who is close to the end-user (e.g. family member, educator, carer etc) and is involved in the use of any ICT-AT product or service.

3.2 Accessibility

3.2.1 General

Accessibility

Extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of user needs, characteristics and capabilities to achieve identified goals in identified contexts of use. Source: ISO/IEC 30071-1:2019 (en)

Accessibility problem

Can be defined as non-compliance with minimum requirements or inaccessibility perceived by end users.

Active and Assisted Living (AAL)

Comprises concepts, products, and services that combine new technologies and the social environment in order to improve quality of life during all periods of life. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019

Ageing-related conditions

Changes in people's functional ability due to ageing can include subtle and/or gradual changes in abilities or a combination of abilities including vision, hearing, dexterity and memory. Any one of these limitations can affect an individual's ability to access Web content. Source: [W3C Online Glossary](#).



Digital accessibility

Digital accessibility is the ability of a website, mobile application or electronic document to be easily navigated and understood by a wide range of users, including those users who have visual, auditory, motor or cognitive disabilities.

Source: [TechTarget – Digital Accessibility](#).

e-Accessibility

Electronic accessibility, or E-Accessibility, refers to the ease of use of information and communication technologies (ICTs), such as the Internet, by people with disability.

Web sites need to be developed so that disabled users can access the information.

Source: [World Health Organization – What is e-accessibility?](#)

Gerontechnology

Designing technology and environment for independent living and social participation of older persons in good health, comfort and safety. Source:

[International Society for Gerontechnology](#).

Inclusive society

A society that over-rides differences of race, gender, class, generation, and geography, and ensures inclusion, equality of opportunity as well as capability of all members of the society to determine an agreed set of social institutions that govern social interaction. Source: [Expert Group Meeting on Promoting Social Integration, Helsinki, July 2008](#).

Natural languages

Languages used by humans to communicate, including spoken, written, and signed languages.

Privacy

Preventing the unintended or unauthorized disclosure of information about a person. Such information may be contained within a message, but may also be inferred from patterns of communication; e.g. when communications happen, the types of resource accessed, the parties with whom communication occurs, etc. Source: [W3C Online Glossary](#)



Sign language interpretation

Translation of spoken words and other audible information into a language that uses a simultaneous combination of handshapes, facial expressions, and orientation and movement of the hands, arms, or body to convey meaning. The national sign language is the maternal language of persons who are born deaf and a second language for person who become deaf.

Telecare

Term for offering remote care of older and physically less able people. Source: Cowan, D, Najafi, D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Web Accessibility

Web accessibility means that websites, tools, and technologies are designed and developed so that people with disabilities can use them.

3.2.2 Policies and frameworks

Authoring Tool Accessibility Guidelines (ATAG)

Guidelines that explain how to:

- make the authoring tools themselves accessible, so that people with disabilities can create web content, and
- help authors create more accessible web content — specifically: enable, support, and promote the production of content that conforms to Web Content Accessibility Guidelines (WCAG).

ATAG is part of a series of accessibility guidelines, including the Web Content Accessibility Guidelines (WCAG) and the User Agent Accessibility Guidelines (UAAG). Essential Components of Web Accessibility explains the relationship between the different guidelines.



It is important to note that the ATAG guidelines have not been updated since 2015 and are currently not reflecting the minimum requirements of the Web Accessibility Directive. Source: [W3C Web Accessibility Initiative](#).

Charter of fundamental rights of the European Union

This Charter reaffirms, with due regard for the powers and tasks of the Union and for the principle of subsidiarity, the rights as they result, in particular, from the constitutional traditions and international obligations common to the Member States, the European Convention for the Protection of Human Rights and Fundamental Freedoms, the Social Charters adopted by the Union and by the Council of Europe and the case-law of the Court of Justice of the European Union and of the European Court of Human Rights. In this context the Charter will be interpreted by the courts of the Union and the Member States with due regard to the explanations prepared under the authority of the Praesidium of the Convention which drafted the Charter and updated under the responsibility of the Praesidium of the European Convention. Source: Official legal text for the [Charter of Fundamental Rights of the European Union](#).

EN301549

The European standard for Accessibility Requirements of ICT products and services. Relevant parts of this standard is presumed conformance to the Web Accessibility Directive. Source: [EN301 549 Version 2.1.2](#).

EU Disability strategy 2010-2020

The European disability strategy 2010-2020 aims to promote a barrier-free Europe and at empower people with disabilities so that they can enjoy their rights and participate fully in society and economy. Source: European Commission: [Union of equality- Strategy for the rights of persons with disabilities 2021-2030](#).

European Accessibility Act

The EAA requires for commercial products and services to comply with accessibility requirements. It will be transposed into national legislation by June 2022 and the first grace period ends by 2025. Source: Official legal text for the [European Accessibility Act](#).



European Home Systems (EHS)

Protocol aimed at home appliances control and communication using power line communication. It is one of the smart home systems that converged to form the KNX standard. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Procurement Directive

The Procurement Directive gives bodies procuring products and services over the threshold support for accessibility requirements. With the European Accessibility Act, the directive will have increased impact. Source: Official legal text for the [Procurement Directive](#).

United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)

The Convention follows decades of work by the United Nations to change attitudes and approaches to persons with disabilities. It takes to a new height the movement from viewing persons with disabilities as “objects” of charity, medical treatment and social protection towards viewing persons with disabilities as “subjects” with rights, who are capable of claiming those rights and making decisions for their lives based on their free and informed consent as well as being active members of society.

The Convention on the Rights of Persons with Disabilities and its Optional Protocol (A/RES/61/106) was adopted on 13 December 2006 at the United Nations Headquarters in New York and was opened for signature on 30 March 2007. There were 82 signatories to the Convention, 44 signatories to the Optional Protocol, and 1 ratification of the Convention. It is the first comprehensive human rights treaty of the 21st century and is the first human rights convention to be open for signature by regional integration organizations. The Convention entered into force on 3 May 2008. Source: United Nations: [Convention on the Rights of Persons with Disabilities](#).

User Agent Accessibility Guidelines (UAAG)

Guidelines that explain how to make user agents accessible to people with disabilities. User agents include browsers, browser extensions, media players, screen readers and other applications that render web content. Source: W3C Web Accessibility Initiative: [User Agent Accessibility Guidelines \(UAAG\) Overview](#).



Web Accessibility Directive

The directive states that public sector agencies and other bodies governed by public law must comply with minimum accessibility requirements in the EN301549 v 2.1.2. Source: Official legal text for the [Web Accessibility Directive](#).

Web Content Accessibility Guidelines (WCAG)

Guidelines developed through the W3C process in cooperation with individuals and organizations around the world, with a goal of providing a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally. The WCAG documents explain how to make web content more accessible to people with disabilities. Web “content” generally refers to the information in a webpage or web application, including: natural information such as text, images, and sounds code or markup that defines structure, presentation, etc. Source: W3C Web Accessibility Initiative: [Web Content Accessibility Guidelines \(WCAG\)](#).

Web of Things (WoT)

Set of Standard developed by W3C intended to enable interoperability across IoT platforms and application domains. Source: [W3C Web of Things Architecture](#).

3.2.3 Methodologies and practices

Accessible authoring practice

Practices that improve the accessibility of Web content. Both authors and tools engage in accessible authoring practices. Source: W3C: [Authoring Tool Accessibility Guidelines](#).

Accessible design

is a design process in which the needs of people with disabilities are specifically considered. Accessibility sometimes refers to the characteristic that products, services and facilities can be independently used by people with a variety of disabilities. Source: Disabilities, Opportunities, Internetworking and Technology: [What is the difference between accessible, usable and universal design](#).



Augmentative and Alternative Communication (AAC)

A variety of techniques and tools, including picture communication boards, line drawings, speech-generating devices (SGDs), tangible objects, manual signs, gestures, and finger spelling, to help the individual express thoughts, wants and needs, feelings, and ideas. Source: ASHA American Speech-Language-Hearing Association: [Augmentative and Alternative Communication](#).

Co-design

Co-design is the act of creating with stakeholders (business or customers) specifically within the design development process to ensure the results meet their needs and are usable. (Co-design may also be called participatory design- a term which is used more often within the design community). Source: [Definition of Co-design from Wikipedia](#).

Inclusive design

The concept of designing mainstream products and/or services to be accessible to, and usable by, as many people as reasonably possible ... without the need for special adaptation or specialised design. Source: [Definition by the British Standard Institute](#).

Mobile-first design

This is a way of looking at design based on user behaviour. When a majority of the users are using their smartphone, it makes sense to design for mobile. These days, responsive design is more relevant, as users generally have all sorts of devices and screens in all shapes and sizes (anything from Apple watch via smartphones, tablets, portable computers to very big screens). Therefore, the interface of most content must be dynamic – not aimed at just one size. Source: W3Schools: [HTML Responsive Web Design](#).

Responsive Web Design

An approach to web design that makes webpages render well on a variety of devices and window or screen sizes. A site designed with RWD adapts the layout to the viewing environment by using fluid, proportion-based grids, flexible images, and CSS3 media queries. Source: Wikipedia.



Universal design

Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. Source: The Centre of Excellence in Universal Design: [The Centre of Excellence in Universal Design: What is Universal Design?](#)

User Centred Design (UCD)

A user interface design process that focuses on usability goals, user characteristics, environment, tasks, and workflow in the design of an interface. UCD follows a series of well-defined methods and techniques for analysis, design, and evaluation of mainstream hardware, software, and web interfaces. The UCD process is an iterative process, where design and evaluation steps are built in from the first stage of projects, through implementation. Source: Shawn Lawton Henry and Mary Martinson, Accessibility in User-Centered Design.

3.2.4 Assistive Technology (AT)

Assistive technology

Devices and technologies whose primary purpose is to maintain or improve an individual's functioning and independence to facilitate participation and to enhance overall well-being. They can also help prevent impairments and secondary health conditions. Examples of assistive devices and technologies include wheelchairs, prostheses, hearing aids, visual aids, and specialized computer software and hardware that increase mobility, hearing, vision, or communication capacities. Source: [World Health Organization: Assistive Technology](#).

Assistive Technology for communication

The use of ICT-AT by people with disabilities of all ages in order to participate in a bidirectional exchange of messages through any type of language system and/or mediator, for personal, social or other purposes.



Alternative keyboards or switches

Hardware or software devices used by people with physical disabilities, that provide an alternate way of creating keystrokes that appear to come from the standard keyboard. Source: [W3C Online Glossary](#).

Automated Speech Recognition (ASR)

The use of computer hardware and software-based techniques to identify and process human voice. It is used to identify the words a person has spoken or to authenticate the identity of the person speaking into the system. It is also known as automatic voice recognition (AVR), voice-to-text or simply speech recognition.

Source: [Techopedia: Automatic Speech Recognition \(ASR\)](#).

Electronic Aids to Daily Life (EADL)

An alternative term for environmental controls. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Environmental Control System (ECS)

Form of electronic assistive technology that enables people with significant disabilities to independently access equipment in their environment. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Integrated Assistive Technology

System designed to allow an individual with a disability access to and control of more than one function, which they would otherwise be unable to achieve. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Screen reader

A software programme that interprets navigation and content into spoken text or braille. Used by users who are visually impaired or dyslectic. Source: [Ability Net - An introduction to screen readers](#).

Screen magnifier

A software programme that magnifies a portion of the screen. Screen magnifiers are used by persons with visual impairments, reading - and writing impairments as well as



motor impairments. Source: [Bureau of Internet Accessibility - Screen magnifiers: Who and how they help?](#)

Smart home

A smart home is a house or other dwelling with automated or remotely controlled components. Some "smart" components require an interface though most smart home features can be controlled by a mobile device or computer. Source: [Tech Terms – Smart Home](#).

Speech to Text (STT)

The process of automatic generation from text or annotated text input to speech output. Source: [W3C Online Glossary](#).

Text to Speech (TTS)

The process of automatic generation of speech output from text or annotated text input. Source: [W3C Online Glossary](#).

User-agent-supported

Implemented by user agents and assistive technologies. Source: Cowan, D, Najafi, D, Handbook of Electronic Assistive Technology, Academic Press, 2019

3.2.5 Content

Alternative format

A document, leaflet or electronic resource that is provided in a different format to the original to better adapt to the needs of a specific user. Examples of an alternative format include a word document instead of a PDF or providing a document in large print or in Braille.

Alt text

Text description of images to ensure blind users get the same information as sighted ones. This is a requirement in the Web Accessibility Directive. Source: [Techopedia – Alternate Text](#).



Animation

Content that, when rendered, creates a visual movement effect automatically (i.e., without manual user interaction). This definition of animation includes video and animated images. Source: [W3C Online Glossary](#).

Audio description

To ensure that blind and visually impaired users get access to meaningful content that is presented visually but not read out loud, audio description should be added. This can be done by providing information about actions, characters, scene changes, and on-screen text during existing pauses in dialogue. This is a requirement in the Web Accessibility Directive. Source: Own elaboration.

Captions

Captions are necessary for hard of hearing users to get access to meaningful audio content in videos etc. Text presented and synchronized with multimedia to provide not only the speech, but also sound effects and sometimes speaker identification. Note: In some countries, the term "subtitle" is used to refer to dialogue only and "captions" is used as the term for dialogue plus sounds and speaker identification. In other countries, subtitle (or its translation) is used to refer to both. This is a requirement of the Web Accessibility Directive. Source: Own elaboration.

Font

It represents an organised collection of glyphs in which the various glyph representations will share a common look or styling such that, when a string of characters is rendered together, the result is highly legible, conveys a particular artistic style and provides consistent inter-character alignment and spacing. Source: [W3C Online Glossary](#).

Hyperlink

A pointer within a hypertext document which points (links) to another document, which may or may not also be a hypertext document. Source: [W3C Online Glossary](#).



Hypertext

A document, written in HTML, which contains hyperlinks to other documents, which may or may not also be hypertext documents. Hypertext documents are usually retrieved using WWW. Source: [W3C Online Glossary](#).

Image

An image is a primarily symbolic visual representation other than text. That image may include both electronic and physical representations. Source: [W3C Online Glossary](#).

Graphics

Two- or three-dimensional images, typically drawings or photographs. See also GIF, PNG, SVG, and VRML. Source: [W3C Online Glossary](#).

Graphic element

One of the element types that can cause graphics to be drawn onto the target canvas. Specifically: 'path', 'text', 'rect', 'circle', 'ellipse', 'line', 'polyline', 'polygon', 'image' and 'use'. Source: [W3C Online Glossary](#).

Multimedia

Audio or video synchronized with another type of media and/or with time-based interactive components. Source: [W3C Online Glossary](#).

Portable Document Format (PDF)

A document format that ensures design is shown the same way on all devices. The format can be made accessible but needs manual handling, which means that many PDF documents are inaccessible. Source: [Adobe – What is PDF?](#)

Placeholder

Content generated by the user agent to replace author-supplied content. A placeholder may be generated as the result of a user preference (e.g., to not render images) or as repair content (e.g., when an image cannot be found). Placeholders can be any type of content, including text, images, and audio cues. Source: [W3C Online Glossary](#).



Text

Sequence of characters. Source: [W3C Online Glossary](#).

User agent

Any software that retrieves and renders Web content for users. Source: Cowan, D, Najafi, D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Video

The technology of moving pictures or images (Note: Video can be made up of animated or photographic images, or both.) Source: [W3C Online Glossary](#).

Visual object

A visual object is output from a visual viewport. Visual objects include graphics, text, and visual portions of movies and animations. Source: [W3C Online Glossary](#).

Website

A collection of interlinked Webpages, including a host page, residing at the same network location. Source: [W3C Online Glossary](#).

Webpage

A hypertext document on the World Wide Web. Source: [Definition of a Webpage from the Oxford Dictionary](#).

3.2.6 User experience (UX)

User experience

Commonly abbreviated "UX," it is the experience a person has using a product or service. In the technology world, this often refers to a hardware device or software programme. A positive user experience is simple, intuitive, and enjoyable. A negative user experience is complex, confusing, and frustrating. Source: [Tech Terms – User Experience](#).

User requirements

They are typically written when discussing the use cases for a project. The requirements definition is done with the customer or product managers that know



how the embedded system will be used by the user. Many user requirements deal with how a user will interact with a system and what that user expects. If there is a screen or human machine interface aspect to the system, a user requirement may be based on what happens when the user selects an action on the screen. Source: [Science Direct – User requirement](#).

User interface

It includes both:

- the user agent user interface, i.e., the controls (e.g., menus, buttons, prompts, and other components for input and output) and mechanisms (e.g., selection and focus) provided by the user agent ("out of the box") that are not created by content.
- the "content user interface," i.e., the enabled elements that are part of content, such as form controls, links, and applets. Source: [W3C Online Glossary](#).

Usability

Able or fit to be used. Source: [Definition of Usability from the Oxford Dictionary](#).

3.3 Information and Communication Technology (ICT)

3.3.1 General

Android (operating system)

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets. Source: [Definition of Android \(operating system\) from Wikipedia](#).

Application Programming Interface (API)

A set of clearly defined methods of communication between various software components. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019



Application software (APP)

is a programme or groups of programmes designed for end users. Examples of an application include a word processor, a spreadsheet, an accounting application, a web browser, an email client, a media player, a file viewer, simulators, a console game or a photo editor. Source: [Definition of Application software from Wikipedia](#).

Artificial intelligence (AI)

The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. Source: [Definition of Artificial Intelligence from the Encyclopaedia Britannica](#).

Authentication

The process or action of verifying the identity of a user or process. Source: [Definition of Authentication from the Oxford University Press](#).

Authoring tools

Any software that is used to produce content for publishing on the Web. Source: [W3C Online Glossary](#).

Automatic accessibility testing tool

There are about 150 different kinds of automatic tools for testing digital accessibility. Some are open source, others are licensed, and some are built into other systems, for example authoring tools. Automatic accessibility testing tools can target developers, designers, web authors, website owners or a mix of different roles. Source: Own elaboration.

Browser

A system entity that is used by an end user to access a Website. A browser provides a run-time environment for distributed application components on the client's device. Source: [W3C Online Glossary](#).



Cache

A storage area used by a server or proxy to store data resources that have been retrieved or created in response to a request. When a new request for a "cached" data resource is received, the server or proxy can respond with the cached version instead of retrieving or creating a new copy. Source: [W3C Online Glossary](#).

Cascading Style Sheets (CSS)

Style sheets describe how documents are presented on screens, in print, and even in spoken voice. Style sheets allow the user to change the appearance of hundreds of Webpages by changing just one file. A style sheet is made up of rules that tell a browser how to present a document. Numerous properties may be defined for an element; each property is given a value. Source: [W3C Online Glossary](#).

Character

Strings consist of a sequence of zero or more characters, where a character is defined as in the XML Recommendation [XML]. A single character in P3P thus corresponds to a single Unicode abstract character with a single corresponding Unicode scalar value. Source: [W3C Online Glossary](#).

Client

A computer system or process that requests a service of another computer system or process (a "server") using some kind of protocol and accepts the server's responses. A client is part of a client-server software architecture. Source: [W3C Online Glossary](#).

Cloud

A network of remote servers hosted on the Internet and used to store, manage, and process data in place of local servers or personal computers. Source: [Definition of Cloud from the Oxford University Press](#).

Cookie

Data sent by a Web server to a Web client, to be stored locally by the client and sent back to the server on subsequent requests. Source: [W3C Online Glossary](#).



Cross platform software

Computer software that is capable of being implemented on multiple different platforms. Source: [Definition of Cross platform software from Wikipedia](#).

Data

Information in a specific physical representation, usually a sequence of symbols that have meaning; especially a representation of information that can be processed or produced by a computer. Source: [W3C Online Glossary](#).

Digital Signature

A very large number created in such a way that it can be shown to have been done only by somebody in possession of a secret key and only by processing a document with a particular content. It can be used for the same purposes as a person's handwritten signature on a physical document. Something you can do with public key cryptography. Source: [W3C Online Glossary](#).

Event

An action taken by the user, a condition that occurs in the operating system, or a condition occurring over a network. A user event might be pressing the Enter key; an OS event might be the system time reaching some preset value; a network event might be the completion of a file download. Source: [W3C Online Glossary](#).

Hypertext Markup Language (HTML)

A standardised system for tagging text files to achieve font, colour, graphic, and hyperlink effects on Worldwide Webpages. Source: [Definition of HTML from the Oxford Dictionary](#).

Input device

An input device is any hardware device that sends data to a computer, allowing you to interact with and control it. Apart from keyboard and mouse, there are several other ways of providing input to a computer, for example a range of assistive technology. Source: [eSpecial Needs: Assistive Technology Input Devices](#).



Interfaces

Shared boundary across at which two or more distinct components of a system interact; for example, the user interface of a computer is where the computer's hardware, software, and the human user interact. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Interoperability

The ability of software and hardware on multiple machines from multiple vendors to communicate meaningfully. Source: [W3C Online Glossary](#).

Internet of Things (IoT)

Network of physical devices, vehicles, home appliances, and other items embedded with electronics that enable these objects to connect and exchange data. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

IOS

A mobile operating system created and developed by Apple Inc. exclusively for its hardware. Source: [Definition of IOS from Wikipedia](#).

Javascript

An object-oriented computer programming language commonly used to create interactive effects within web browsers. Source: [Definition of Javascript from the Oxford Dictionary](#).

KNX

Standardised OSI-based network communications protocol for building automation. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Objects

An identifiable, encapsulated entity that provides one or more services requested by a client. Objects can refer to the objects in OOP (object-oriented programming) or the objects in OLE (Object Linking and Embedding). In object-oriented programming, objects are the things you think about first in designing a programme



and they are also the units of code that are eventually derived from the process.

Source: [W3C Online Glossary](#).

Operating system

A system software that manages computer hardware, software resources, and provides common services for computer programmes. Source: [Definition of Operating System from Wikipedia](#).

Personally identifiable data

Any information relating to an identified or identifiable individual. Source: [W3C Online Glossary](#).

Personal Digital Assistant (PDA)

Also known as a handheld PC; mobile device that functions as a personal information manager. Source: Cowan, D, Najafi, D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Plaintext

Data that is input to and transformed by an encryption process, or that is output by a decryption process. Source: [W3C Online Glossary](#).

Platform-as-a-service

A type of cloud computing offering in which a service provider delivers a platform to clients, enabling them to develop, run, and manage business applications without the need to build and maintain the infrastructure such software development processes typically require. Source: [Infoworld: What is PaaS? A simpler way to build software applications](#).

Plug-in

A programme that runs as part of the user agent and that is not part of content. Users generally choose to include or exclude plug-ins from their user agent. Source: [W3C Online Glossary](#).



Repository

A mechanism for storing user information under the control of the user agent. Source: [W3C Online Glossary](#).

Router

A computer that is a gateway between two networks at OSI layer 3 and that relays and directs data packets through that internetwork. The most common form of router operates on IP packets. In the context of the Internet protocol suite, a networked computer that forwards Internet Protocol packets that are not addressed to the computer itself. Source: [W3C Online Glossary](#).

Script

A scripting (programming) language used to create dynamic Web content. However, in checkpoints referring to the written (natural) language of content, the term "script" is used as in Unicode [UNICODE] to mean "A collection of symbols used to represent textual information in one or more writing systems." Information encoded in (programming) scripts may be difficult for a user agent to recognize. Source: [W3C Online Glossary](#).

Server

An application programme that accepts connections in order to service requests by sending back responses. Any given programme may be capable of being both a client and a server; our use of these terms refers only to the role being performed by the programme for a particular connection, rather than to the programme's capabilities in general. Likewise, any server may act as an origin server, proxy, gateway, or tunnel, switching behaviour based on the nature of each request. Source: [W3C Online Glossary](#).

Software-as-a-service

A method of software delivery and licensing in which software is accessed online via a subscription, rather than bought and installed on individual computers. Source: [Definition of Software as a Service from Oxford University Press](#).



Unicode

A character coding scheme that uses 16 bits for each character, designed to extend the capabilities of ASCII, which uses seven bits. Nearly all letters and symbols in all languages can be represented in a standard way with Unicode. The first 128 characters of Unicode are identical to those in standard ASCII. Unicode is an entirely new idea in setting up binary codes for text or script characters. Officially called the Unicode Worldwide Character Standard, it is a system for "the interchange, processing, and display of the written texts of the diverse languages of the modern world." It also supports many classical and historical texts in a number of languages. Source: [W3C Online Glossary](#).

Web service

A software system identified by a URI [RFC 2396], whose public interfaces and bindings are defined and described using XML. Its definition can be discovered by other software systems. These systems may then interact with the Web service in a manner prescribed by its definition, using XML based messages conveyed by Internet protocols. A collection of EndPoints. Source: [W3C Online Glossary](#).



4. Glossary of Project Concepts

4.1 Terms in alphabetical order

A

Accessibility

Extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of user needs, characteristics and capabilities to achieve identified goals in identified contexts of use. Source: ISO/IEC 30071-1:2019 (en).

Accessible authoring practice

Practices that improve the accessibility of Web content. Both authors and tools engage in accessible authoring practices. Source: [W3C - Authoring Tool Accessibility Guidelines](#).

Accessible design

is a design process in which the needs of people with disabilities are specifically considered. Accessibility sometimes refers to the characteristic that products, services and facilities can be independently used by people with a variety of disabilities. Source: [Disabilities, Opportunities, Internetworking and Technology - What is the difference between accessible, usable and universal design](#).

Accessibility problem

Can be defined as non-compliance with minimum requirements or inaccessibility perceived by end users.

Accreditation

A process through which official recognition of meeting all formal official requirements of academic excellence, curriculum, facilities, etc. is presented.



Active and Assisted Living (AAL)

Comprises concepts, products, and services that combine new technologies and the social environment in order to improve quality of life during all periods of life.

Source: Cowan, D, Najafi, D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Adult Education

A formal or non-formal learning situation where adults engage in systematic learning activities for acquiring skills, knowledge, attitudes or values (in this case relevant to digital competences).

Ageing-related conditions

Changes in people's functional ability due to aging can include subtle and/or gradual changes in abilities or a combination of abilities including vision, hearing, dexterity and memory. Any one of these limitations can affect an individual's ability to access Web content. Source: [W3C Online Glossary](#).

Alternative format

A document, leaflet or electronic resource that is provided in a different format to the original to better adapt to the needs of a specific user. Examples of an alternative format include a word document instead of a PDF or providing a document in large print or in Braille. Source: [W3C Online Glossary](#).

Alternative keyboards or switches

Hardware or software devices used by people with physical disabilities, that provide an alternate way of creating keystrokes that appear to come from the standard keyboard. Source: [W3C Online Glossary](#).

Alt text

Text description of images to ensure blind users get the same information as sighted ones. This is a requirement in the Web Accessibility Directive. Source: [Techopedia – Alternate Text](#).



Android (operating system)

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets. Source: [Definition of Android \(operating system\) from Wikipedia](#).

Animation

Content that, when rendered, creates a visual movement effect automatically (i.e., without manual user interaction). This definition of animation includes video and animated images. Source: [W3C Online Glossary](#).

Application software (APP)

is a programme or groups of programmes designed for end users. Examples of an application include a word processor, a spreadsheet, an accounting application, a web browser, an email client, a media player, a file viewer, simulators, a console game or a photo editor. Source: [Definition of Application software from Wikipedia](#).

Application Programming Interface (API)

A set of clearly defined methods of communication between various software components. Source: Cowan, D, Najafi, D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Artificial intelligence (AI)

The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. Source: [Definition of Artificial Intelligence from the Encyclopaedia Britannica](#).

Assessment as learning

Assessment as learning occurs when learners are actively engaged in the assessment process; by reflecting on and monitoring their own progress to inform their future learning goals.



Assessment for learning

Assessment for learning *involves the* employment of formal and informal assessment activities at the beginning of instruction (diagnostic assessment), and throughout the teaching and learning process (formative assessment) in order to obtain evidence about students' knowledge, understanding and skills and to inform the planning of future teaching learning.

Assessment of Learning

The process of collecting, analyzing and interpreting evidence for the purpose of making judgments about a student's level of achievement in regards to specific learning expectations and standards. A synonym for "summative assessment", it usually occurs at defined key points during a unit of work or at the end of a unit, term or semester, and may be used to rank or grade students.

Assessment Rubric

A scaled scoring or grading guide, which provides a set of criteria and standards for judging performance and distinguishing between different levels of achievement.

Assessment

A general term that describes the process of collecting, analyzing, and interpreting information in order to measure the extent of achieving the intended outcomes for student learning, program effectiveness, institutional effectiveness, etc.

Assistive technology

Devices and technologies whose primary purpose is to maintain or improve an individual's functioning and independence to facilitate participation and to enhance overall well-being. They can also help prevent impairments and secondary health conditions. Examples of assistive devices and technologies include wheelchairs, prostheses, hearings aids, visual aids, and specialized computer software and hardware that increase mobility, hearing, vision, or communication capacities. Source: [World Health Organization: Assistive Technology](#).



Assistive Technology Centre

An institution that supports the development of assistive technology learning, through various activities of education, assessment and implementation of AT for people with disabilities of all ages, families and professionals.

Assistive Technology for communication

The use of ICT-AT by people with disabilities of all ages in order to participate in a bidirectional exchange of messages through any type of language system and/or mediator, for personal, social or other purposes.

Assistive Technology for learning

The use of ICT-AT by people with disabilities of all ages in order to receive, construct and process knowledge and develop skills and attitudes based on their individual needs and abilities.

Assistive Technology (AT) Learning

The acquisition of knowledge and skills, and the development of attitudes or values for the use of assistive technology, through practicing, studying, teaching and/or experiencing, in every aspect of life.

Assistive Technology Service/Provider

Any service that directly assists an individual with a disability in the selection, acquisition or use of an assistive technology device.

Assistive Technology team

A multidisciplinary team including various professionals in education, rehabilitation and technology (e.g. assistive technology specialist, teacher/educator, special education teacher, occupational therapist, speech and language therapist, provider, designer, etc), family members/carers and the end-user that collaborate for the assessment of needs, selection of solutions, implementation and follow-up for the effective use of AT by a person with disabilities (end-user).



Awareness

Knowledge, information and concern about the necessity of reinforcing the digital competences of people with disabilities of all ages, in order to reduce the digital divide.

Audio description

To ensure that blind and visually impaired users get access to meaningful content that is presented visually but not read out loud, audio description should be added. This can be done by providing information about actions, characters, scene changes, and on-screen text during existing pauses in dialogue. This is a requirement in the Web Accessibility Directive. Source: Own elaboration

Augmentative and Alternative Communication (AAC)

A variety of techniques and tools, including picture communication boards, line drawings, speech-generating devices (SGDs), tangible objects, manual signs, gestures, and finger spelling, to help the individual express thoughts, wants and needs, feelings, and ideas. Source: [ASHA American Speech-Language-Hearing Association - Augmentative and Alternative Communication](#).

Authentication

The process or action of verifying the identity of a user or process. Source: [Definition of Authentication from the Oxford University Press](#).

Authoring tools

Any software that is used to produce content for publishing on the Web. Source: [W3C Online Glossary](#).

Authoring Tool Accessibility Guidelines (ATAG)

Guidelines that explain how to:

- make the authoring tools themselves accessible, so that people with disabilities can create web content, and



- help authors create more accessible web content — specifically: enable, support, and promote the production of content that conforms to Web Content Accessibility Guidelines (WCAG).

ATAG is part of a series of accessibility guidelines, including the Web Content Accessibility Guidelines (WCAG) and the User Agent Accessibility Guidelines (UAAG). Essential Components of Web Accessibility explains the relationship between the different guidelines.

It is important to note that the ATAG guidelines have not been updated since 2015 and are currently not reflecting the minimum requirements of the Web Accessibility Directive. Source: [W3C Online Glossary](#).

Automated Speech Recognition (ASR)

The use of computer hardware and software-based techniques to identify and process human voice. It is used to identify the words a person has spoken or to authenticate the identity of the person speaking into the system. It is also known as automatic voice recognition (AVR), voice-to-text or simply speech recognition.

Source: [Techopedia: Automatic Speech Recognition \(ASR\)](#).

Automatic accessibility testing tool

There are about 150 different kinds of automatic tools for testing digital accessibility. Some are open source, others are licensed, and some are built into other systems, for example authoring tools. Automatic accessibility testing tools can target developers, designers, web authors, website owners or a mix of different roles. Source: Own elaboration.

Autonomy

the perceived ability to control, cope with and make personal decisions about one's life on a day-to-day basis, according one's own rules and preferences" (Malanowski, Özcivele& Cabrera 2008).

Award

A mark of recognition (e.g. a prize, an official document) provided to individuals in honour of achievement.



B

Blended Learning

A learning approach that combines face-to-face and computer mediated learning and instruction (Duhaney, 2004). It is also referred to as hybrid learning, and it is a mixture of real time and space and virtual (online) setting that involves both synchronous and asynchronous learning.

Browser

A system entity that is used by an end user to access a website. A browser provides a run-time environment for distributed application components on the client's device.

Source: [W3C Online Glossary](#).

C

Cache

A storage area used by a server or proxy to store data resources that have been retrieved or created in response to a request. When a new request for a "cached" data resource is received, the server or proxy can respond with the cached version instead of retrieving or creating a new copy. Source: [W3C Online Glossary](#).

Captions

Captions are necessary for hard of hearing users to get access to meaningful audio content in videos etc. Text presented and synchronized with multimedia to provide not only the speech, but also sound effects and sometimes speaker identification.

Note: In some countries, the term "subtitle" is used to refer to dialogue only and "captions" is used as the term for dialogue plus sounds and speaker identification. In other countries, subtitle (or its translation) is used to refer to both. This is a requirement of the Web Accessibility Directive. Source: Own elaboration

Career

Opportunities to progress through an occupation and ongoing professional development.



Carer/caregiver

A family member or a paid or volunteer individual that regularly supports a person with disabilities of any age.

Cascading Style Sheets (CSS)

Style sheets describe how documents are presented on screens, in print, and even in spoken voice. Style sheets allow the user to change the appearance of hundreds of Webpages by changing just one file. A style sheet is made up of rules that tell a browser how to present a document. Numerous properties may be defined for an element; each property is given a value. Source: [W3C Online Glossary](#).

Certificate

A document provided to individuals that have completed a particular course which officially confirms participation in the course and completion of the requirements.

Certification

Formal procedure by which an accredited or authorized person or agency assesses, in accordance with established requirements or standards, and verifies (through the issuing of an official certificate) the attributes, characteristics, quality, qualification, or status of individuals or organizations, or procedures or processes.

Certified / Accredited ICT-AT course

A course in which learners are involved in activities for developing ICT-AT competences towards the acquisition of a particular certification (e.g. ECDL).

Certificate of attendance

A document provided to individuals that have attended a particular course, lecture or seminar which officially confirms the attendance of the course.

Character

Strings consist of a sequence of zero or more characters, where a character is defined as in the XML Recommendation [XML]. A single character in P3P thus corresponds to a single Unicode abstract character with a single corresponding Unicode scalar value. Source: [W3C Online Glossary](#).



Charter of fundamental rights of the European Union

This Charter reaffirms, with due regard for the powers and tasks of the Union and for the principle of subsidiarity, the rights as they result, in particular, from the constitutional traditions and international obligations common to the Member States, the European Convention for the Protection of Human Rights and Fundamental Freedoms, the Social Charters adopted by the Union and by the Council of Europe and the case-law of the Court of Justice of the European Union and of the European Court of Human Rights. In this context the Charter will be interpreted by the courts of the Union and the Member States with due regard to the explanations prepared under the authority of the Praesidium of the Convention which drafted the Charter and updated under the responsibility of the Praesidium of the European Convention. Source: [Official legal text for the Charter of Fundamental Rights of the European Union](#).

Client

A computer system or process that requests a service of another computer system or process (a "server") using some kind of protocol and accepts the server's responses. A client is part of a client-server software architecture. Source: [W3C Online Glossary](#).

Cloud

A network of remote servers hosted on the Internet and used to store, manage, and process data in place of local servers or personal computers. Source: [Definition of Cloud from the Oxford University Press](#).

Co-design

Co-design is the act of creating with stakeholders (business or customers) specifically within the design development process to ensure the results meet their needs and are usable. (Co-design may also be called participatory design- a term which is used more often within the design community). Source: [Definition of Co-design from Wikipedia](#).

Collaborative Learning

Learning environments in which small groups of learners work together, in a joint commitment to a shared goal (Littleton and Häkkinen, 1999). It is about mutual



engagement in a single unified task with shared conceptions of a problem (Roschelle & Teasley, 1995), taking into consideration the social effects of working together. Collaborative learning represents a philosophy of interaction whereby learners are given more power over their own learning (McWhaw *et al.*, 2003) and they elaborate their thoughts as part of the communication (Saab *et al.*, 2005).

Community

A social unit of any size where persons with disabilities of all ages may belong and share values and experiences. It can be a face-to-face (e.g. village, neighbourhood, club, region) or a remote community (e.g. digital community, social network).

Competence framework

a structured overview of learning outcomes describing levels of competence and allowing the definition of progression in learning.

Computer control

The ability to work efficiently and effectively using a computer. It requires familiarity with and understanding of the use of a computer and basic IT concepts (e.g. components of a PC and Operating Systems, files and file management, classifications to manage electronic files and folders, understanding of the common types of software, etc).

Continuing Professional Development (CPD)

Learning activities through which professionals maintain and enhance their knowledge and skills related to their profession. CPD necessitates commitment of professionals to lifelong learning, i.e. to the continued updating of their skills and knowledge in order to remain professionally competent and achieve their true potential. It can combine different methodologies to learning (e. g training workshops, conferences, e-learning programs, etc.) all focused for an individual to improve and have effective professional development.



Cookie

Data sent by a Web server to a Web client, to be stored locally by the client and sent back to the server on subsequent requests. Source: [W3C Online Glossary](#).

Course

A learning event developed and implemented with a particular set of learning objectives and activities for the acquisition of specific knowledge and skills.

Criterion-Referenced Assessment

An assessment where an individual's performance is compared to a specific pre-determined learning objective or performance (and not to the performance of other students).

Cross platform software

Computer software that is capable of being implemented on multiple different platforms. Source: [Definition of Cross platform software from Wikipedia](#).

Curriculum

According to Hilda Taba (1962) "all curricula, no matter what their particular design, are composed of certain elements. A curriculum usually contains a statement of aims and of specific objectives; it indicates some selection and organization of content; it either implies or manifests certain patterns of learning and teaching, whether because the objectives demand them or because the content organization requires them. Finally, it includes a program of evaluation of the outcomes".

D

Data

Information in a specific physical representation, usually a sequence of symbols that have meaning; especially a representation of information that can be processed or produced by a computer. Source: [W3C Online Glossary](#).

Day care centre

An institution that provides care, rehabilitation and other facilities for people with disabilities of all ages.



Degree

A diploma awarded in recognition of satisfactory completion of tertiary education programmes, academic or professional, in undergraduate or (post)graduate studies.

Diagnostic assessment/Pre-assessment

Assessment that occurs at the beginning of a unit of study, and which deliberately seeks to identify where learners' prior, or current, understandings and competencies are, in order to inform instruction accordingly.

Digital accessibility

Digital accessibility is the ability of a website, mobile application or electronic document to be easily navigated and understood by a wide range of users, including those users who have visual, auditory, motor or cognitive disabilities.

Source: [TechTarget – Digital Accessibility](#).

Digital/ Information society

The modern society where new technologies (ICT) are utilized in every spectrum of social, political and economical sectors.

Digital inclusion

The development policy for the reduction of the digital divide and the promotion of digital literacy. It includes the design and implementation of strategies for education, services and opportunities provision in order to respond to challenges of digitally included persons (Jaeger et al, 2014).

Digital Literacy

The acquisition of knowledge and skills, and the development of attitudes or values for effectively choosing and using ICT and ICT-AT. It is a blend of information, communication and technology literacy, including the basic knowledge and skills for using technology, acknowledging the possibilities it offers, and developing critical thinking for uses and resources.



Digital Skills

A range of abilities to use digital devices, communication applications, and networks to access and manage information. Source: [UNESCO - Digital skills critical for jobs and social inclusion](#).

Digital Divide

A term that refers to the gaps in access to information and communication technology (ICT) - threatens the ICT "have-nots", whether individuals, groups or entire countries. Education and learning lie at the heart of these issues and their solutions. The gaps that define the "learning digital divide" are thus as important as the more obvious gaps in access to the technology itself. Source: OECD.

Digital Signature

A very large number created in such a way that it can be shown to have been done only by somebody in possession of a secret key and only by processing a document with a particular content. It can be used for the same purposes as a person's handwritten signature on a physical document. Something you can do with public key cryptography. Source: [W3C Online Glossary](#).

Diploma:

A certificate awarded by an educational institution as evidence of an individual's successful completion of a course of study.

Direct Measures of Learning

Processes used to provide direct evidence, in the form of student products or performances, of the actual learning that has occurred relating to a specific content or skill (e.g. objective tests, essays, portfolios, performances, projects, reflective essays, computer programs, and observations etc.).

Distance Learning

Institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors (Simonson, 2012). Learners are not physically present in a traditional setting/classroom.



E

e-Accessibility

Electronic accessibility, or E-Accessibility, refers to the ease of use of information and communication technologies (ICTs), such as the Internet, by people with disability. Web sites need to be developed so that disabled users can access the information.

[Source: World Health Organization – What is e-accessibility?](#)

Early childhood/Pre-school education

Educational programs and strategies geared toward young children up until the age of about eight, with a particular focus in the period before the commencement of compulsory education at primary school.

Educational institutions

An educational organization that offers organized learning courses and activities.

Educator / Teacher

A person who provides instruction and supports learning process in educational environments of a person with disabilities.

E-Learning

The use of various ICT tools and other electronic means for learning. It includes all kinds of educational technology that electronically support the process of learning and instruction. It also includes other concepts such as technology-enhanced learning (TEL), computer-based training (CBT), internet-based training (IBT), web-based training (WBT), online education, virtual education, distance education, or digital educational collaboration (Sun *et al*, 2008).

Electronic Aids to Daily Life (EADL)

An alternative term for environmental controls. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

Employment opportunities

Prospects and chances provided to people with disabilities to obtain a work position in any professional, academic, scientific or other field.



Environmental Control System (ECS)

Form of electronic assistive technology that enables people with significant disabilities to independently access equipment in their environment. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

End user

A natural person who makes use of resources for application purposes. Source: [W3C Online Glossary](#).

EN301549

The European standard for Accessibility Requirements of ICT products and services. Relevant parts of this standard is presumed conformance to the Web Accessibility Directive. Source: [EN301 549 Version 2.1.2](#).

European Accessibility Act

The EAA requires for commercial products and services to comply with accessibility requirements. It will be transposed into national legislation by June 2022 and the first grace period ends by 2025. Source: [Official legal text for the European Accessibility Act](#).

EU Disability strategy 2010-2020

The European disability strategy 2010-2020 aims to promote a barrier-free Europe and at empower people with disabilities so that they can enjoy their rights and participate fully in society and economy. Source: [European Commission - Union of equality- Strategy for the rights of persons with disabilities 2021-2030](#).

European Home Systems (EHS)

Protocol aimed at home appliances control and communication using power line communication. It is one of the smart home systems that converged to form the KNX standard. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.



Evaluation

A value judgment about quality. When used in reference to educational settings, evaluation means to measure, compare, and judge the quality of student work, schools, or a specific educational programme.

Event

An action taken by the user, a condition that occurs in the operating system, or a condition occurring over a network. A user event might be pressing the Enter key; an OS event might be the system time reaching some preset value; a network event might be the completion of a file download. Source: [W3C Online Glossary](#).

External/Extrinsic motivation

Reasons to learn which are driven or rely on external factors and pressures or a desire for reward.

Expectations from others

Imagined expectations or real expectations imposed on the learner by other people in his/her life (e.g. parents, friends etc.).

F

Face-to-face Learning

Any learning activity in which all participants, i.e. learners, instructors, facilitators, peers, meet together in the same place at the same time. It may involve the use of technology, but no remote communication technologies are required.

Family members

The group of people (e.g. parents, siblings, spouse, husband, children or other relatives) that support and have close interaction with a person with disabilities of any age and who are involved in the person's daily life.

Feedback

Information that the student gives the teacher or the teacher gives the student about learning processes and progress towards learning goals. Feedback can help



students shape their learning approaches, and help educators shape their teaching programmes.

Font

It represents an organised collection of glyphs in which the various glyph representations will share a common look or styling such that, when a string of characters is rendered together, the result is highly legible, conveys a particular artistic style and provides consistent inter-character alignment and spacing. Source: [W3C Online Glossary](#).

Formal education

Institutionalized school systems of teaching and learning based on a curriculum with predetermined purposes. Official school systems.

Formal tests

Tests in which the directions of administration are clear cut and allow little, if any, discretion on the part of the teacher (e.g. university entrance examinations). Formal tests are scored in a carefully prescribed manner.

Formative assessment

Ongoing, improvement-oriented assessment which is interwoven with the learning process, and which is intended to provide regular feedback that can be used to guide improvements in teaching and learning. Assessment activities are usually low-stakes or no-stakes.

Further learning opportunities

Prospects and chances provided to people with disabilities of all ages to get involved in formal or non-formal learning activities.

G

Gamification

The application of typical elements of game playing (e.g. point scoring, competition with others, rules of play) to other areas of activity, typically as an online marketing



technique to encourage engagement with a product or service. Source: [Definition of Gamification from the Oxford University Press](#)

Gerontechnology

Designing technology and environment for independent living and social participation of older persons in good health, comfort and safety. Source: [Definition of Gerontechnology from the International Society for Gerontechnology](#).

Graduate/Postgraduate

Academic or professional programs following undergraduate education.

Graphics

Two- or three-dimensional images, typically drawings or photographs. See also GIF, PNG, SVG, and VRML. Source: [W3C Online Glossary](#).

Graphic element

One of the element types that can cause graphics to be drawn onto the target canvas. Specifically: 'path', 'text', 'rect', 'circle', 'ellipse', 'line', 'polyline', 'polygon', 'image' and 'use'. Source: [W3C Online Glossary](#).

H

Home-based learning

Structured and organised learning activities that take place in the home environment.

Humanistic curriculum (model for ICT)

A curriculum where ICT-AT are considered as cross-curricular tools. It regards the computer (and technology), not as an isolated course but as a tool which empowers learners with knowledge, thinking skills and problem solving alternatives (Karagiorgi, 2013). Focus shifts from learning about computers to using computers in learning. Emphasis is placed on the learner as a constructor of knowledge, while traditional curriculum areas are approached in independent and flexible pathways (Nicholson, 1995).



Hyperlink

A pointer within a hypertext document which points (links) to another document, which may or may not also be a hypertext document. Source: [W3C Online Glossary](#).

Hypertext

A document, written in HTML, which contains hyperlinks to other documents, which may or may not also be hypertext documents. Hypertext documents are usually retrieved using WWW. Source: Source: [W3C Online Glossary](#).

Hypertext Markup Language (HTML)

A standardised system for tagging text files to achieve font, colour, graphic, and hyperlink effects on World Wide Webpages. Source: [Definition of HTML from the Oxford Dictionary](#).

Hypertext Transfer (or Transport) Protocol (HTTP)

The data transfer protocol used on the World Wide web. Source: [Definition of Hypertext Transfer Protocol from the Oxford Dictionary](#).

|

ICT-AT competence

Skills and knowledge for using ICT-AT successfully.

ICT competences course

A formal or non-formal education course during which learners are engaged in learning activities for the acquisition of knowledge and skills, to use ICT, through practicing and studying.

ICT-AT competency

The demonstration of the ability to perform a specific task or achieve specified criteria for ICT-AT.

ICT-AT skills

The ability to use Assistive Technology based on ICT (ICT-AT) to successfully perform various tasks with digital technology.



ICT-AT specific course

A formal or non-formal education course during which learners are engaged in learning activities for the acquisition of knowledge and skills, to use digital technology for people with disabilities of all ages, through practicing and studying.

Information and Communication Technology (ICT) Learning

The acquisition of knowledge and skills, and the development of attitudes or values for the use of ICT, through practicing, studying, teaching and/or experiencing, in every aspect of life.

Image

An image is a primarily symbolic visual representation other than text. That image may include both electronic and physical representations. Source: [W3C Online Glossary](#).

Incentives

Any encouragement or motivation - external or internal – for learning, such as acknowledgment.

Inclusive curriculum

A common curriculum for all learners where the general aims are universal, but the programme objectives and teaching strategies can and should differ, whereas areas of learning can be either common or different (Norwich & Lewis, 2007).

Inclusive education

Young people - no matter who they are - can learn together in the same school. This entails reaching out to all learners and removing all barriers that could limit participation and achievement. Disability is one of the main causes of exclusion; however, there are also other social, institutional, physical, and attitudinal barriers to inclusive education. Source: [UNESCO - Inclusive education - Planning school for all](#).

Inclusive design

The concept of designing mainstream products and/or services to be accessible to, and usable by, as many people as reasonably possible ... without the need for



special adaptation or specialised design. Source: [Definition of Inclusive Design from the British Standard Institute](#).

Inclusive pedagogy

An approach to teaching and learning that attends to individual differences between pupils but avoids the marginalisation that can occur when pedagogical responses are designed only with individual needs in mind. Instead of providing something different or additional for children who experience difficulties in their learning, inclusive pedagogy seeks to extend what is ordinarily available to everybody. Source: [Florian, L. and Black-Hawkins, K., 2011. Exploring Inclusive Pedagogy. British Educational Research Journal, 37\(5\), pp. 813-828](#).

Inclusive school

A formal education school based on the philosophy of differentiation and equality of education and designed to accommodate all learners' needs regardless of disability, language, gender, religion or ethnicity, by providing accessibility in physical and learning environment. (Booth & Ainscow, 1998; Symeonidou & Phtiaka, 2014).

Inclusive society

A society that over-rides differences of race, gender, class, generation, and geography, and ensures inclusion, equality of opportunity as well as capability of all members of the society to determine an agreed set of social institutions that govern social interaction. Source: [DESA Expert Group Meeting on Promoting Social Integration, Helsinki, July 2008](#).

Individualized Educational Programme (IEP)

A learning plan with individualised learning objectives, proposed learning/teaching methodology and evaluation strategies for the needs of an individual learner with disabilities.

Informal education/learning

Learning experiences outside formal or non-formal education settings.

Initial education

Formal education of individuals before their first entrance to the labour market.



Input device

An input device is any hardware device that sends data to a computer, allowing you to interact with and control it. Apart from keyboard and mouse, there are several other ways of providing input to a computer, for example a range of assistive technology. Source: [eSpecial Needs: Assistive Technology Input Devices](#).

Instructor

A person who provides instruction and supports the learner's learning process.

Integrated Assistive Technology

System designed to allow an individual with a disability access to and control of more than one function, which they would otherwise be unable to achieve. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019

Interfaces

Shared boundary across at which two or more distinct components of a system interact; for example, the user interface of a computer is where the computer's hardware, software, and the human user interact. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019

Internet use

The ability to effectively use the internet. It requires essential internet skills such as efficient use of search engines to find information, use of e-mail to send and receive messages, use of the internet for online transactions (e.g. online banking, online purchases), etc. It also necessitates familiarity with safety considerations when using internet tools, and with internet ethics.

Interoperability

The ability of software and hardware on multiple machines from multiple vendors to communicate meaningfully. Source: [W3C Online Glossary](#).

Internet of Things (IoT)

Network of physical devices, vehicles, home appliances, and other items embedded with electronics that enable these objects to connect and exchange data. Source:



Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019

IOS

A mobile operating system created and developed by Apple Inc. exclusively for its hardware. Source: [Definition of IOS from Wikipedia](#).

J

Javascript

An object-oriented computer programming language commonly used to create interactive effects within web browsers. Source: [Definition of Javascript from the Oxford Dictionary](#).

K

Knowledge

Facts, information, and skills acquired by a person through experience or education.

KNX

Standardised OSI-based network communications protocol for building automation. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

L

Learner

A person with disabilities of any age who is involved in learning, in any learning setting.

Learning Content

Generally the term content refers the knowledge elements provided in a course or learning programme on which the learning is based.



Learning by doing

The process of learning from direct experience (e.g. by using technology for other functions, following tutorials in software, etc).

Learning goals or Goals for Learning

Broad statements used to express intended results in general terms (e.g. problem solving, ethical awareness, etc.).

Learning needs

The gap between a learner's current level and the desired level of knowledge, skills, or attitudes.

Learning Objectives

Clear, concise statements that are used to express intended learning outcomes in precise terms. Refer to specific tasks needed to accomplish the goals of the programme, and serve as a guide in selecting appropriate assessment tools.

Learning Outcomes (Outcome Behaviours)

Operational statements that identify the specific student behaviours that evidence the attainment of the intended learning objectives, e.g. the acquisition of desired knowledge, skills, abilities, capacities, attitudes or dispositions for ICT-AT.

Learning programmes

Learning programmes are intentionally designed and properly described educational interventions that aim at obtaining well specified learning outcomes.

Learning skills

The ability to search, construct and critically process knowledge and information, and develop skills and attitudes based on own interests and needs.

Learning with ICT-AT

The acquisition of knowledge and skills, and the development of attitudes or values, through using digital technologies (ICT-AT) by people with disabilities of all ages.



Lifelong learning

According to the European Commission (2001), "Lifelong learning is all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment-related perspective." (p.10). Lifelong learning crosses sectors, promotes learning beyond traditional schooling and throughout adult life. It is flexible, diverse and available at different times and in different places.

M

Mainstream school

A general formal education school for all learners, which integrates learners with disabilities.

Measures of learning

A general term to describe how we know if learners have learned what we wanted them to learn or have achieved the skills we wanted them to achieve.

Mobile-first design

This is a way of looking at design based on user behaviour. When a majority of the users are using their smartphone, it makes sense to design for mobile. These days, responsive design is more relevant, as users generally have all sorts of devices and screens in all shapes and sizes (anything from Apple watch via smartphones, tablets, portable computers to very big screens). Therefore, the interface of most content must be dynamic – not aimed at just one size. Source: [W3Schools - HTML Responsive Web Design](#).

Mobile Learning

Any activity that allows individuals to be more productive when consuming, interacting with, or creating information, mediated through a compact digital portable device that the individual carries on a regular basis (eLearning Guild, 2014). It involves the use of mobile technology alone or in combination with other ICT to enable learning anytime and anywhere (UNESCO, 2014), in formal, non-formal and informal learning environments.

Multimedia

Audio or video synchronized with another type of media and/or with time-based interactive components.

N

Natural languages

Languages used by humans to communicate, including spoken, written, and signed languages. Source: Own elaboration.

Needs based course

A course designed, implemented and assessed according to the needs of the learners it is addressed to. A learning needs assessment process precedes the design and development of the course.

Non-certified ICT-AT course

A course in which learners are involved in activities for developing ICT-AT competences without the acquisition of a certification.

Non-Formal education

Organized educational activities that take place outside the formal educational system.

O

Objects

An identifiable, encapsulated entity that provides one or more services requested by a client. Objects can refer to the objects in OOP (object-oriented programming) or the objects in OLE (Object Linking and Embedding). In object-oriented programming, objects are the things you think about first in designing a programme and they are also the units of code that are eventually derived from the process.

Open Learning

An approach to learning which focuses on the needs of the learners as perceived by the learners (Coffey, 1988), and which gives them flexibility and choice over what,



when, at what pace, where, and how they learn. Open learning activities, which often include aspects of e-learning, either enhance learning opportunities within formal education systems or broaden learning opportunities beyond formal education systems.

Operating system

A system software that manages computer hardware, software resources, and provides common services for computer programmes. Source: [Definition of Operating System from Wikipedia](#).

P

Peer

A person who interacts in any way with a person with disabilities of all ages in the learning process and/or its implementation.

Peer-tutoring

Learners receive support from peers. A representation of a microcosm of the traditional classroom (Gillies & Ashman, 2003); i.e. an unequal relationship between the tutor (teacher) and the tutee (learner), with high focus on curriculum content (Topping, 2005).

Performance Assessment

The process of using student activities or products, as opposed to tests or surveys, to evaluate students' knowledge, skills, and development. In performance assessment learners either do something in front of an audience (e.g. the whole class) or make a product (such as a piece of artwork, a device that solves a problem, a working model, etc.).

Personal Digital Assistant (PDA)

Also known as a handheld PC; mobile device that functions as a personal information manager. Source: Cowan, D, Najafi, D, Handbook of Electronic Assistive Technology, Academic Press, 2019.



Personally identifiable data

Any information relating to an identified or identifiable individual. Source: [W3C Online Glossary](#).

Personal/Intrinsic motivation

Reasons to learn which are driven by an interest or enjoyment in learning, and which exist within the individual.

Personal goals

The aims set by an individual as desired results of effort and actions.

Personal interest

An individual's feeling to want to learn and know about a subject.

Personal success

An individual's belief to accomplish personal goals.

Placeholder

Content generated by the user agent to replace author-supplied content. A placeholder may be generated as the result of a user preference (e.g., to not render images) or as repair content (e.g., when an image cannot be found). Placeholders can be any type of content, including text, images, and audio cues. Source: [W3C Online Glossary](#).

Plaintext

Data that is input to and transformed by an encryption process, or that is output by a decryption process. Source: [W3C Online Glossary](#).

Platform-as-a-service

A type of cloud computing offering in which a service provider delivers a platform to clients, enabling them to develop, run, and manage business applications without the need to build and maintain the infrastructure such software development processes typically require. Source: [Infoworld: What is PaaS? A simpler way to build software applications](#).



Portfolio/Dossier Assessment

A type of performance assessment in which learners' work is systematically collected over a period of time and is carefully reviewed and assessed for evidence of progress, effort, and achievement with respect to established learning outcomes and standards. In addition to examples of their work (e.g. samples of projects, exams, papers, presentations, videos of speeches and performances, reflective journals, etc.), most portfolios include reflective statements prepared by learners.

Plug-in

A programme that runs as part of the user agent and that is not part of content. Users generally choose to include or exclude plug-ins from their user agent. Source: [W3C Online Glossary](#).

Portable Document Format (PDF)

A document format that ensures design is shown the same way on all devices. The format can be made accessible but needs manual handling, which means that many PDF documents are inaccessible. Source: [Adobe – What is PDF?](#)

Privacy

Preventing the unintended or unauthorized disclosure of information about a person. Such information may be contained within a message, but may also be inferred from patterns of communication; e.g. when communications happen, the types of resource accessed, the parties with whom communication occurs, etc. Source: [W3C Online Glossary](#).

Primary education

Compulsory educational programmes following pre-school/early childhood education, aiming at basic literacy of all levels and aspects. Curricula of primary education include objectives, content and methodologies for establishing foundations for all scientific fields.

Programme Level Assessment

Assessment interested in the cumulative effects of the education process; it does not focus on an individual learner, but rather on what and how an academic



programme is contributing to the learning, growth and development of students as a group.

Procurement Directive

The Procurement Directive gives bodies procuring products and services over the threshold support for accessibility requirements. With the European Accessibility Act, the directive will have increased impact. Source: [Official legal text for the Procurement Directive](#).

Pupil

A person with disabilities of school age (around 3-18 years) that attends a formal educational setting/school up to secondary education.

Q

Quality of life

The individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (WHO, 2014).

R

Responsive Web Design

An approach to web design that makes webpages render well on a variety of devices and window or screen sizes. A site designed with RWD adapts the layout to the viewing environment by using fluid, proportion-based grids, flexible images, and CSS3 media queries. Source: Wikipedia.

Repository

A mechanism for storing user information under the control of the user agent. Source: [W3C Online Glossary](#).

Reward

Anything (e.g. object, certification, grade, etc) provided in recognition of the completion of a course, or an achievement, or effort.



Router

A computer that is a gateway between two networks at OSI layer 3 and that relays and directs data packets through that internetwork. The most common form of router operates on IP packets. In the context of the Internet protocol suite, a networked computer that forwards Internet Protocol packets that are not addressed to the computer itself. Source: [W3C Online Glossary](#).

S

Screen reader

A software programme that interprets navigation and content into spoken text or braille. Used by users who are visually impaired or dyslectic. Source: [Ability Net - An introduction to screen readers](#).

Screen magnifier

A software programme that magnifies a portion of the screen. Screen magnifiers are used by persons with visual impairments, reading - and writing impairments as well as motor impairments. Source: [Bureau of Internet Accessibility - Screen magnifiers: Who and how they help?](#)

Script

A scripting (programming) language used to create dynamic Web content. However, in checkpoints referring to the written (natural) language of content, the term "script" is used as in Unicode [UNICODE] to mean "A collection of symbols used to represent textual information in one or more writing systems." Information encoded in (programming) scripts may be difficult for a user agent to recognize. Source: [W3C Online Glossary](#).

Secondary education

Educational programmes usually in compulsory education following primary education. Curricula of secondary education may have academic or vocational content and objectives.



Self-Assessment

Assessment undertaken by the student herself or himself, on her or his own criteria, or using a shared rubric (e.g. use of a reflective journal).

Self-directed Learning

A process by which learners take the initiative to pursue a learning experience and the responsibility to complete their learning, without necessarily excluding the involvement of other individuals. According to Knowles' (1975) general definition, in self-directed learning the learners organize their own learning by recognising their learning needs, setting learning objectives, identifying learning materials and resources, implementing learning strategies and evaluating their own learning outcomes.

Self-esteem

A person's overall sense of self-worth or personal value.

Self-fulfilment

The fulfilment of an individual's hopes and ambitions.

Server

An application programme that accepts connections in order to service requests by sending back responses. Any given programme may be capable of being both a client and a server; our use of these terms refers only to the role being performed by the programme for a particular connection, rather than to the programme's capabilities in general. Likewise, any server may act as an origin server, proxy, gateway, or tunnel, switching behaviour based on the nature of each request.

Source: [W3C Online Glossary](#).

Sign language interpretation

Translation of spoken words and other audible information into a language that uses a simultaneous combination of handshapes, facial expressions, and orientation and movement of the hands, arms, or body to convey meaning. The national sign language is the maternal language of persons who are born deaf and a second language for person who become deaf.



Smart home

A smart home is a house or other dwelling with automated or remotely controlled components. Some "smart" components require an interface though most smart home features can be controlled by a mobile device or computer. Source: [Tech Terms – Smart Home](#).

Social media use

The ability to use social media sites such as Facebook, Twitter, and Myspace to communicate with others, and to create and sustain relationships with others (Boyd & Ellison, 2007).

Social participation

A person's involvement and interaction with others.

Software-as-a-service

A method of software delivery and licensing in which software is accessed online via a subscription, rather than bought and installed on individual computers. Source: [Definition of Software as a Service from Oxford University Press](#).

Special School

A formal education school only for learners with disabilities. A special school may be specific to a certain type of disability (e.g. targeting learners with visual disabilities) or not. It is connected to the philosophy of segregating education in contrast to inclusive education. Booth & Ainscow, 1998; Symeonidou & Phtiaka, 2014).

Speech to Text (STT)

The process of automatic generation from text or annotated text input to speech output. Source: [W3C Online Glossary](#).

Standardized assessment

An assessment designed to assist schools or other academic institutions in sorting out student performance along a continuum of ability and/or achievement. It is administered and scored in a predetermined, standard manner, so that the assessment results can be used to compare individuals or groups and highlight differences in achievement levels.



Summative assessment

Accountability-oriented assessment, usually high-stakes, which is employed at the completion of a particular sequence of learning activities to provide a macro view of teaching and learning. It includes marks or grades against an expected standard that sum-up or summarise the performance for individual learners, and/or statistics about the programme as a whole for internal or external accountability purposes.

Structured curriculum

A plan for interaction with learners which involves instructional objectives, content, materials and process for evaluating learning. Content is organized in specific units/sessions and corresponds to objectives and evaluation strategies.

Student

A person with disabilities of all ages that attends any formal or non-formal educational setting/school.

T

Technocentric curriculum (model for ICT)

A curriculum where ICT-AT competencies are considered as a discrete curricular subject. It aims to equip learners with the necessary skills deemed important for their future (Nicholson, 1995), considering ICT literacy as the acquisition of basic digital skills (Karagiorgi, 2013).

Telecare

Term for offering remote care of older and physically less able people. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019

Tertiary Education/Higher Education

The educational level following the completion of secondary education, for the acquisition of an academic or professional degree, including universities and other institutions that provide qualifications for higher learning degrees.



Text

Sequence of characters. Source: [W3C Online Glossary](#).

Text to Speech (TTS)

The process of automatic generation of speech output from text or annotated text input. Source: [W3C Online Glossary](#).

Trainee

A person with disabilities of all ages who receives training (for ICT-AT competences).

U

Undergraduate

Academic programs up to the level of a bachelor's degree, following secondary education.

Unicode

A character coding scheme that uses 16 bits for each character, designed to extend the capabilities of ASCII, which uses seven bits. Nearly all letters and symbols in all languages can be represented in a standard way with Unicode. The first 128 characters of Unicode are identical to those in standard ASCII. Unicode is an entirely new idea in setting up binary codes for text or script characters. Officially called the Unicode Worldwide Character Standard, it is a system for "the interchange, processing, and display of the written texts of the diverse languages of the modern world." It also supports many classical and historical texts in a number of languages. Source: [W3C Online Glossary](#).

University

A formal tertiary (higher) educational school that offers structured educational programmes for the acquisition of an academic degree and where academic research is conducted.



Universal Design for Learning

Universal Design for Learning refers to a process by which a curriculum (goals, methods, materials, and assessment) is intentionally and systematically designed from the beginning to address individual differences (CAST 2011, 9).

User

The end-user or any person who is close to the end-user (e.g. family member, educator, carer etc) and is involved in the use of any ICT-AT product or service.

User interface

It includes both:

- the user agent user interface, i.e., the controls (e.g., menus, buttons, prompts, and other components for input and output) and mechanisms (e.g., selection and focus) provided by the user agent ("out of the box") that are not created by content.
- the "content user interface," i.e., the enabled elements that are part of content, such as form controls, links, and applets.

Source: [W3C Online Glossary](#).

Usability

Able or fit to be used. Source: [Definition of Usability from the Oxford Dictionary](#).

User agent

Any software that retrieves and renders Web content for users. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.

User-agent-supported

Implemented by user agents and assistive technologies. Source: Cowan. D, Najafi. D, Handbook of Electronic Assistive Technology, Academic Press, 2019.



User Agent Accessibility Guidelines (UAAG)

Guidelines that explain how to make user agents accessible to people with disabilities. User agents include browsers, browser extensions, media players, readers and other applications that render web content. Source: [W3C Online Glossary](#).

User Centred Design (UCD)

A user interface design process that focuses on usability goals, user characteristics, environment, tasks, and workflow in the design of an interface. UCD follows a series of well-defined methods and techniques for analysis, design, and evaluation of mainstream hardware, software, and web interfaces. The UCD process is an iterative process, where design and evaluation steps are built in from the first stage of projects, through implementation. Source: Shawn Lawton Henry and Mary Martinson, Accessibility in User-Centered Design.

User experience

Commonly abbreviated "UX," it is the experience a person has using a product or service. In the technology world, this often refers to a hardware device or software programme. A positive user experience is simple, intuitive, and enjoyable. A negative user experience is complex, confusing, and frustrating. Source: [Tech Terms – User Experience](#).

User requirements

They are typically written when discussing the use cases for a project. The requirements definition is done with the customer or product managers that know how the embedded system will be used by the user. Many user requirements deal with how a user will interact with a system and what that user expects. If there is a screen or human machine interface aspect to the system, a user requirement may be based on what happens when the user selects an action on the screen. Source: [Science Direct – User requirement](#).

Universal design

Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. Source: [The Centre of Excellence in](#)



[Universal Design - The Centre of Excellence in Universal Design: What is Universal Design?](#)

United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)

The Convention follows decades of work by the United Nations to change attitudes and approaches to persons with disabilities. It takes to a new height the movement from viewing persons with disabilities as “objects” of charity, medical treatment and social protection towards viewing persons with disabilities as “subjects” with rights, who are capable of claiming those rights and making decisions for their lives based on their free and informed consent as well as being active members of society.

The Convention on the Rights of Persons with Disabilities and its Optional Protocol (A/RES/61/106) was adopted on 13 December 2006 at the United Nations Headquarters in New York and was opened for signature on 30 March 2007. There were 82 signatories to the Convention, 44 signatories to the Optional Protocol, and 1 ratification of the Convention. It is the first comprehensive human rights treaty of the 21st century and is the first human rights convention to be open for signature by regional integration organizations. The Convention entered into force on 3 May 2008. Source: [United Nations - Convention on the Rights of Persons with Disabilities](#).

V

Video

The technology of moving pictures or images (Note: Video can be made up of animated or photographic images, or both). Source: [W3C Online Glossary](#).

Virtual Learning Environment

A learning environment based on the web, which is “designed to act as a focus for students’ learning activities and their management and facilitation, along with the provision of content and resources required to help make the activities successful.” (JISC, 2008).

Visual object

A visual object is output from a visual viewport. Visual objects include graphics, text, and visual portions of movies and animations. Source: [W3C Online Glossary](#).



Vocational education

Educational programmes that prepare learners for specific occupations in industry, crafts, technical careers or other professional positions in various fields, traditionally non-academic. Curricula of vocational education include learning objectives and strategies for the development of expertise in particular skills and techniques.

Vocational in-service training

Educational programmes delivered during an individual's employment, often organised by the employer, which provide learners with additional skills and expertise specific to their occupation.

Vocational Training Centre

An educational institution that offers programmes to prepare learners for specific occupations in industry, crafts, technical careers or other professional positions in various fields, traditionally non-academic.

W

Web Accessibility

Web accessibility means that websites, tools, and technologies are designed and developed so that people with disabilities can use them

Web Accessibility Directive

The directive states that public sector agencies and other bodies governed by public law must comply with minimum accessibility requirements in the EN301549 v 2.1.2. Source: [Official legal text for the Web Accessibility Directive](#).

Web Content Accessibility Guidelines (WCAG)

Guidelines developed through the W3C process in cooperation with individuals and organizations around the world, with a goal of providing a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally. The WCAG documents explain how to make web content more accessible to people with disabilities. Web "content" generally refers to the information in a webpage or web application, including: natural information such as text, images, and sounds code or markup that defines structure,

Page **87** of **88**



Co-funded by the
Erasmus+ Programme
of the European Union

presentation, etc. Source: [W3C Web Accessibility Initiative - Web Content Accessibility Guidelines \(WCAG\)](#).

Web of Things (WoT)

Set of Standard developed by W3C intended to enable interoperability across IoT platforms and application domains. Source: [W3C Web of Things Architecture](#).

Webpage

A hypertext document on the World Wide Web. Source: [Definition of a Webpage from the Oxford Dictionary](#).

Website

A collection of interlinked Webpages, including a host page, residing at the same network location.

Web service

A software system identified by a URI, whose public interfaces and bindings are defined and described using XML. Its definition can be discovered by other software systems. These systems may then interact with the Web service in a manner prescribed by its definition, using XML based messages conveyed by Internet protocols. A collection of EndPoints. Source: [W3C Online Glossary](#).

