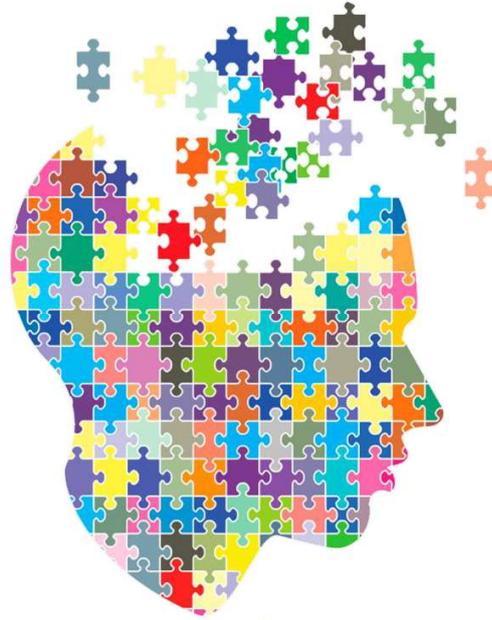




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Training University Teachers for the Inclusion of People with Intellectual Disabilities

GUIDELINES AND STRATEGIES FOR THE ATTENTION TO STUDENTS WITH INTELLECTUAL DISABILITIES IN POST-COMPULSORY EDUCATION



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Introduction

The concept of inclusion has been developed relatively recently in the theoretical and practical fields of education; however, parents, teachers, students, educational theorists and professionals worldwide tend to argue that any educational programme must be inclusive if they are to be considered democratic and of high quality (Armstrong et al., 2011; Biesta, 2009; Booth & Ainscow, 2002; Dell'Anna et al., 2019; European Agency for Special Needs and Inclusive Education, 2020; Leyser & Kirk, 2004; Odom & Diamond, 1998; Purdue et al., 2009; UNESCO, 2013). This means ensuring that all students, both with and without disabilities and generally with special-education needs, are guaranteed access to quality education and are allowed to attend ordinary schools. Nowadays, inclusion is considered a fundamental right and not just a guiding principle (Echeita & Ainscow, 2010), with various countries worldwide committing to its implementation in their respective education and training systems.

The execution and political planning of inclusive educational paths depend on each country's history and culture of disability. On the one hand, if a country's dominant notion is that disability is exclusively associated with individual traits (attributable to the so-called medical model of disability), then it will tend to have lower expectations for people with disabilities, which will influence learning opportunities. On the other hand, if a country considers disability as a condition resulting from interactions between biological, psychological and social factors and that each person is the product of an intertwining of social skills; historical, cultural and environmental situations; and health conditions, then it will tend to organise its educational and training systems according to more equitable principles for all students (according to the biopsychosocial model). Finally, if disability is accepted as 'an evolving concept and that disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders

their full and effective participation in society on an equal basis with others', as stated in the Convention of the United Nations on the Rights of Persons with Disabilities (2006, Preamble, letter e), which in Article 1 clarifies that '[p]ersons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others', then the violation of one's right to education (even higher education) is synonymous to a violation of their human right. Therefore, the idea of disability strongly changes the competence of policies in the educational field at all levels, including universities, in implementing inclusive training systems.

Supporting inclusion in the educational and training fields requires economic investment and cultural and political choices that value the school system. Also, teachers should both offer learning opportunities to all students and believe that all students, regardless of ethnic origin, culture, religion, gender and sexual orientation, from disability and ability, must be provided the opportunity to receive an excellent education.

Background of the topic

According to the European Agency for Special Needs and Inclusive Education (EASNIE), 'As more countries move to a wider definition of inclusive education, diversity is recognised as 'natural' in any group of learners and inclusive education can be seen as a means of raising achievement through the presence (access to education), participation (quality of the learning experience) and achievement (learning processes and outcomes) of all learners' (European Agency for Special Needs and Inclusive Education (EASNIE), 2014). We consider inclusive education, therefore, to mean those policies that recognise diversity as a standard and create the conditions for everyone to participate, in the democratic sense of the term, in education and training processes.

The idea that students with disabilities could take part in educational and training processes with their peers without disabilities, while not currently discussed, is the result of a conceptual evolution of what 'disability' means and of treatment and management policies for people with disabilities.

Even though people with disabilities had been generally relegated to domestic contexts and included in educational paths until the second half of the 20th century, it was only during the 1960s when they were given the opportunity to attend special schools separate from those attended by other students, experiencing the profound dynamics of exclusion from the rest of their community. Such dynamics may also be attributed to the wave of contestation affecting many countries at the time and leading to a criticism of institutionalisation, with people with disabilities gradually conquering the public scene and contributing to the configuration of new spaces of freedom and rights. One prominent movement that has promoted this process of change and the start of epochal social transformations, supporting demands for liberty and justice for people with disabilities as well as their freedom to live by self-determination, was that of Independent Living, established in the 1960s

at the University of Berkeley, United States. The movement fought for the elimination of architectural barriers inside and outside the university campus and access to services that are qualitatively adequate for the needs of university students with disabilities, even complex ones, to promote actions of influence on political contacts to effect changes including those in the legislative field and the protection of rights.

From a theoretical perspective, if we specifically examine intellectual disability (ID), Bengt Nirje's 'principle of normalisation' (1969), which dates from the late 1960s, argues that we must encourage the development of models and conditions of everyday life for people with disabilities that are as close as possible to those that apply to the rest of the community. Developed in Northern Europe, the concept quickly spread to the United States and Canada and laid the foundations for the integration principle. During the 1970s, Europe and Canada paved various paths of school integration for students with disabilities in public schools. The integration phase, however, had a substantial bottom line: these students were required to adapt to the school context and teaching methods although support and aid were expected. This meant that if a student could not follow programmes and activities conducted in the classroom, it would be the individual and not the school or teachers, who would be deemed responsible for their failure to learn and integrate. Meanwhile, the inclusive approach turns the gaze upside down: what must be changed is the educational context so that equal access is provided to all members without distinction and equal opportunities for evolution and growth are given according to their ability and skills.

The first international document that asserted the need to include all students in common education and instruction contexts is the Salamanca Statement, adopted by United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1994, which includes the phrase 'education for all'. According to the statement, '[A]ll children

should learn together [...]. Inclusive schools must recognise and respond to the diverse needs of their students [...] ensuring quality education to all through appropriate curricula, organisational arrangements, teaching strategies, resource use and partnerships with their communities'. In addition, the UNESCO Guidelines for Inclusion (2005) argued that regular schools with an inclusive orientation are the most effective way to combat discriminatory attitudes, build inclusive societies and achieve education for all and that children have the right to good-quality basic education, which requires the creation of school environments and basic education programmes that facilitate learning. However, it was the United Nations (UN) Convention on the Rights of Persons with Disabilities, ratified by the European Union on 10 December 2010, and entered into force in all member states on 22 January 2011, that best interprets the theoretical and conceptual foundations of inclusion. In Article 24, the convention recognises education as a human right that must be realised without discrimination and based on equal opportunities between members of society, that is, beyond their physical, psychological, economic, social, cultural conditions, ensuring an inclusive education system at all levels and the continuation of lifelong learning. The convention outlines an educational context that targets people with disabilities and is not separate but common to the one experienced by all students regardless of their condition. In accordance with the goal of full inclusion, the convention specifically argues that individuals should not be excluded from the general education system because of their disability, that they can access quality and free primary education and all secondary education on equal footing with others within their communities, and that effective personalised support measures must be provided in environments that optimise school progress and socialisation.

UNESCO (2013) embraced a global concept of inclusion derived from the UN General Assembly of 1966, which clarified education as a

fundamental human right. In this context, inclusion is configured as an essential right, given that large populations worldwide continue to suffer from a lack of access to education systems. The UNESCO mission states that if 'the right to education for all is to become a reality, we must ensure that all learners have access to quality education that meets basic learning needs and enriches lives' (UNESCO, 2013, p. 12).

Meanwhile, the EASNIE defines inclusive education as 'the provision of high quality education in schools that value the rights, equality, access and participation of all learners' (EASNIE, 2018). Its operational definition of 'inclusive setting' covers all educational areas in which a pupil with SEN receives education in common classes with their peers for at least 80% of their weekly school hours.

Inclusive education helps overcome the barriers between the individual with ID and the opportunity to participate in general education classes; that is, inclusive education 'strengthen[s] the capacity of the education system to reach out to all learners' (UNESCO, 2017, p. 7). As a process, inclusive education concerns all students, including those with ID and those who suffer from marginalisation and exclusion for various reasons.

With regard to higher education and universities, university institutions throughout Europe are engaged in a process of change that is part of the so-called Bologna Process (1999), which aims to create a European Higher Education Area toward the creation of unified quality and academic standards for all European countries. One such standard seeks to generalise the principle of equal access to higher education for all 'underrepresented groups', including people with disabilities and especially those with ID.

Article 24 of the United Nations Convention on the Rights of Persons with Disabilities (2006) requires its members to 'ensure that persons with disabilities are able to access general tertiary education, vocational training, adult education and lifelong learning without discrimination

and on an equal basis with others. To this end, States Parties shall ensure that reasonable accommodation is provided to persons with disabilities'. Following the adoption of the European Charter of Fundamental Rights, the Lisbon Treaty (2009), and the aforementioned convention, the European Commission unveiled its European Disability Strategy 2010–2020; this assumed the principle of inclusion that defines 'marginal' as a criterion to be adopted among its strategies for modernising and innovating the university education system as well as reducing poverty and enhancing scientific development. In general, the European Union considers as a priority the inclusion of individuals with disabilities (Waddington, Quinn and Flynn, 2012; Waddington and Lawson, 2009). Finally, Objective 4 of Agenda 2030 ('Quality Education') refers, among other things, to providing fair access to all levels of education and vocational training of people with disabilities, promoting human rights education and constructing and strengthening education facilities accessible to people with disabilities.

To be considered inclusive, a university must not be limited to be an integrative institution, that is, performing a function of accompanying individuals with disabilities, through the provision of services and support. All the documents mentioned, particularly the United Nations Convention, require institutions to change their structure and prioritise structural, social and environmental obstacles, not so much the student themselves with or without disabilities, and act on them so that any student feels welcomed. In this perspective, it is not individuals who must be considered; rather, the processes, procedures, spaces, times and teaching methods must be designed inclusively.

The inclusion of students with ID in university must address the issue of skill level certification. It should be pointed out that a formal certification of skill level can be distinguished from the legal validity of such a qualification.

Specific concepts

The key concepts of this topic involve the promotion of inclusion, which entails actions on many different levels: the vision of inclusion and disability, regulatory frameworks of higher and university education, the identity of an inclusive teacher and the university as an environment that guarantees the quality of life of an individual with ID.

The basic concepts related to the topic are as follows:

1. A new vision of disability: from the medical model to the social and capability models
 - The medical model: from the biological deficits that rehabilitation technicians must confront
 - The social model and the emphasis on context
 - The International Classification of Functioning, Disability and Health (ICF) model: removing barriers and increasing the number of facilitators to improve inclusion in the higher education context as well
 - The capability model as an embodiment of human self-determination

2. Basic principles of inclusion
 - The definition of the concepts of social and academic inclusion
 - What it means to create an inclusive university environment for students with ID
 - Inclusion not only entails university access for students with ID but also recognises their significant role, which is appreciated by both classmates and teachers

3. International-level and European regulatory developments

- International legislation with particular reference to the United Nations Convention on the Rights of Persons with Disabilities (2006)
- How the convention influences national legislation
- European Disability Law and Policy, with particular reference to higher education and university attendance by students with disabilities including ID
- National legislation on disability, with particular reference to higher education and university attendance by students with disabilities including ID

4. Data on higher education and university attendance by students with ID

- European-level statistical data on higher education and university attendance by students with disabilities including ID
- Statistical data on the outcomes of higher education and university attendance by students with disabilities including ID

5. What it means to be an inclusive teacher

- Believing in the potential of students, even those with disabilities
- Adapting the curriculum of one's discipline to meet the needs of all students, even those with disabilities
- Effectively motivating all students, even those with disabilities
- Mastering the most effective strategies to promote meaningful learning in all students
- Being able to evaluate all students, even those with disabilities
- Offering, even to students with disabilities, appropriate opportunities to share their potential and skills



6. Higher education and university as significant environments for the quality of life of people with ID
 - The concept of quality of life for people with ID
 - Higher education and university as pathways for individual affirmation that enables students with ID to play socially recognised and rewarding roles
 - How to help people with ID to experience life in higher education and university environments
 - Higher education and university as springboards for both the professional integration and social affirmation of students with ID

7. Changes required within the university organisation to encourage the attendance and inclusion of students with ID
 - The establishment of disability support services
 - A stronger focus on teaching methodology and not only frontal lessons
 - The appropriate use of technologies to support learning
 - The adaptation of services to enjoy university life with other students
 - The adaptation, in terms of accessibility, of study spaces, furniture and materials

8. Specific training required by European university teachers
 - A module-based training course that aims to (a) improve one's knowledge of students with ID, (b) improve teaching, (c) adapt curricula, (d) develop personal skills and (e) construct inclusive contexts

Special needs for people with ID about the topic

To cultivate inclusion principles, a teacher must act in three directions: personal, methodological and didactic and organisational.

The special needs of students with ID engage a teacher on a *personal* level. Hence, a teacher's actions must both enhance the knowledge of students with ID and reduce problems associated with intellectual deficit. For more detailed information on this point, see topic 2.8, which addresses some aspects related to attention and working memory, long-term memory, communication, comprehension, metacognition and motivation. Based on such knowledge, a teacher must assess diverse levels of prior disciplinary skills; promote teaching experiences, which include collaborative teaching (peer to peer, group study, etc.) and advocate programmes for improving students' learning methods, with particular attention to those with difficulties.

The special needs of students with ID engage the teacher on a *methodological and didactic* level as well, particularly through a teacher's adaptation of their discipline to meet these needs. This requires dividing a course into well-defined sections with formative assessments at the end of each one, providing the student with contents in advance so that they can organise their understanding processes, adapting and organising contents according to UDL principles (see topic 2.5) and providing for adapted assessment methods (also simplified, if necessary).

Finally, the special needs of students with ID engage the teacher on an *organisational* level. Addressing such needs requires the adaptation of one's learning and living environment. Barriers can be not only architectural but also cultural and organisational. Creating an environment that is conducive to inclusion also means raising other students' awareness of the conditions and needs of people with ID, with the aim to increase prosocial behaviour toward peers with ID in the

classroom. From an organisational viewpoint, it may also be important to provide IT tools and aids and select some tutors. These tutors can facilitate lesson attendance, support personal study and reduce any discomfort caused by travel and thus promote a culture of accessibility and a sense of belonging by students with ID to their university. The presence of these tutors also provides an incentive for students to participate in events and activities within and outside the academic structures. Meanwhile, involving tutors implies a reflection on their legal responsibility.

Methodological proposals

Promoting inclusion means acting on two different levels: (1) enhancing students' learning opportunities to better address the subject contents and (2) adapting the learning context to make it more accessible through interventions on both the organisation of the context and the curriculum.

Specifically, one can promote inclusion by focusing on three key issues.

1. *How can I enhance the skills of students with ID so that they can comprehend my discipline and learn its contents?*

The teacher must know at least the basic cognitive, communicative, sociorelational and behavioural characteristics of students with ID so that they can organise their communications, study materials and formative and summative assessment methods accordingly. (Note: These contents are linked to those developed in topic 2.8, which discuss the specific difficulties of students with ID and the methodologies to be used to promote the learning of study topics, even complex ones.)

Working as an inclusive teacher requires the following skills:

- the appropriate evaluation of student diversity, considering differences as a resource and a richness;
- the ability to support students and set high individual expectations of academic success for them;
- good working relationships with other colleagues and the establishment of fruitful collaborations with specialists and tutors;
- the development of at least a basic knowledge of inclusion issues, recognising that providing equal learning opportunities for all is also a teacher's responsibility in higher education.

2. How can I fine-tune my teaching materials and methods so that students with ID can participate in the lessons and achieve better learning outcomes?

Knowledge, in order to be taught, must be 'transposed'. The *didactic transposition of knowledge* is an adaptation process that considers students' individual characteristics as well as the discipline's epistemic characteristics. The teacher is tasked to adapt their teaching programmes and methods to enable everyone, including students with ID, to achieve successful learning.

ICF system. A teacher may adapt their teaching process to students' characteristics by considering the ICF system. An ICF-mediated approach allows a teacher to interpret the person's disability as a product of the complex interaction between health conditions and contextual factors, the activity of each individual and their potential to participate in social life. This would help a teacher overcome the reference model that predominantly attributes everyone's success to the biomedical dimension.

Capacity vs. performance. The difference between capacity and performance allows a teacher to distinguish each student's potential and the level of performance that they can manifest if they are placed under favourable environmental conditions. A teacher must also remove barriers to learning as well as provide facilitation tools that help all students, even those with ID, achieve positive results for their quality of life.

3. How can we make life easier for students with ID in our university?

Incoming orientation. Students with ID must ensure they choose the correct course of studies to enrol in and it is fundamental that their

choice be authentic, personal and based on their own interests rather than those of their parents. If this key element is missing, the result is usually abandonment.

Guidance in itinere. Attending university means experiencing its context and not just its learning contents. Students with ID require special precautions regarding the way they are welcomed and their future participation in the academic environment. This is about removing barriers or at least reducing their impact and implementing actions that help increase the accessibility and availability of university courses.

Skills assessment. Universities must construct methods and criteria to assess the skills developed by students with ID as well as provide specific job orientation training. In this way, if a student with ID abandons their studies before graduating, they will have experienced an inclusive period of life at the university by the time they take on a job role outside it.

We provide some innovative, evidence-based pedagogical strategies to develop teachers' didactic skills:

- problem-based learning (PBL)
- flipped classroom
- debate

These teaching–learning strategies can be integrated with one another and adopted in any educational setting. Following the UDL approach, these strategies must be adapted to the special needs identified in the previous paragraph (e.g. individual support in self-study activity, adaptation of didactic materials such as videos, concept maps, the decomposition of problems into subproblems, etc.).

The **PBL** methodology consists of problem-based lessons and is organised in the following scheme:

<p>Preparation phase</p>	<ol style="list-style-type: none"> 1. The teacher sets goals and constructs a problem, ensuring that it is <ul style="list-style-type: none"> • focused on content appropriate to the students' cultural and/or professional development; • complex enough for the students' existing knowledge (neither too simple nor too complicated); • brief, well-structured and concretely formulated and • open to different learning and teaching strategies and styles. 2. The teacher prepares to play a tutor/facilitator role. 3. The teacher prepares a list of bibliographic resources (from the library or online) to suggest to students for their independent study. 4. The teacher establishes evaluation strategies and ensures that they conform with previously established teaching/learning objectives. 5. The teacher foresees possible criticalities.
<p>Start-up phase</p>	<ol style="list-style-type: none"> 1. The teacher explains the characteristics of PBL, clarifies the 'seven jumps' procedure and clearly describes the objectives to be achieved. 2. The teacher prepares the classroom environment for activities in small groups (6–8 students if possible)



	<p>within which the teacher identifies a moderator and a secretary.</p> <p>3. The teacher explains his or her role as a tutor/facilitator, which replaces the traditional role of a disciplinary expert who provides information through lectures.</p>
<p>Application phase</p>	<p>1. In the first meeting (about two hours), the teacher introduces the problem and uses scaffolding to guide students through the first five phases of the investigation:</p> <ul style="list-style-type: none">• Clarify unclear or unfamiliar terms and concepts (jump 1).• Define the problem (jump 2).• Analyse the problem (jump 3).• Make a systematic list of explanations derived from jump 3 (jump 4).• Formulate learning outcomes (jump 5). <p>2. The teacher/tutor is concerned about enhancing each member's contribution within their groups, highlighting different perspectives to create situations of sociocognitive conflict that increase students' motivation for independent study.</p> <p>-3. At the end of the meeting, the students autonomously deepen their knowledge so they can test the hypotheses they have formulated, utilising the teacher's/tutor's bibliographical suggestions (jump 6).</p>



	<p>The duration of the self-directed study phase may vary (generally from three to seven days).</p>
Revision	<ol style="list-style-type: none">1. After the self-directed study phase, a collective peer review is conducted in which students discuss and share their independently acquired knowledge.2. A second meeting, roughly an hour long, is held to synthesise and evaluate students' additional information acquired through the independent study (jump 7).3. The teacher supervises the evolution of learning outcomes and promotes self-study and self-evaluation strategies.
Evaluation	<ol style="list-style-type: none">1. The teacher develops tasks to assess the knowledge and skills involved in the problems they have formulated.2. The teacher describes students' behaviour in terms of their<ul style="list-style-type: none">• teamwork skills,• ability to formulate problem-solving strategies and• ability to apply existing knowledge to problems to understand them better.3. The teacher certifies the students' level of acquired skill.

The **flipped classroom** methodology consists of two main phases. First, the students autonomously study video materials provided by the teacher. Second, the class discusses and deepens their knowledge of key aspects of the topic and its most contentious points. The following scheme describes the organisation of the work:

<p>Preparation phase</p>	<ol style="list-style-type: none"> 1. The lesson's objectives are developed. 2. Activities and materials are provided (in paper or digital format) to activate preconceptions and present and explain the lesson's topics. Students autonomously participate in the proposed activities and study the materials before the face-to-face lesson. 3. Critical points are expected.
<p>Start-up phase</p>	<ol style="list-style-type: none"> 1. The lesson's goals are explained. 2. The classroom environment (classroom and digital resources) is organised for the presentation of the materials that the students studied at home. 3. A first reconnaissance is conducted (through activities dedicated to the purpose) to identify the students' preconceptions and express any doubts or criticalities on the subject of the lesson.
<p>Application phase</p>	<ol style="list-style-type: none"> 1. The key concepts of the lesson's disciplinary contents (already identified in the materials examined at home) are shared through plenary discussions. 2. The students conduct, among their peers, in-depth activities (such as problem-solving,



	<p>discussions and structured exercises) requiring them to use superior cognitive skills applied to the disciplinary content of the lesson.</p> <p>3. Feedback on the activities is provided, critical issues discussed and any doubts clarified.</p>
Revision	<p>1. Under the guidance of the teacher, students conduct a final review of the lesson's main contents.</p> <p>2. Reflection sessions are arranged to assess the effectiveness of the adopted strategies in managing the various activities.</p> <p>3. Students are advised to self-evaluate based on the objectives explained at the beginning of the lesson.</p>
Evaluation	<p>1. The teacher creates tasks to evaluate the knowledge and skills involved in the discussed topics.</p> <p>2. The teacher identifies descriptors of students' behaviour associated with their</p> <ul style="list-style-type: none">• autonomy in the learning process at a distance,• critical processing capacity and• metacognitive skills. <p>3. The teacher certifies the students' level of acquired skill.</p>

The **debate** is a didactic strategy consisting of a communicative exchange guided by rules between two teams ('for' and 'against') that

face each other on a topic to be discussed, developed, endorsed, and defended.

<p>Preparation phase</p>	<ol style="list-style-type: none"> 1. The teacher clearly explains the objectives to be achieved, the characteristics of the debate and the rules to be followed. 2. The teacher briefly introduces the topic that the students will discuss. 3. The teacher will also present the materials (e.g. books, online resources, etc.) that students can consult to substantiate their arguments.
<p>Start-up phase</p>	<ol style="list-style-type: none"> 1. The teacher reiterates the objectives and brainstorms the students' preconceptions about the selected topic. 2. The teacher divides the students into teams—'for' and 'against'—to deliberate on the key issue defined in the preparation phase. 3. The classroom is arranged so that the two groups can interact separately from each other and consult the relevant sources.
<p>Application phase</p>	<p>First, the teacher supports the two groups individually so that all group members can</p> <ol style="list-style-type: none"> 1. interact with one another,



	<ol style="list-style-type: none">2. properly use the sources they need to construct their group's arguments and3. reflect on their assertions. <p>Afterward, the teacher facilitates the discussion, ensuring that the two groups</p> <ol style="list-style-type: none">1. emphasise the empirical evidence in support of their theses and2. use different argumentative and communicative strategies.
Revision	<p>At the end of the debate, the teacher</p> <ol style="list-style-type: none">1. reflects with the students on the essential elements emerging from their respective arguments and2. monitors how students modified their preconceptions and evaluates their learning outcomes.
Evaluation	<ol style="list-style-type: none">1. The teacher creates tasks to assess the knowledge and skills involved in the discussion topic.2. The teacher develops descriptors of students' behaviours associated with their ability to<ul style="list-style-type: none">• argue/justify their positions,• critically analyse the issue under consideration and

	<ul style="list-style-type: none">• support a communicative exchange. <p>3. The teacher certifies the students' level of acquired skill.</p>
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With reference to teachers' development of their evaluation skills, we propose a focus group organised around four main questions that aim to define the purpose of evaluation, the types of evaluation tests, the evaluation criteria, the descriptors of students' behaviour and the adopted assessment scale. This will include adaptations to the evaluation process, such as using support devices, allotting extra time for answering the test and adapting the test according to the special needs of students with ID.

The four questions are as follows:

1. How does the discipline you teach influence the way you evaluate?
2. What evaluation practice do you adopt?
3. What are your main evaluation goals?
4. What are the main criticalities that you encounter regarding evaluation practices?

References of the topic

- Armstrong, D. A. C Armstrong, and I. Spandago. 2011. "Inclusion: by choice or by chance?." *International Journal of Inclusive Education* 15(1), 29–39.
- Biesta, G. 2009. Democracy, education and the question of inclusion. 101–112 in *Education, democracy and the moral life*. Ed. by M. Katz, S. Verducci, and G. Biesta. Dordrecht: Springer.
- Booth, T., and Ainscow, M. 2002. *Index for INCLUSION: Developing learning and participation in schools*. United Kingdom: Centre for Studies on Inclusive Education.
- Dell'Anna S., Pellegrini, M. and Ianes, D. Experiences and Learning Outcomes of Students Without Special Educational Needs in Inclusive Settings: a Systematic Review. *International Journal of Inclusive Education*. Ed. by V. Soriano. Odense, Denmark: European Agency for Special Needs and Inclusive Education. 2019, 1. DOI: 10.1080/13603116.2019.1592248EASNIE. 2014. Five Key Messages for Inclusive Education. *Putting Theory into Practice* 16.
- EASNIE. 2014. Five key messages for inclusive education. *Putting theory into practice*. Ed. by V. Soriano. Odense, Denmark: European Agency for Special Needs and Inclusive Education.
- EASNIE. 2018. Evidence of the link between inclusive education and social inclusion: a review of the literature. Ed. by S. Symeonidou. Odense, Denmark: European Agency for Special Needs and Inclusive Education
- European Agency Statistics on Inclusive Education: 2018 Dataset Cross-Country Report, <https://www.european-agency.org/resources/publications/european-agency-statistics-inclusive-education-2018-dataset-cross-country>

- Leyser, Y., and R. Kirk. *International Journal of Disability, Development and Education*. 2004. "Evaluating inclusion: an examination of parent views and factors influencing their perspectives." 51(3), 271–285.
- Nirje, B. 1969. The normalization principle and its human management implications. 179–195 in *Changing patterns in residential services for mentally retarded*. Ed. by R.B. Kugel, and W. Wolfensberger. Washington, DC: President's committee on mental retardation.
- Odom, S.L., and K. E. Diamond. 1998. "Inclusion of young children with special needs in early childhood education. Research Base." *Early Childhood Research Quarterly* 13(1), 3–25.
- Purdue, K., Gordon-Burns, D., Gunn, A., Madden, B., & Surtees, N. (2009). Supporting inclusion in early childhood settings. Some possibilities and problems for teacher education. *International Journal of Inclusive Education*, 13(8), 805-815.
- Sarrionandía, G. E., & Ainscow, M. (2011). La educación inclusiva como derecho. Marco de referencia y pautas de acción para el desarrollo de una revolución pendiente. *Tejuelo: didáctica de la lengua y la literatura. Educación*, (12), 26-46.
- UNESCO: United Nations Educational, Scientific and Cultural Organization. 2013. *Inclusive Education. Building the Bridge Between Research, Policy and Practice*, <http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/pdf/information-note-agendaInternational-day-person-with-Disabilities.pdf>
- UNESCO. 2017. *A guide for ensuring inclusion and equity in education*. Paris, France: United Nations Educational, Scientific and Cultural Organization.
- Verdonschot, M. M., De Witte, L. P., Reichrath, E., Buntinx, W. H. E., & Curfs, L. M. (2009). Community participation of people with an



intellectual disability: A review of empirical findings. *Journal of intellectual disability research*, 53(4), 303-318.

➤ Waddington, L., & Lawson, A. 2009. Disability and non-discrimination law in the European Union: An analysis of disability discrimination law within and beyond the employment field. Publications Office of the European Union,

<https://tandis.odhr.pl/bitstream/20.500.12389/20813/1/06267.pdf>

➤ Waddington, L. B., Quinn, G., & Flynn, E. 2012. *European Yearbook of Disability Law*, vol. 3, Cambridge U.K.: Intersentia.

Glossary

ICF: International Classification Model of Functioning, Disability and Health [WHO, 2002]. Through this tool, population health and disability is described and measured. Specifically, through the bio-psycho-social model, a person's quality of life is the result of the interaction of multiple components: bodily functions, body structures, activities and participation, environmental factors, and personal factors (the latter mentioned although not classified).

Inclusive curriculum: A school curriculum (consisting of school disciplines and educational projects) to be inclusive must be flexible (in teaching-learning methodologies as well as in forms of student involvement and expression) and accessible (ensuring multiple forms of representation of learning content). In other words, it must be able to meet the educational needs of each and every person through the enhancement of differences and potential.

Inclusive evaluation: Evaluation must be based on systematic, formative (to constantly monitor progress) and summative (final standardized tests) assessment tests in order to monitor the achievement of the goals set in individualized planning (in terms of improving performance and skills and acquiring greater autonomy and participation). Inclusive evaluation must be equitable. The tests must be both compatible with the assistive technologies used by students and free of barriers that would negatively alter their performance.

Inclusive teacher: The European Agency for Development in Special Needs Education (2012) proposed a profile of inclusive teachers articulated in the following four macro values: valuing the diversity of pupils (valuing differences); supporting pupils (promoting the potential of each and every one); working with others (collaboration and teamwork



must become ordinary practices); and developing ongoing personal professional development (teachers have a responsibility to train throughout their careers).

Universities as inclusive learning organisations: The "UN Convention on the Rights of Persons with Disabilities" (2006) promotes the right to lifelong learning under conditions of equal opportunity (Art. 24). Universities are therefore responsible for promoting and supporting access to their courses of study in order to foster full human development, entry into the world of work, and self-determination for each and every person.

Resources

Some ideas: Such resources may include biographies of people with ID who attend university in countries that implement special supporting measures. This can be extremely useful in demonstrating how the university experience can be vital for people with ID even if they do not get their degrees in the end.

The QUO.RI.D.I.Re. project benefits people with severe or extremely severe intellectual disability and autistic disorder:

<http://www.pamapi-autismo.it/54-progetti/progetti-in-attesa-di-finanziamento/126-progetto-quo-ri-di-re.html> (Italian).

In particular, we highlight the development of

1. the 'Tablet' Project, which was initiated by a computer engineering thesis professor at the University of Florence.
2. video biographies supporting biographical memory, sense of self and conversation.

College - possible for students with intellectual disabilities | Edie Cusack | TEDxCharleston

<https://www.youtube.com/watch?v=cgzSH6GqiNs> (English)

Students with an Intellectual Disability Share Their College Experience

<https://www.youtube.com/watch?v=HpnQQ1wc4xo> (English)

College for those with intellectual disabilities

<https://www.youtube.com/watch?v=VMnNBeT1CTU> (English)

Independent Living For People With Disability

<https://www.youtube.com/watch?v=qm1OgCjTuZQ> (English)

Tools

The COVID-19 pandemic has necessitated the extended use of video recordings of lessons, a method that can be extremely effective for the learning outcomes of students with special needs, especially those with ID. This approach must be generalised in situations where students with ID are present. Such a tool can support students in teaching–learning processes, allowing them to enjoy the recorded lessons anytime and reflect on aspects that need to be clarified and deepened further.

Online Intellectual disabilities resources:

<https://www.baddour.org/intellectual-disabilities-resources> (English)

Suggestions for appropriate support for people with autism spectrum disorder and/or ID during the COVID-19 pandemic: Osservatorio Nazionale Autismo ISS Versione

<https://www.iss.it/documents/20126/0/Rapporto+ISS+COVID-19+n.+8+autismo+%282%29.pdf/c558b34e-1bc9-c868-0c75-0030f8299bca?t=1585757457709> (Italian)

Child and Adult Autism Spectrum Disorder in COVID-19 Pandemic:

<https://www.qeios.com/read/8ZRWPM> (English)

Advices for managing the covid-19 outbreak and the associated factors of mental distress for people with intellectual disabilities and autism spectrum disorder with high and very high support needs:

<http://www.crea-sansebastiano.org/EN/index.php?ricerca=1&argomento=1&value=psyc%20hological%20shield%20to%20the%20COVID-19%20distressors> (English)



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

Features of Mobile Apps for People with Autism in a Post COVID-19
Scenario: Current Status and Recommendations for Apps Using AI

<https://www.mdpi.com/2075-4418/11/10/1923> (English)

Tips

Besides the above suggestions, we intend to highlight the usefulness of ICT as a tool for supporting the lessons and promoting the inclusion and access of students with ID to activities and teaching materials, serving as a vital resource for students and universities.

To prevent situations of exclusion and support students with ID in their university careers, tutors and support staff can serve as fundamental resources as well.

Global resources for people with ID:
https://apps.who.int/iris/bitstream/handle/10665/96353/9789241563505_it_a.pdf (Italian version)

https://apps.who.int/iris/bitstream/handle/10665/96353/9789241563505_eng.pdf?sequence=1&isAllowed=y (English version)

The fundamental role of sport in ID:

<https://www.itacaedizioni.it/catalogo/pienamente-vivi/> (Italian)

<http://www.timothyshriver.com/fully-alive> (English)

Important texts, events or cites to include as curiosity.

Add theoretical material to enhance the motivation and adherence of the teachers of the course.

Video interview with a psychologist from the [Centro di ricerca e ambulatori - CREA \(Misericordia di Firenze\)](#) research center on ID: https://www.youtube.com/watch?v=an7rwDxcooQ&ab_channel=MisericordiadiFirenze (Italian)

Intellectual Disabilities - Alicia Bazzano, MD, PhD | Pediatric Grand Rounds
<https://www.youtube.com/watch?v=YI2yCaGpkTY> (English)

“Capacity, the law is equal for all” online video tutorials: <http://www.anffas.net/it/news/6944/capacity-la-legge-e-eguale-per-tutti-online-i-video-tutorial/> (Italian)

Italian scholar awarded for her research on ID:
<https://www.perugiatoday.it/attualita/unipg-premio-internazionale-professoressa-giulia-balboni.html/pag/2> (Italian)

How much do you know about intellectual disabilities? | Matthew Williams | TEDxVancouver:
<https://www.youtube.com/watch?v=BURbLmQL1BE> (English)

Project “Vela” for the independent life of people with ID carried out by the Crc Foundation with the University of Turin (Italy):
<https://www.lastampa.it/cuneo/2016/01/05/news/video-sulla-quotidianita-di-due-giovani-disabili-1.36546490> (Italian)



Co-funded by the
Erasmus+ Programme
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Job placement with the “VedoCurriculum”:

https://www.ansa.it/canale_saluteebenessere/notizie/sanita/2018/05/06/disabili-cercano-lavoro-con-il-vedocurriculum_6952340c-0641-4a9a-aaf4-443c487201ad.html

Portia Wants a Job: Living with a learning disability

<https://www.youtube.com/watch?v=s9tGocAaPCQ> (English)



Links

- Facilitating access to education for adults with intellectual disabilities - why fully inclusive models work, <https://epale.ec.europa.eu/en/blog/facilitating-access-education-adults-intellectual-disabilities-why-fully-inclusive-models-work>
- Historical And Contemporary Perspectives on Intellectual Disabilities, <https://www.mentalhelp.net/intellectual-disabilities/historical-and-contemporary-perspectives/>
- Inclusive and connected higher education, https://ec.europa.eu/education/policies/higher-education/inclusive-and-connected-higher-education_en
- Intellectual Disabilities, <https://www.mentalhelp.net/articles/intellectual-disabilities/>

Introduction

With the development of the different welfare systems and the incorporation of new regulations aimed at the social inclusion of persons with intellectual disabilities (ID), universities are facing new challenges with which to respond to an increasingly demanding demand: the incorporation of persons with intellectual and developmental disabilities in the classroom.

In December 2017, the European Council, the European Parliament and the European Commission endorsed the adoption of the European Pillar of Social Rights. The agreement highlights the importance of the social, educational and cultural dimension of EU policies to build a common European future. The first principle of the European Pillar of Social Rights states thatn "Everyone has the right to inclusive, quality education, training and lifelong learning, in order to maintain and acquire skills that enable them to participate fully in society and to manage successful transitions in the labor market."

To achieve effective inclusion and quality, respecting the needs of all people and offering the best opportunities, teachers must be provided with the necessary tools and knowledge. It is a matter of accompanying students (regardless of their condition) towards obtaining the necessary skills for their incorporation into the labour market and their development as persons with full rights.

To date, the incorporation of people with disabilities in higher studies has focused exclusively on the incorporation of measures and programmes to adapt to people with sensory disabilities. It is important to note that people with ID can clarify and complete higher studies if universities are provided with the necessary material and human resources. For this reason, it is essential to visualize the concerns and needs of persons with intellectual and developmental disabilities, as well as the competence needs of university professors with the objective of offering quality

education to the entire population, especially to those persons who, due to different conditions, have different educational needs.

For all these reasons, this course is aimed at training university teachers and providing them with the necessary tools and skills. It is intended that the university teachers can adapt their classes to people with ID from a perspective that makes students with IDs the protagonists of their own training and provides them with the possibility of obtaining significant knowledge that will enable them to enter the labour market.

To this end, during the present topic, teachers will be introduced to the basic notions that contextualize the intellectual disability of development. The main objective is to provide faculty with an overview and a current overview of what is understood from the different international organizations by intellectual disability and development. We will work on the needs that people with ID can present and the strategies that can be adopted from universities to ensure a respectful and effective social and education.

Background of the topic

One in six people in the European Union (EU) has a type of disability that ranges from mild to severe making around 80 million who are often prevented from taking part fully in society and the economy because of environmental and attitudinal barriers (EU Labour Force Survey ad hoc module on employment of disabled people -LFS AHM-, 2002).

It is not until the 21st century that social policies begin to be developed and implemented at European level. It culminated in the creation of plans and strategies such as the Social Agenda, the Renewed Social Agenda or the European Employment Strategy among others..., bringing with it the creation of a European Economic Council that began to define a policy of non-discrimination from the promotion of equality focused on inequalities between men and women.

This policy of non-discrimination was extended through the Treaty of Amsterdam in 1997 to other discriminatory areas such as disability with the publication by the EU of "The European Commission Communication on equal opportunities for people with disabilities. A New Community Disability Strategy". This document is relevant because it shows the transition of the community from a paternalistic and exclusively health-related vision of disability to a social model based on the need to eliminate the barriers, obstacles, attitudes and prejudices that society has and that prevent people with disabilities from benefiting from the same opportunities as people without disabilities.

As a result, political and legislative measures and initiatives are beginning to be adopted that are not only specific and appropriate for people with disabilities, but are also addressed to the general population, while taking into account the specific characteristics of people with disabilities in their design.

From the European community, several actions were carried out to try to improve the economic and social situation of people with disabilities. In this sense, we find the following regulations, conventions, strategies or plans to try to achieve this objective:

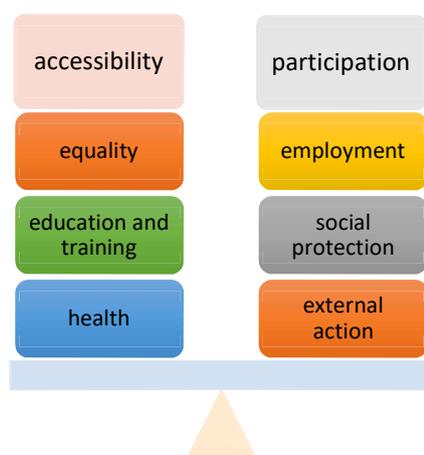
- The United Nations Convention on the Rights of Persons with Disabilities; this Convention was adopted on 13 December 2006 and represented strong support from the UN for improving respect for the rights of persons with disabilities. This link provides access to the Convention itself, as well as to all the provisions and information it has generated:

<https://www.un.org/development/desa/disabilities/>

- Council Directive 2000/78/EC of 27 November 2000 establishing a general framework for equal treatment in employment and occupation. It establishes a general framework for combating discrimination on the grounds of religion or belief, disability, age or sexual orientation in the field of employment and occupation, with a view to putting into effect in the Member States the principle of equal treatment.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32000L0078>

- As mentioned in previous sections, the European disability strategy 2010-2020. This is the most important instrument, which is the policy framework for various Community initiatives, both legislative and soft law, relating to disability (Cabra de Luna, M. A. et al., 2019). Focuses on actions in eight priority areas:



Accessibility: To make goods and services accessible to people with disabilities and promote the market of assistive devices.

Participation: To ensure that people with disabilities enjoy all benefits of EU citizenship; remove barriers to equal participation in public life and leisure activities; promote the provision of quality community-based services.

Equality: To combat discrimination based on disability and promote equal opportunities.

Employment: To raise significantly the share of persons with disabilities working in the open labour market

Education and training: To promote inclusive education and lifelong learning for students and pupils with disabilities. Equal access to quality education and lifelong learning enable people with disabilities to participate fully in society and improve their quality of life. The European Commission has launched several educational initiatives for people with disabilities. These include the European Agency for Development in Special Needs Education as well as a specific study group on disability and lifelong learning.

Social protection: To promote decent living conditions, combat poverty and social exclusion.

Health: To promote equal access to health services and related facilities.

External action: To promote the rights of people with disabilities in the EU enlargement and international development programmes.

The competent European committees are currently designing a strategy that will continue along the Lines of the previous 2020 strategy. On 20 March 2020, the Committee on Employment and Social Affairs tabled a motion for a resolution setting out a series of guidelines and considerations to be taken into account for the post-2020 strategy. Among the considerations, the following stand out:

- Ensure that the post-2020 strategy promotes in particular guaranteed access for people with disabilities to employment and vocational training, inclusive education.
- A close, meaningful and systematic involvement of people with disabilities, their families and their representative organisations, and to ensure, together with the Member States, close cooperation with them in the implementation, monitoring and evaluation of the post-2020 strategy.
- Include clearly defined priority areas, which cover all provisions of the Committee on the Rights of Persons with Disabilities (CRPD) and reflect the general comments of the CRPD Committee, including definitions of key terms, in particular a common definition of "disability" at Union level.

As we can see, people with disabilities have a significant presence in European social policies. All these regulations and guidelines are intended to support society's various needs for the inclusion of people with disabilities in all areas, both economic and social. They therefore



cover all the particularities of different social contexts and of different people with disabilities without distinction.

For this reason, we do not find specific regulations on intellectual disability, but we do find repeated mentions of the need to establish the necessary mechanisms for the incorporation of persons with intellectual and developmental disabilities into all social contexts, including in the field of higher education.

Specific concepts

In order to understand the needs of people with intellectual disabilities in the classroom, we must know nowadays what is meant by intellectual disability.

Intellectual disability:

The term intellectual disability is a product of the socio-ecological construct of disability; it is best aligned with current professional practices that focus on functional behaviours and contextual factors and It provides a logical basis for providing individualized supports because it is based on an ecological-social frame of reference (Alonso, M. Á. V., & Schalock, R. L, 2010).

The MSD-5 manual defines intellectual disability as:

Intellectual disability is characterized by significantly sub average intellectual functioning (often expressed as an intelligence quotient < 70 to 75) combined with limitations of adaptive functioning (ie, communication, self-direction, social skills, self-care, use of community resources, and maintenance of personal safety), along with demonstrated need for support. Management consists of education, family counselling, and social support (Stephen Brian Sulkes, MSD, 2020). The severity of the disorder (mild, moderate, severe, profound) is not based on IQ score. It is based on the severity of the adaptive functioning in conceptual, social, and practical domains.

The American Association for Intellectual and Developmental Disabilities (AAIDD) defines intellectual disability as: *a disability characterized by significant limitations in both intellectual functioning and in adaptive behaviour, which covers many everyday social and practical skills. This disability originates before the age of 18.*

Disorders of intellectual development are a group of etiologically diverse conditions originating during the developmental period characterized by significantly below average intellectual functioning and adaptive behavior that are approximately two or more standard deviations below the mean (approximately less than the 2.3rd percentile), based on appropriately normed, individually administered standardized tests. Where appropriately normed and standardized tests are not available, diagnosis of disorders of intellectual development requires greater reliance on clinical judgment based on appropriate assessment of comparable behavioural indicators (c).

Intellectual disability is considered an **intellectual development disorder**. They typically involve difficulties with the acquisition, retention, or application of specific skills or sets of information. Neurodevelopmental disorders may involve dysfunction in one or more of the following: attention, memory, perception, language, problem-solving, or social interaction. Intellectual disabilities can affect the development of the following adaptive skills:

Conceptual area	Social area	Practical area
Competence in memory, reading, writing, and math	Awareness of others' thoughts and feelings, interpersonal skills, and social judgment	Personal care, task organization (for work or school), money management, and health and safety

Intellectual disability implies a series of limitations in the skills that a person learns to function in his or her daily life and that allow him or her to respond to different situations and places. It is usually expressed in the relationship with the environment. Therefore, it depends both on the

person herself and on the barriers or obstacles around her. If we make the environment easier and more accessible, persons with intellectual disabilities will have fewer difficulties, and therefore their disability will be reduced.

Intellectual disabilities are usually permanent, that is, they last a lifetime, and they have a significant impact on the lives of persons with intellectual disabilities and their families.

Sometimes people with ID need external support to ensure the development and exploitation of their full capacity and potential. This support is defined by the AAMR as: supports are resources and strategies aimed at promoting the development, education, interests and well-being of an individual, and that increase their individual performance (AAMR 2002). In this regard, there are different **types of support** depending on their scope, frequency etc.

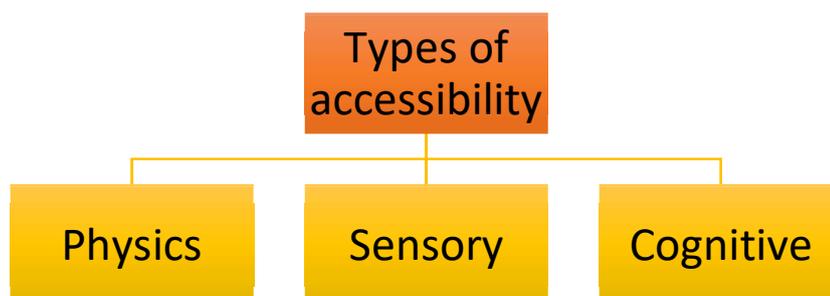
From the perspective of disability, one of the barriers encountered in the university context is the interaction of the university community due to the influence of a rehabilitative medical perspective, which considers disability as a personal limitation. There is a need for a paradigm shift where an interactive and contextual perspective endorsed by the social model of rights is effectively integrated, in which disability is the result of the interaction between the person and the supports, environments and opportunities of the environment. This gives rise to responses ranging from discrimination and exclusion, to inclusion, supports and reasonable accommodation (Saad, 2011).

It is necessary that all the agents involved in the education systems are able to identify and eliminate the barriers that may interact negatively with the personal conditions of the most vulnerable students, such as people with intellectual disabilities. It is necessary to become aware of how certain concepts, practices, policies and cultures are such barriers (Echeita, 2009). Among the most important types of support to ensure a

level playing field and equal learning opportunities within the classroom is the use of resources and strategies of physical, sensory and cognitive accessibility.

According to the World Health Organization, 30% of the world's population has difficulty understanding some types of information. This group includes people with intellectual and/or developmental disabilities, elderly people, foreigners with poor language skills, with low cultural level or children.

The International Convention on the Rights of the Child (CRPD) in Article 9 establishes that *“in order to enable persons with disabilities to live in a fit and participate fully in all aspects of life, the States Parties shall take appropriate measures to ensure access by persons with disabilities, on an equal basis with others, by physical environment, transport, information and communications, including information and communication technologies and systems, and others services and facilities open to the public or for public use, both in urban and rural.”* (CRPD, 2006)



In the case of people with intellectual disabilities, cognitive accessibility is very important in order to function and develop in the best possible way in the classroom.

The Easy Dictionary of Full Inclusion Madrid (FEVAS, 2015) says that **cognitive accessibility** is “a characteristic that things, spaces or texts have that makes them understandable to all people. Easy reading is a tool for cognitive accessibility”.

Promoting cognitive access in higher education will require an educational environment that is conducive to teacher training and the inclusion of participatory methodologies in the wing that include those with intellectual or developmental disabilities. During the following topics, each of the elements that will favour the training of teachers to facilitate cognitive access in their universities will be addressed.



Special needs for people with ID about the topic

1. easy-to-read version
2. participatory methods
3. guidelines for evaluating the accessibility of environments

Methodological proposals

A methodological proposal based on **cognitive accessibility** in higher education for people with intellectual disabilities must be based on a series of techniques that contribute to it in the three areas established in "Specific concepts": social, conceptual and practical.

For this, and based on the Didactic Guide V.I.D.A. Project, FEAPS, (2013), it is proposed in first place, the need to give solution to barriers related to the **control of space and time** (practical area), **the control in front of unexpected situations** (social area) **and incomprehensible supports and formats** (conceptual area) to achieve an effective cognitive accessibility.

Based on these *barriers*, the following objectives are established as *facilitators* for cognitive accessibility for people with ID: a) decrease the dependence on memory in higher education learning systems, b) generate as many complementary formats as possible to offer the information, c) guarantee the possibility of participation and interaction, d) reduce the need to use complex cognitive skills, e) present a vocabulary and reading level that approaches the comprehension level of people with ID, and f) offer information in advance.

The achievement of these *objectives/facilitators* is focused on a series of **orientations for teachers:**

1. Oral and written information in understandable formats and supports (conceptual area)

- **Guidelines for oral information:** use clear language, speak slowly, check to see if students with ID understand what you are saying, do not ask questions that they can answer only with Yes or No, observe their body language if they have difficulty speaking, use cards to make sure they have understood your explanations

(e.g., colored, red indicates "do not understand," yellow "speak more slowly," green "I understand well what you are saying").

➤ **Indications for written information:** based on the easy-to-read methodology, this involves composing clear and easy-to-read writing (see: Information for All: European Standards for making information easy to read and understand); using visual aids (Pictograms, Power Point, video, digital whiteboards, iPads...).

The information given through these guidelines makes it easier to understand the explanations. Furthermore, the fact that a text has been written with criteria of easy reading or the information expressed orally uses simpler language does not mean that it has to be childish or simplistic, but rather that it has to be in accordance with the need for understanding. In addition, these texts and language use can be useful for foreign learners with poor language comprehension or other types of cognitive impairment such as dyslexia, thus adapting the environment to the needs of all.

2. Communication and control in unexpected situations (social area)

In order to control unexpected situations with people with ID the essential thing is good communication and to promote the participation of the students in the classroom, we present the following indications:

➤ **Guidelines for good communication:** Always speak to your students with ID directly and by name. When one of them has something to say, give him or her time to say it the way they want and let them finish their sentences, even if it takes a long time or is difficult to understand them; do not finish their sentences for them. Make sure you understand what he meant by asking him in your own words. When you answer a question, make sure everyone has

understood your answer (you can use the cards mentioned above). Create working groups; some people with IDs find it easier to talk like this. Take plenty of breaks; people with IDs often find it harder to stay focused for long.

➤ **Guidelines for promoting participation in the classroom:** interact with your students, they should talk and do things with you. Plan activities for them outside the classroom, such as activities, discussions, and debates. Use examples they know from their daily lives to help them understand the explanations. If possible, review your presentation with the students themselves with ID before presenting it.

3. Understanding the spaces and times of the higher education context (practical area)

Cognitive accessibility of higher education institutions includes physical dimensions of space, including the functional and intuitive arrangement of rooms, as well as a system of signals to guide students in carrying out their activities. The presence of ICT, signage, information points and warning systems, must also be designed with attention to cognitive aspects for people with ID. The orientation through different types of signs, efficient and tested, is one of the main supports for the orientation of these people.

Thus, in order to improve cognitive accessibility in terms of space and time in the higher education centre, the **methodological proposal** is to carry out a group evaluation to assess and improve the understanding of the environment of students with ID by filling out a form. The **evaluation sheet** (see Tools) is composed of three phases **Phase 1**. Entrance to the school, **Phase 2**. Inside the classroom and **Phase 3**.



Empty card to design and evaluate with the collaboration of students with ID other relevant processes in the environment of the higher education centre, such as facilities, laboratories, etc. These phases consist of a series of questions with a Yes/No answer and a section for notes and recommendations.

- **Note.** Consider extending the processes that can be evaluated according to the circumstances of your educational context.

Glossary

Developmental disorders: Also called neurodevelopmental disorders. Neurodevelopmental disorders are neurologically based conditions that can interfere with the acquisition, retention, or application of specific skills or sets of information. They may involve dysfunction in attention, memory, perception, language, problem-solving, or social interaction. These disorders may be mild and easily manageable with behavioural and educational interventions, or they may be more severe and affected children may require more support. Neurodevelopmental disorders include:

- Attention-deficit/hyperactivity disorder
- Autism spectrum disorders
- Learning disabilities, such as dyslexia and impairments in other academic areas
- Intellectual disability
- Rett syndrome

Universal accessibility: Universal accessibility or accessibility is the degree of slope, which allows any object to be used by the whole public, to visit a place or to access a service, regardless of its technical, cognitive or physical abilities. Universal accessibility or accessibility is the degree of slope, which allows any object to be used by the whole public, to visit a place or to access a service, regardless of its technical, cognitive or physical abilities.

Universal design or design for all people: This is the activity by which conceive or project from the outset, and whenever possible, environments, processes, goods, products, services, objects, instruments, programs, devices or tools, in such a way that they can be used by all people, to the greatest extent possible, without the need for adaptation



or design specialized. Universal design or design for all persons" shall not exclude support products for particular groups of people with disabilities, when they need it.



Resources

Design of explanatory videos that complement the concepts developed in this topic, made by people with intellectual and developmental disabilities.



Tools

Easy to read methodological guide: Information For All: European Standards for making information easy to read and understand.
https://issuu.com/eprehab/docs/information_for_all_easytoread

Evaluation sheet to assess the understanding of the environment

PHASES	QUESTIONS	YES	NO	NOTES	Recommendations
PHASE 1. UNIVERSITY ENTRANCE	Is the entrance to the university signposted correctly?				
	Are there pictograms and signs indicating how to get to your classroom, to baths or counseling ?				
	Are your classroom door marked?				



PHASE 2 INSIDE THE CLASSROOM	Are pictograms used?				
	Are the spaces differentiated from class?				
	Are the tables distributed in working groups?				
	Do you clearly identify your seat?				
	Is there a panel of class schedules and assignments that will to the day				



signalled?			
Is there a panel of photograph of subtends and teachers?			
Do you clearly identify the objects in the classroom, what are they for and when should they be used?			
Do you understand all the information?			
Do you feel comfortable and happy in the classroom?			
Does my			



	teacher use visuals to explain the information?				
	Is the educational material in easy reading				
	Do I know the communicat ion from my colleagues?				
	Does the teacher ask my opinion on classroom issues and how to organize the assignments ?				

PHASE 3					
Open – For					



relevant environmen ts					
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Tips

It is important to note that:

- Intellectual disability is not a mental illness.
- Persons with intellectual disabilities are citizens like everyone else.
- Each of these people has particular abilities, tastes, dreams, and needs. Like any of us.
- All persons with intellectual disabilities have a chance to make progress if we give them the right support.
- There are many different types and causes of intellectual disabilities. Some start before a baby is born, some come during birth, and some are caused by a serious illness in childhood. But always before the age of 18.

Important texts, events or cites to include as curiosity.

- The annual observance of the International Day of Disabled Persons was proclaimed in 1992 by United Nations General Assembly resolution 47/3. It aims to promote the rights and well-being of persons with disabilities in all spheres of society and development, and to increase awareness of the situation of persons with disabilities in every aspect of political, social, economic and cultural life.

<https://www.un.org/en/observances/day-of-persons-with-disabilities>

Links

American Association on Intellectual and Developmental Disabilities:

<https://www.aaid.org/>

European Disability Strategy (2010-2020):

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3Aem0047>

Sustainable Development Goals:

<https://www.un.org/sustainabledevelopment/>

European Commission; Employment, Social Affairs & Inclusion

<https://ec.europa.eu/social/home.jsp?langId=en>

Disability Inclusion Strategy:

https://www.un.org/en/content/disabilitystrategy/assets/documentation/UN_Disability_Inclusion_Strategy_english.pdf

Guidelines for evaluating the accessibility of environments (Spanish version):

https://www.plenainclusion.org/sites/default/files/guia_de_evaluacion_de_la_accesibilidad_cognitiva_de_entornos.pdf

Introduction

Quality of life (QOL) is a complex concept that is approached at different levels, from the evaluation of the well-being of society or the community to the assessment of certain individuals or groups. According to the World Health Organization (1994), QOL is "an individual's perception 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". It is a broad and multidimensional concept that includes subjective evaluations of positive and negative aspects of life. QOL can be seen as a determining factor in health as well as a result of interventions aimed at health promotion (Raphael, Brown, Renwick, & Rootman, 1996).

Prioritizing QOL in interventions with persons with intellectual disabilities (ID) in an educational context is a way of prioritizing the educator-student relationship and consists of choosing a broader path than the standardized final objective. This approach of the QOL must be understood as an integrative search to the traditional educational system beyond the dichotomy between dependency and independency. A specific focus in the QOL highlights the adaptation of support services to the objectives and expected results of the person or to the well-being of the family. Therefore, quality of life is a right for all, including persons with ID.

The special interest group on QOL in the International Association for the Scientific Study of Intellectual Disabilities (IASSID) advocates for QOL to be given a prominent place in education and vocational training as a global performance indicator. Initially, QOL was focused on objective indices, such as housing conditions, freedom of movement, etc. Subsequently, subjective measures called subjective well-being (SWB) were also incorporated. In this context, interventions with persons with ID must have as objectives to maintain or improve good living conditions,

the welfare of each person, the resources that enable this group to lead a satisfactory life according to their own choice (Brown, 1999).

Specifically in the field of education, the Convention on the Rights of Persons with Disabilities proclaimed in 2006 (UN, 2008), which states that inclusive education is a right at all levels of education and throughout life, considering that it is the responsibility of those responsible through education to provide all necessary support. Inclusive education as a goal to be achieved in today's society is therefore a political, social and educational movement that defends the right of all individuals to access, participate and actively contribute to society, as well as the right to be accepted and respected, regardless of the differences they reveal. Such an objective implies quality education, in which, in addition to valuing and respecting individual characteristics, interests and needs, it seeks to contribute to the development of competences that facilitate participation and citizenship.

On the other hand, people with ID can present a range of maladaptive behaviours. Maladaptive behaviours can cause difficulties in the social, academic, or work areas. Smiley et al. (2007) investigated the incidence of disruptive behaviours in adults with ID and found that the incidence of disruptive behaviours ranged from 4.6% (determined by clinical diagnosis) over a 2-year period. Some studies found that the level of ID is highly correlated with the prevalence of challenging behaviours in general (Cooper et al., 2009; Holden & Gitlesen, 2003; Jones et al., 2008).

The presence of maladaptive behaviours is one of the main reasons for the exclusion of people with ID from social environments such as school, university and work (Lakin and Stancliffe, 2005). Therefore, effective intervention strategies that increase adaptive skills and overall QOL for persons with ID are crucial to prevent and eliminate maladaptive behaviours. Educators must be able to recognize this difficulty and help this group to development of adaptive behaviors.

Background of the topic

One of the most important and significant stages in any individual's life is the transition to adulthood. Quality of life is a key indicator related to the transition to adulthood because it provides information of particular relevance at this stage. Ferguson and Ferguson (2006) highlight three central aspects that, at the same time, share similar characteristics to the concept of QOL: a) autonomy with the affirmation of individuality; b) membership that includes acceptance by some group and c) change or capacity for personal development.

However, this transition for young people with ID has its particularities in terms of supports and services to achieve a successful outcome. It can also be said that this moment is characterized as a stage of a broad Life Project, in which guidance in education plays an important role for each one who wants to become the protagonist of his personal life (Canevaro i Biancalana, 2019). This transition should be supported through a coordinated set of activities among educational communities, community stakeholders, parents and students in order to promote employment, vocational training, community participation and independent living. In this context, the increased attention paid to the quality of people's lives should be highlighted. Schalock (1997) advocated the use of the concept of QOL as the basis for services and care targeted at this population. "The concept of QOL takes us in the right direction: towards person-centred planning, supporting people's needs and wishes, and asking people what they think and how they feel" (p. 2).

QOL as a central concept in the understanding of ID emerges from the new definition of disability defined by the United Nations (WHO, 2001) and the American Association on Intellectual and Developmental Disability (AAIDD, 2002). According to this classification, disability is defined as a situation, process and result of the interaction of the state

of the person's health with the variables of the environment. From this definition, the improvement of the individual's quality of life must be achieved through a support plan that aims at improving and optimizing the ecological system.

According to 2002 AAMR manual, one important points is to make the multidimensional model of intellectual disability more operational. QOL was defined as a framework to measure the effectiveness of these supports by its influence on the domains that are part of this construct such as the level of independence, relationships, participation in typical life contexts and well-being. In this way, the support plan would be at the centre of the intervention with this group, taking into account all the dimensions that are part of ID condition and the particularities of each person.

In 2006, the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD; United Nations 2006) contributed significantly to the conceptualization of disability. It established the political and social conditions for achieving equality, autonomy, non-discrimination, participation and inclusion in society. However, it does not contemplate subjective aspects prioritizing exclusively the socio-political level. In this view, according to Verdugo et al (2012), the QOL construct has emerged as the link between the general values expressed in social rights and the individual's personal life. QOL models manage to encompass the essential dimensions of an individual's life, as well as their human and legal rights

Verdugo et al. (2012) defines four principles that support the QOL approach:

- 1) QoL is composed of the same factors and relationships for all individuals;

2) QoL is applied when a person's needs are met and when the individual has the opportunity to positively develop his or her life in the main areas of activity in life;

3) QoL has both subjective and objective components;

4) QoL is a multidimensional construct, influenced by individual and environmental factors.

Although there is no single definition or taxonomy of quality of life, Schalock (2000) describes a useful description that summarizes the literature of the last decades on intellectual disability. It consists of eight quality of life domains, each of which integrates a major thematic core (independence, social and well-being). These domains include material well-being, emotional well-being, physical well-being, self-determination, rights, social inclusion, interpersonal relationships and personal development. Each domain has its respective indicators that correspond to the perceptions, behaviours and conditions related to the concept of quality of life. (see Figure 1).

FACTOR	DOMAIN	EXEMPLARY INDICATORS
Independence	Personal development Self-determination	Activities of daily living Choices, decisions, personal goals, education, personal competence, performance
Social	Interpersonal relations Participation Rights	Social networks, friendships Social inclusion/community involvement Human and legal

Well-being	Emotional well-being	Safety and security
	Physical well-being	Health and nutrition status
	Material well-being	Financial Status, employment

Fuente: Verdugo et al (2012)

More particularly, maladaptive behaviours represent an obstacle to achieving QOL mainly affecting all domains that make up QOL. According to the American Association on Intellectual and Developmental Disabilities (A.A.I.D.D., 2010), ID can be defined as a disability characterised by significant limitations in both intellectual and adaptive behaviour. The association between ID and the development of maladaptive behaviours is due to effective affective communication between individuals and their careers, a precedent of inadequate reinforcement for maladjusted behaviour and the absence of contingencies for reinforcement in the immediate environment (Cooper, Heron and Heward, 2007).

To be defined as a disorder, the behaviours must meet three criteria: severity, frequency, and chronicity. Some of these behaviours can sometimes occur in everyone. It should be noted that most people with ID who attend university are young people over 18 years old, medium or high cognitive level, without maladaptive behaviours. Lack of competence to cope with life's demands is one of the main causes of maladaptive behaviours.

Among problem behavioural interventions, positive behavioural interventions stand out for their effectiveness and focus on identifying the function of dysfunctional behaviour and educating functionally equivalent adaptive skills are considered the interventions of choice. In

addition, positive behavioural interventions have two general types: environmental design (the manipulations of contextual and background stimuli that influence the establishment and maintenance of behaviour) and instruction (the development of a person's skills so that it is not necessary to use maladaptive behaviours to manage his or her environment). These interventions are carried out by natural mediators in the individual's natural environment, such as the educational environment, and focus on eliminating or reducing the variables that control inappropriate behaviour (e.g. changes in the physical environment and in schedules) and changing the responses made by people in these environments so that these behaviours are not reinforced and maintained.

The increasing prevalence of substance abuse by persons with ID is remarkable. In recent years, there has been improved social inclusion of this population, and the importance of individual freedom for this group has been highlighted. In this less restrictive context, the approach to certain problematic behaviours is also increased. The risk of having a problem related to substance use is comparatively high in this population, although it should be noted that the prevalence of illicit drug and alcohol use is relatively low (Carroll Chapman & Wu, 2012). This problem is exacerbated by the lack of access to and adherence to effective treatment available to persons with ID.

Specific concepts

Adaptive behavior: It is the set of conceptual, social and practical skills that people develop and perform in their daily lives. i) Conceptual skills—language and literacy; money, time, and number concepts; and self-direction; ii) Social skills—interpersonal skills, social responsibility, self-esteem, gullibility, social problem solving, and the ability to follow rules/obey laws and to avoid being victimized and iii) Practical skills—activities of daily living (personal care), occupational skills, healthcare, travel/transportation, schedules/routines, safety, use of money, use of the telephone.

Housing conditions: The term refers to the basic physical attributes of dwellings that are relevant to the well-being of their inhabitants. This notion may seem to define only a conventional set of housing characteristics. However, for social scientists, "housing conditions" should be understood as "socially constructed" as the result of complex social processes.

Human Behaviour: The construct refers to the relationship between what an individual does and the environment in which he or she performs an action (which produces a change in the environment). Regarding the environment, it does not only refer to what exists when the action is carried out. The environment is also the one that can be changed by the action or simultaneously to it. More specifically, it refers to the whole range of physical and emotional behaviours in which humans perform; biologically, socially, intellectually, etc. and which are influenced by culture, attitudes, emotions, values, ethics, authority, empathy, persuasion, coercion and/or genetics.

Interpersonal relations: It consists of the interaction between two or more participants are interdependent, where the behavior of each affects the other. Individuals interact with each other in a series of interactions

that are interrelated and affect each other. Each individual forms different types of relationships with other people, some of them close (e.g. parent-child, spouse-spouse, friends) and others not intimate (e.g. teacher-student).

Self-determination: The construct has two main meanings: the first refers to the individual level and corresponds to each individual's determination of his or her own life and the second concerns groups and refers to the freedom of individuals within a specific group to determine their own political status. The second meaning refers to a national, political, or collective self-determination. In the context of disability, the concept of self-determination is often not respected at both levels. The individual with a disability has the right to define his or her identity differently for himself or herself through the circumstances and conditions of his or her existence. The principle and fundamental right to self-determination of all peoples is firmly established in international law.

Subjective well-being: This term is defined as the cognitive and affective assessments of an individual's life. Also called self-declared well-being, it refers to the way each person experiences and evaluates their lives and the main aspects that make up their lives. This construct can be interpreted in terms of a continuum, representing both evaluations at the present moment of experience at one hand and general evaluations of life satisfaction, purpose or suffering at the other hand (Mandic and Cirman, 2012).

Special needs for people with ID about the topic

Currently, education systems must be tailored to meet the needs of all students, taking into account those most at risk of social exclusion. Educators must also recognize that individuals with disabilities have a unique reality and culture rather than a population that should be approached as pathological and with special care. There is a particular need for the educational community to be aware of the disability rights movement and the promotion of higher QOL for this group. The Quality of Life Approach can contribute to achieving these objectives.

Recent research in the field of disability highlights the importance of self-determination and autonomy in choosing the most appropriate living conditions for oneself. At the same time, people with some kind of disability often find themselves in overly restrictive and paternalistic situations, including in the field of education. Restrictive contingencies deny them their right to make decisions compatible with their material and subjective well-being, which compromises the promotion of QOL and is one of the main aspects that must be taken into account when working with this population.

In the educational context, an inclusive pedagogical project seeks to respond to the needs of all students who attend it, which requires the creation of opportunities for them to participate in activities. The teacher can use as strategy with this group to encourage supported decision-making, in which the individual has autonomy to make his or her own decisions but uses, when necessary, trusted people (such as the teacher or a class colleague) to help them understand the situations and options they face. This strategy aims to increase self-determination by empowering people to make decisions about their lives to the greatest extent possible.

Person-centred care including the assessment of each person's intensity of support and the construction of an individualised support plan allows

for the planning, implementation and evaluation of the learning process. One of the most important concepts in the field of education and inclusion is the Universal Design for Learning (UDL), developed by the Center for Applied Special Technology (CAST). The UDL talks about the necessary supports and adjustments, being these didactic, methodological, structural, and cultural, in the teaching-learning process. The diversity of university activities demands the creation of more flexible educational itineraries according to educative needs and professional objectives. It consists of incorporating elements into the teaching process through the potential of digital media to attend to the diversity of students in order to provide multiple means of representation, expression and participation in relation to all the elements of the curriculum. A practical example can be the implementation of a course blog or website, where teachers provided a range of tools for students to access resources and materials, as well as to carry out activities.

Regarding possible maladaptive behaviours, the intervention should involve establishing more functional behaviors that can be used as alternatives to the undesirable response. The teaching of replacement behaviours is based on the concept of functional equivalence (Carr, 1988). It is recognized that maladaptive behaviours have the role of communicative resources in most cases. The idea is to teach the person to use a more appropriate form of communication (e.g., speech, gesture) as a functionally equivalent alternative to the problem behaviour. A useful tool is to establish in writing the responsibilities of the student and to indicate when he/she may need support from the teacher through an individualized agreement between the teacher and the student. The use of this agreement provides the student with a disability the opportunity to define the points at which he or she needs help.

It is necessary to point out the importance of the student's environment including the family and the people in his support group. Respect to

maladaptive behaviours, the intervention should be directed to involve the support group. Support consists of the resources people receive from others and can be divided into emotional, instrumental, informal, and evaluative (Hentinen & Kyngäs, 1998). This support can come from family members, but also from people outside the family. The perception of the existence of a social support network mitigates the impact of stress on people's life. In addition, higher levels of social support are associated with higher QOL and fewer behavioural problems (Lunsky & Benson, 2001)

A practical and successful example in the educational context is the American project called Think College: College Options for People with ID, which aims to create opportunities for students with disabilities interested in post-secondary education and employment opportunities in the state of Massachusetts in the United States.

Methodological proposals

There is **no single approach to addressing the quality of life and maladaptive behaviours** of persons with intellectual disabilities. The fundamental point is to analyse the characteristics and needs of each individual in order to define a person-centred intervention strategy. Intervention with persons with intellectual disabilities must be adapted to the characteristics of the person and his or her environment. The more individualized approach makes it possible to provide individualized support and to involve people in making decisions about their own lives. The method applied must give priority to long-term outcomes based on values of inclusion, personal development and self-determination.

Two instruments that are reliable and valid can be used to assess needs in terms of building QOL: **INICO FEAPS** (Verdugo et al., 2013) and **Personal Outcomes Scale** (van Loon et al. 2008). Both are designed to assess personal outcomes related to the QOL of adults with intellectual disabilities in order to guide the development of the intervention approach and improve personal outcomes. However, in order to complement the analysis of QOL and personal achievement, it is important to first assess and determine the supports needed for each student with ID and to build on this to set the direction of the process that can then be assessed with the personal outcome scale. One of the most commonly used instruments for this purpose is the Supports Intensity Scale (SIS).

Once the assessment of the needs of students with ID has been carried out using one of the two instruments mentioned, the methodological proposal focuses on **Self-Determination**, based on the Didactic Guide V.I.D.A. Project, FEAPS, (2013). This is a key concept to improve the QOL of these people in the higher education system, which is approached from five work areas: making choices, solving problems, getting to know

ourselves better, defending ourselves and challenges to achieve an independent life.

Making choices

- **Guide lines.** To promote moments and situations throughout the session in which students with ID have to make choices; to progressively increase the number of choices on a given activity that they make daily and the number of domains in which they make decisions; to raise the meaning of these choices in terms of risks and consequences in the short, medium and long term. Drawing up a **preferences map** is a very useful tool for designing situations in which to teach people how to choose.

Problem solving

- **Guide lines.** Teach skills for the student with ID to learn how to solve problems; such as how to ask for help, how to say no, how to communicate their feelings and behavioural strategies in different situations. Establish some keys to facilitate problem solving; using positive reinforcement instead of prohibition or punishment, telling the student exactly what is expected of him and reinforcing him when he does it, addressing in the classroom any conflictive situation that may arise. **Role-playing**, posing different situations that may arise and giving instructions on how to use it is a useful tool.

Get to know each other better.

- **Guide lines.** To carry out activities of mutual knowledge, knowing the others we favour the knowledge of oneself. Activities to promote the interaction of mutual help. To carry out tutorials about differences. Activities to see knowledge as a regulator of our behaviour.

Defend ourselves

- **Guide lines.** The skills and competencies to defend oneself are learned in natural environments and real situations, a fact that is even more necessary for people with ID, who have a more difficult process of generalization; therefore, the acquisition of these competencies requires a greater load of experimentation and experiences. In addition, they require systematic training, repetition and, above all, success and positive results. To stimulate the ability to "defend oneself" one must teach, among other skills, how to say "no", how to respond to insults, how to express one's opinions. Making **a list of daily situations** in the development of their studies in which we observe that students should develop these skills is a possible tool.

Challenges to achieve an independent life

- **Guide lines.** In the sense of achieving an independent academic-practical life for people with ID, which contributes to their self-determination and quality of life; different areas should be reinforced through **workshops**, for example: economic (use of

money, budget, accounting, payments, receipts, bank management...), health (medication, security, medical emergencies, intimate health...), social-community (public transport, communication, participation in the community, leisure, knowledge of resources...), personal autonomy (privacy, maintenance of personal effects...), working life (future tasks in the workplace, responsibility, security...).

Finally, there is also a need for an intervention in higher education that focuses on the prevention of challenging behaviour, with an emphasis on modifying the individual's circumstances so that the behaviour is less likely to occur. It is relevant to highlight that the strategies in these cases are the same ones used with people without intellectual disabilities. An interesting strategy is the development of mediation practices, promoting in the school context a culture of peaceful coexistence, preventing situations of indiscipline in each one of the students (Madureira, 2018). The relationship between student-teacher and students (peers) should be strengthened to foster a sense of belonging.

One of the activities proposed by Pastor, del Río & Serrano (2015) to encourage the multiplicity of expression and, consequently, the reduction of possible maladaptive behaviours consists of students taking notes of the sessions and publishing and sharing them with their peers, using the formats they chose or with which they felt most comfortable working (written notes, web formats, photographs, vignettes and drawings, diagrams, etc.). This activity allows them to adjust to the different ways of understanding, interacting and expressing the information they collected.

References of the topic

Asociación Americana sobre el Retraso Mental (2002). Definición, clasificación y sistemas de apoyo (2004 Ed. castellano). Madrid: Alianza Editorial.

Blanck, P., & Martinis, J. G. (2015). "The right to make choices": The national resource center for supported decision-making. *Inclusion*, 3(1), 24–33. <https://doi.org/10.1352/2326-6988-3.1.24>

Brown, I. (1999). Embracing quality of life in times of spending restraint. *Journal of Intellectual and Developmental Disability*, 24(4), 299–308.

Carr, E. G. (1988). Functional equivalence as a mechanism of response generalization. In R. H. Horner, G. Dunlap, & R. L. Koegel (Eds.), *Generalization and maintenance: Lifestyle changes in applied settings* (pp. 221–241), Baltimore: Brookes.

Carroll Chapman, S. L., & Wu, L. T. (2012). Substance abuse among individuals with intellectual disabilities. *Research in Developmental Disabilities*, 33(4), 1147–1156. <https://doi.org/10.1016/j.ridd.2012.02.009>

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied behavior analysis* (2nd ed.). Upper Saddle River, NJ: Pearson.

Cooper, S. A., Smiley, E., Allan, L. M., Jackson, A., Finlayson, J., Mantry, D., et al. (2009). Adults with intellectual disabilities: Prevalence, incidence and remission of self-injurious behaviour, and related factors. *Journal of Intellectual Disability Research*, 53, 200–216.

Ferguson, P., & Ferguson, D. (2006). The promise of adulthood. In M. E. Snell & F. Brown (Eds.), *Instruction of students with severe disabilities* (6th ed., pp. 610–637). Upper Saddle River, NJ: Pearson/ Merrill Prentice Hall.

Ferro, J., Foster-Johnson, L., & Dunlap, G. (1996). Relation between curricular activities and problem behaviors of students with mental retardation. *American Journal on Mental Retardation*, 101, 184–194.

Fletcher, R. J., Loschen, E., Stavrakaki, C., & First, M. (2007). *Diagnostic manual-intellectual disability: A textbook of diagnosis of mental disorders in persons with intellectual disability*. Kingston, NY: NADD Press.

Fletcher, R. J., Loschen, E., Stavrakaki, C., & First, M. (2007). *Diagnostic manual-intellectual disability: A textbook of diagnosis of mental disorders in persons with intellectual disability*. Kingston, NY: NADD Press.

Hentinen, M., & Kyngäs, H. (1998). Factors associated with the adaptation of parents with a chronically ill child. *Journal of Clinical Nursing*, 7(4), 316–324.

Holden, B., & Gitlesen, J. P. (2003). Prevalence of psychiatric symptoms in adults with mental retardation and challenging behaviour. *Research in Developmental Disabilities*, 24, 323–332

Jones, S., Cooper, S.-A., Smiley, E., Allan, L., Williamson, A., & Morrison, J. (2008). Prevalence of, and factors associated with, problem behaviors in adults with intellectual disabilities. *The Journal of Nervous and Mental Disease*, 196, 678–686.

Lakin, K. C., & Stancliffe, R. (2005). Costs and outcomes of community services for people with intellectual disabilities. Baltimore, MD: P.H. Brookes Pub. Co.

Lunsky, Y. y Benson, B. A. (2001). Association between perceived social support and strain, and positive and negative outcomes for adults with mild intellectual disability. *Journal of Intellectual Disability Research*, 45(2), 106-114.

Madureira, C. (2018) Espaços de mediação e intervenção: o papel da mediação entre pares na transformação socioeducativa in Peres, A.; Gomes, C. & Madureira, C. (2018). Livro de Resumos do XXXII Encontro Galego-Português de Educadores/as pela Paz. Chaves: Agrupamento de Escolas Dr. Júlio Martins.

Mandic, S., & Cirman, A. (2012). Housing conditions and their structural determinants: Comparisons within the enlarged EU. *Urban Studies*, 49(4), 777-793.

Organización Mundial de la Salud (2001). CIF. Clasificación Internacional del Funcionamiento, de la Discapacidad y de la Salud. Madrid: Ministerio de Trabajo y Asuntos Sociales.

Pastor, C. A., del Río, A. Z., & Serrano, J. M. S. (2015). Tecnologías y Diseño Universal para el Aprendizaje (DUA): experiencias en el contexto universitario e implicaciones en la formación del profesorado. *RELATEC: Revista Latinoamericana de Tecnología Educativa*, 14(1), 89-100.

Raphael, D., Brown, I., Renwick, R., & Rootman, I. (1996). Assessing the quality of life of persons with developmental disabilities: Description of a

new model, measuring instruments, and initial findings. *International Journal of Disability, Development and Education*, 43(1), 25-42.

Simonoff, E., Pickles, A., Charman, T., Chandler, S., Loucas, T., & Baird, G. (2008). Psychiatric disorders in children with autism spectrum disorders: Prevalence, comorbidity, and associated factors in a population-derived sample. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47(8), 921–929.
<https://doi.org/10.1097/CHI.0b013e318179964f>

Smiley, E., Cooper, S.-A., Finlayson, J., Jackson, A., Allan, L., Mantry, D., et al. (2007). Incidence and predictors of mental ill-health in adults with intellectual disabilities. *British Journal of Psychiatry*, 191, 313–319.

Verdugo, M. A., Navas, P., Gómez, L. E., & Schalock, R. L. (2012). The concept of quality of life and its role in enhancing human rights in the field of intellectual disability. *Journal of Intellectual Disability Research*, 56(11), 1036-1045.

Verdugo, M.A., Gómez, L.E., Arias, B., Santamaría, M., Clavero, D., & Tamarit, J. (2013). Escala INICO-FEAPS. Evaluación Integral de la calidad de vida de personas con discapacidad intelectual o del desarrollo. Salamanca: INICO.

Verdugo, M.A., Schalock, R.L., Arias, B., Gómez, L.E. y Jordán, B. (2013). Calidad de vida. En M.A. Verdugo (Ed.), *Discapacidad e inclusión* (pp. 444-461). Salamanca: Amarú

WHOQOL Group. Development of the WHOQOL: Rationale and current status. *Int J Mental Health* 1994; 23: 24–56



Glossary

Comorbidity: The simultaneous presence of two chronic diseases or conditions in a patient (e.g. intellectual disability + depression; or intellectual disability + schizophrenia).



Resources

Add ideas of resources for the VLE to enhance the topic.

Tools

INICO FEAPS (Verdugo et al., 2013), which is a Spanish assessment of Quality of Life for People with Intellectual and Developmental Disabilities. The scale is composed of two subscales: a *self-report* and a *report completed by others*, which allow evaluate from the individual's perspective and from the perspective of a person close to them. The scale offers valid and reliable scores for the eight dimensions (Emotional well-being, Physical well-being; Material well-being; Self-determination; Personal development; Social inclusion; Interpersonal relationships; and Rights).

INICO FEAPS is available in English.

Personal Outcomes Scale (van Loon et al., 2008): An instrument that aims to assess a person's quality of life (QOL) based on specific indicators associated with each of the eight core QOL domains.

Supports Intensity Scale (AAIDD, 2004): The scale measures an individual's support needs in personal, work and social activities in order to identify and describe the types and intensity of supports an individual requires. The SIS is designed to be part of person-centred planning processes that help all individuals identify their unique preferences, abilities and life goals.



Tips

The online learning module portal *Think College! Learn*. Each module includes text as well as video, web resources, and downloadable content to help you to learn more about the topic area.

<https://thinkcollege.net/>



Important texts, events or cites to include as curiosity.

Interesting Books:

Kelley, K. R., & Westling, D. L. (2019). Teaching, Including, and Supporting College Students with Intellectual Disabilities. Routledge.

Grigal, M., & Hart, D. (2010). Think College! Postsecondary Education Options for Students with Intellectual Disabilities. Brookes Publishing Company. PO Box 10624, Baltimore, MD 21285.



Links

App: <https://disabilityinsider.com/2020/09/28/technology/new-app-to-promote-inclusion-of-people-with-intellectual-disabilities/>

Behaviour management:

<http://www.intellectualdisability.info/mental-health/articles/behaviour-management>

Introduction

We believe that everyone can learn and develop their own skills if compensated with teaching adjusted to their singularities and with qualified and more knowledgeable teachers on Intellectual Disability (ID). In general, people with ID show reasoning and understanding below the average in relation to others of the same age. This requires complementary effort and dedication from the teacher and, furthermore, entails the adoption of highly efficient teaching strategies. Therefore, it is essential to train teachers in this area who, being informed about this issue, will facilitate the process of developing skills and competences in these people, motivating them with appropriate strategies and activities. These people have the right to be happy, to play, to hug, to hear stories, to make friends, to coexist and live in an inclusive society that respects their human dignity. Naturally, like everyone else, they have complexities and have their own times and challenges. It is important to highlight that these challenges and difficulties may be due to the disability itself or, also, the limitations and deprivations caused by preconceived and prejudiced beliefs about disability, either by the family or by the adults who deal with it. This narrow-minded perception sometimes becomes rather limiting and does not provide possibilities for individual development. Therefore, it is essential to foster good communication, which will be the basis of the entire process of interaction with people with ID. In general, we all learn better when motivated and when what is being taught is transmitted to us in a more understandable way. That is why the effect of communication is of the utmost importance. Now, this fact is even more relevant when it comes to intellectually disabled people, and motivation is, in these cases, a driving force that leads the person to involvement and predisposition to perform the daily tasks inherent to their autonomy and, therefore, based on this assumption, it assumes a central role in the learning and training process of these people.

Therefore, it is essential to implement motivation strategies that involve acceptance of themselves, acceptance of others around them and, above all, strategies with which they are accepted and integrated by their peers.

On the other hand, in this process it is essential to know each student, what he/she likes and dislikes, what is important to him/her, what are his/her skills and difficulties and to understand which learning model is adapted to each student with ID.

It goes without saying that people learn in different ways. Some learn by observing others, others by listening, others by touch. However, it is important to use emotions, helping to remember important aspects of life, in a meaningful way, triggering pleasant feelings and emotions, facilitating the creation of close ties in which the teacher's human presence and a friendly attitude are a reference point in this inclusion process.

These emotions and feelings are intended to become bridges of inclusion to work on different areas (e.g. mathematics, the Portuguese language, fine or gross motor skills, science, etc.).

It is also necessary to try to give meaning to what is taught / worked with people with ID, positively reinforcing their learning or developed work.

It is believed that motivation and communication factors are the foundation for increasing the probability of educational inclusion and, consequently, of socio-educational inclusion, which will allow intellectually disabled people to enjoy their citizenship rights while minimizing the adverse effects of ID.

Background of the topic

What is intellectual disability?

It is the limitation on at least two of the following skills/aspects: communication, self-care, home life, social adaptation, health and safety, use of community resources, determination, academic functions, leisure and work.

The term "intellectual disability" replaced the term "mental disability" in 2004, to avoid confusion with "mental illness", which is a pathological condition of people of average intelligence, but, for some reason or problem, temporarily end up not using their intellect to its full capacity. The causes vary and are complex, encompassing genetic factors, such as Down's Syndrome, and environmental factors, such as those resulting from infections and drug use in pregnancy, difficulties in childbirth, prematurity, meningitis and head trauma.

In general, students with ID have reasoning and understanding below average compared to other students of the same age. This requires a complementary effort and dedication from the teacher, in addition to highly efficient teaching strategies.

Before starting to talk about ways of working with students with ID, the teacher must adapt the activities, create playful / diversified activities, and develop adapted lesson plans. It should be emphasised that it is important to remember that this work involves teaching concepts, whether they be school concepts or activities of practical life or activities of daily living. Thus, it is essential to be aware of how learning takes place in the brain of these students. In this regard, Diament (2006) explained that during the learning process, the central brain system, through the senses, perceives, analyses, understands, stores, organises and utters information, in addition to other functions that the brain

system controls, namely attention, visual perception, auditory, memorisation, among others.

For the human being to learn something, he must assimilate and be able to keep in mind the data of the knowledge to which he was exposed. Regarding the learning and potential of the person with mental disability, Diament (2006) reinforces the idea that it is important to determine whether it is possible for this person to learn and at what level. When the disability is deeper and more serious that possibility might not even exist.

Usually people with ID are restless, do not stay still for long periods of time or are not able to concentrate because they engrossed in their own thoughts. According to Mattos (2004), “the intellectually disabled student is characterised by a combination of two groups of symptoms: “lack of attention and hyperactivity and impulsiveness”¹ (p. 20). These were described in the DSM-IV (Diagnostic and Statistical Manual), a manual that was produced by an American institution (American Psychiatric Association) that researches all psychiatric illnesses with the intention of standardising the symptoms, making them easier to identify. Mattos (2004) pinpoints a list of symptoms that are included in these two groups, assuming that they are recurring symptoms. When referring to symptoms of lack of attention, the following are highlighted: pay little attention to details or make mistakes because of lack of attention; struggle to concentrate either on school activities or during play; be absent-minded; difficulty in managing time and activities; reluctance to participate in activities that last longer or require more mental effort (e.g. reading). About the symptoms of hyperactivity and impulsiveness, we quote some indicated by Mattos (2004): restlessness, running or climbing objects or furniture; not being able to perform leisure activities in silence; to be a chatterbox; answer questions before they are

¹ Our translation from Portuguese into English.

concluded. It is common to answer questions without reading the whole question; interrupting others or meddling in someone else's conversation.

It is important to emphasise the idea that to categorise someone as "inattentive" or "hyperactive" it is necessary that the person presents at least six symptoms of each of the two groups of symptoms, respectively. In the case of the "combined form", it is necessary to present six characteristics of each concurrently. Other factors to consider are that the characteristics become visible before the age of seven; that causes problems in at least two different contexts (home and school, for example); this is not to be confused with depression or even anxiety, whose symptoms are similar.

Another aspect to bring to the fore of discussion is the importance of attention to the strengthening of memory and to the successful learning of students with ID. One of the great difficulties, therefore, is to work on the lack of attention / concentration / memorisation in these students and try to make them learn the contents, at their own pace. Therefore, the way of acting of the teacher and the school must be differentiated, since the planning, evaluation and methodology must be built considering the individuality and characteristics of each student, because the conventional ways of the teaching and learning process learning usually do not work with students with these peculiarities. As such, motivation can represent a driving force and a decisive factor to make the learning process more effective among these students. All these characteristics become a great challenge for the teacher in the classroom. It is then crucial to get these students' attention by keeping them motivated about and interested in the activities for some time. The teachers and the school or classroom environment are thus essential to foster these students' motivation.

The role of the teachers and the school in motivating students with ID to learn

The behaviour of students with ID depends heavily on motivation. According to Rodrigues (2003), students' motivation is affected or influenced by the teaching practices, by their classmates' behaviour and by the classroom atmosphere. To be able to motivate these students, the teacher needs to engage with them. Thus, pedagogical interactions are crucial to the creation of the right stimuli for students. Structured learning environments facilitate students' autonomy as well as the learning of several skills. Contrariwise, disorganised and unpredictable environments block such experiences.

Teachers are internal motivators who should centre the students around the teaching-learning process, giving them the idea that they are in control and are able to perform what they are instructed to do. When students with ID manage to accomplish a project or a task, they develop a sense of control, being therefore more committed to perform it. Teachers are the conductors, setting out the teaching scenarios and the time needed to carry out the activities. Every time the students finish the task successfully, they will feel more motivated (Levine, 2003).

Cosy and engaging spaces in the classroom also play an important role in the students' motivation. The teacher must question whether the classroom seems or feels like a safe, creative and fun space, also valuing diversity. Rick Lavoie (2008) states that to be motivating, the classroom environment needs creativity, community, clarity, respect, rules, and control.

There are other external factors that also influence students' motivation. Friends and classmates play a crucial role in motivation. If intellectually disabled students feel they are welcomed, supported, and encouraged by their classmates in the classroom, or if they have friends outside the



classroom who stimulate them to learn, they will learn better and cope more effectively with the activities presented to them.

Specific concepts

Motivation – it is the process responsible for the intensity, direction and persistence of a person to reach a certain goal. It depends on internal factors (personality, learning ability, motivation, attitudes, values) and external factors (social, political, organisational characteristics, group cohesion, rewards, among others). Following Birney and Teevan (1962) studies, the contemporary interest in the research of human motivation comes from three sources: psychotherapy, psychometry, and theory of learning.

The study of learning problems led to the invocation of motivational variables and the main learning theorists experimentally studied the role of motivational variables in memory and learning, highlighting, in this context, the work of Hull (1943).

In line with this approach, motivational variables started to be associated with different reinforcement theories, culminating with Skinner's (1953) and placing the topic of motivation within a more general context of the various types of organism-environment interaction. Therefore, according to Bergamini (1997), the term motivation took on different meanings throughout the twentieth century. If in the early twentieth century the challenge was to find out what it should be done to motivate people, by the end of the century there was a shift in that perception. Soon it was realised that motivation was self-inherent. As such, what really mattered was to find and implement organisational resources that explored the motivational drive inherent to people. Moreover, Bergamini stresses that it is very hard to transform someone overnight from an idle state to an active one unless one doesn't feel motivated. Demotivation, according to the same author, relates to specific situations.

Importance of motivation - In view of the abovementioned, motivation plays a predominant role in learning processes, because it can be

understood either as a psychological factor, or a set of factors, or as a process. Hence, there seems to be a consensus among the authors as to the dynamics of these psychological factors or of the process, in any human activity, namely in adults entering higher education. These factors, therefore, lead to a choice, instigate, initiate a behaviour directed towards an objective (Bzuneck, 2004, p. 9) which denotes its importance, that is, it plays a fundamental role in learning. This can affect both new learning and the performance of previously learned skills, strategies, and behaviours. Motivation can influence what, when and how we learn at all stages of human development.

Motivation strategies - The scientific content should not be decontextualised and, as such, teachers should start from the students' experiences (pedagogical differentiation) and add something new to them, meeting Mognon's (2010) acceptance by emphasising that motivation must be always present in the teaching-learning process. For this to happen, Mognon (2010) explains that teachers must be motivated and have good communication and relational skills that provide them with the means to know how to motivate students with ID. A strategy includes the importance of efficient communication as a process of transferring information, ideas and knowledge or feelings between people. In this way, an assertive communication is developed, promoting thus the improvement of each student. Furthermore, Rodrigues (2003) believes that teachers must learn the best teaching techniques and strategies to deal with the lack of motivation by students with ID. There are several strategies that teachers can apply to boost these students' motivation to keep them stimulated and engaged throughout their learning process. Rodrigues (2003) suggests the use of motivation strategies like: organise the lessons in a careful way, find a balance between resting and working periods; praise students' actions, efforts and achievements; give students the chance to repeat the exercises; promote activities which include social or life stories that will

help to improve students' behaviour; give the students the possibility to choose the activity they would like to perform; use game therapy and promote play and self-expression; use music therapy with simple and repetitive sentences to support the development of linguistic skills; ask the students to work in groups, thus promoting social interaction.

Communication - In this case, the Symbol System called BLISS could be used. This System is composed of a set of symbols and images that facilitate communication between and with people with ID. Its main characteristic is the complexity of the internal rules, discernible in the number of symbols and the form of composition that allows the elaboration of new words on a concrete or abstract level. The great objective is to facilitate the functional daily communication of individuals, both at home, at school and in society. It is important to encourage personal independence, provide greater understanding in relation to the speech given by others and encourage production possibilities, even if small in oral language. We start and continue until we realise that the student can cope with the activities put forward; thereafter we shape activities according to their receptiveness.

Special needs for people with ID about the topic

The historical narrative about the educational policies related to students with Special Needs (NS) can be told in three different moments: it starts off with the idea of separation, then the integration paradigm is introduced, and finally, after the Salamanca Statement in 1994, the paradigm shifts into one of inclusion. This trajectory was no different in Portugal. Its evolution follows international movements and is stressed by publications, documents, and conferences, highlighting the marked influence of the Salamanca Statement. This concern has, above all, been directed at students attending compulsory schooling. Regarding Higher Education, there is no specific legislation, in addition to the reference documents relating to human rights and which recall the importance of equity and human dignity. Now, the constraints that seem to bar the integration processes of students with ID are of various types, particularly attitudinal barriers that hinder their teaching-learning process and that are consistent with the lack of specific legislation to serve these students in Higher Education. However, according to Decree-Law No. 38/2004, the Portuguese State is responsible for "implementing a policy of prevention, qualification, rehabilitation and participation of people with disabilities". The Basic Law of the Educational System (Decree-Law No. 46 / 86) only expressly recognises specific support in basic and secondary education institutions.

To that end, it also seems paradoxical that, with the exception made to the legislation that regulates access to Higher Education and to the rules on the special contingent for candidates with physical or sensory disabilities, there is no legislation and / or guidelines that guarantee equity to these students during their academic career (Fragoso et al., 2015). In fact, as far as Portuguese higher education institutions are concerned, when faced with the search for a considerable number of candidates, and, concomitantly with the international and national

political guidelines in favour of inclusive education, they have tried to fill in this lack of legislation, implementing support measures appropriate to the needs of the public that request them, through the creation of support services or offices. According to some authors (Couzens et al., 2015), the gradual increase in students with health needs raised greater awareness, within the academic community, about the need to adapt to this reality, generating diverse institutional responses. One of those responses worthy of note in Portugal was the creation of a Working Group to Support Students with Disabilities in Higher Education - GTAEDES, which is made up of representatives from several Portuguese universities and whose main objectives are to share experiences, to disseminate information and to define the guidelines for good inclusion practices in Higher Education (GTAEDES, 2014).

Based on these assumptions, the inclusion of students with ID has been an issue that has been emphasised in Higher Education, although there are still many doubts considering the lack of specific legislation that frames these situations. However, some pedagogical experiences have emerged but at a slow pace and without great visibility and effective expression. It means, therefore, that some ignorance and some variability of procedures to be adopted in face of this problem prevail. Regarding the teachers, it is known that they feel insecure and have difficulty mediating these situations when they are faced with them, as their initial training did not value the problem of ID and, in general, most have very basic or even non-existent knowledge on this issue. In this context, considering higher education institutions' autonomous statute, it is up to each of them to define how and under what circumstances it is possible to grant entry access for people with ID.

So, based on the legislative document (Decree-Law No. 54/2018) and the "Manual of Support to Practice, for Inclusive Education", published in 2018, by the General Board of Basic Education (DGE-Portugal in

https://www.dge.mec.pt/sites/default/files/EEspecial/manual_de_apoio_a_pratica.pdf), it is considered that people with ID should benefit from measures to support learning and inclusion that allow them to attain full citizenship. Right from the start, their entry into higher education environments presupposes and reinforces a new possibility of openness and socio-pedagogical intervention towards these students. The referred document proposes the Universal Design for Learning (DUA) for all students. What differs are the measures indicated for the different realities and singularities of each student. We speak of universal, selective and additional measures. For this reason, and according to DUA, students with ID need additional measures, which, according to Pereira (2008), are the ones that refer to more frequent and intensive interventions, adapted to the needs and potential of each student, implemented individually or in small groups, and normally more extended. It is grounded on a set of guidelines which rely on three fundamental principles:

Principle 1 - provide multiple means of involvement; (“The why” of learning).

Principle 2 - provide multiple means of representation (“The what” of learning).

Principle 3- provide multiple means of action and expression (“the how” of learning) (Pereira, 2018, pp. 22-25).

Regarding these three principles, several work possibilities are recommended to involve and motivate students, meeting their interests and needs for insertion in daily and civic life. In this respect, for the development of the topic on the motivation of students aged 18 (or more), we have chosen, from this document, some of the suggestions proposed there. However, we adopt others that were rebuilt from our reading and that we believe can be adapted to higher education,

considering their transversality in the learning process. In relation to Principle 1, the “why” of learning), we highlight:

1. Provide options to encourage interest

- ✓ Allow students to participate in the planning of the activities in the classroom.
- ✓ Involve students in defining their learning and behaviour goals.
- ✓ Diversify activities and sources of information so that they can be personalised and contextualised according to the individual path of students.
- ✓ Design short-term goals, aiming to achieve long-term results.
- ✓ Diversify activities in which the learning results are authentic and respond to their needs.
- ✓ Provide tasks that allow active participation, exploration and experimentation.

2. Provide options to support effort and persistence

- ✓ Design short-term goals, aiming to achieve long-term results.
- ✓ Diversify activities in which the learning results are authentic and respond to their needs.
- ✓ Provide tasks that allow active participation, exploration

and experimentation.

- ✓ Include activities that promote acceptance and support in the classroom.
- ✓ Use strategies to anticipate daily activities, routines and transitions of actions (example: images, posters, calendars, schedules, periodic reminders).
- ✓ Vary the level of sensory stimulation, the pace of work, the time and the sequence of activities.
- ✓ (...)

3. Provide options for self-regulation

- ✓ Use strategies to anticipate daily activities, routines and transitions of actions (example: images, posters, calendars, schedules, periodic reminders).
- ✓ Vary the level of sensory stimulation, the pace of work, the time and the sequence of activities.
- ✓ Differentiate the degree of difficulty and complexity of the tasks.
- ✓ Emphasize the process, effort and progress (positive reinforcement).
- ✓ Set up flexible working groups and cooperative learning.
- ✓ Clearly define responsibilities and roles in the working groups
- ✓ Encourage and support opportunities for interaction and mutual help among peers.
- ✓ Provide informative feedback rather than comparative

feedback.

✓ (...).

Table 1- Guidelines for pedagogical practices that provide multiple means of involvement (Adapted from Pereira, 2018, pp-24-25)

According to scientific knowledge and in line with Gardner (2005), learning is built from multiple intelligences, being stimulated by the environment, relationships and life experiences. In this perspective, the students understand information from their interests, motivations and competences, with no single form or a means of an ideal representation for all the students who have different features, for example when it comes to cultural background, understanding information, or privileged ways of accessing and processing information (auditory, visual, kinaesthetic), as Pereira (2018, p. 24) states. That is why it is essential to adopt, in the classroom context, multiple strategies related to the representation and presentation of information and, above all, thinking about the motivation of each student.

In this regard, we consider it relevant to focus on Principle 2 (“the what” of learning) (Pereira, 2018) in which a set of guidelines was outlined, as shown in the following table.

1. Provide options for perception
<ul style="list-style-type: none"> ✓ Present information in different sensory modalities (visual, auditory, tactile, kinaesthetic). ✓ Make information available in adaptable formats (expand font size, different formats) ✓ (...).
2. Provide options for language, mathematical expressions

and symbols

- ✓ Association of vocabulary, labels, icons and symbols to alternative forms of representation.
- ✓ Support the decoding of texts, mathematical notation and symbols.
- ✓ Present alternatives such as illustrations, images, interactive graphics to make the information more understandable
- ✓ (...).

3. Offer options for understanding

- ✓ Anchor instruction in prior and culturally relevant knowledge.
- ✓ Harmonise different ways of organising information.
- ✓ Foster connections between the various curricular areas.
 - ✓ Adopt explicit and supported situations to generalise learning in new and practical situations.
- ✓ (...)

Table 2 - Guidelines for pedagogical practices that provide multiple means of representation (Adapted from Pereira, 2018, pp-23-24).

In line with the aforementioned guidelines, we have adopted, in this case, Principle 3, which refers to “the how” of learning. It aims to provide the student with multiple forms of expression, different learning situations, developing diverse resources and materials. We list some suggestions in the following table:

1. Provide options for physical activity

- ✓ Provide alternatives to the motor response capacity (alternatives for using a pen, pencil, the mouse).
- ✓ Provide activities that promote alternatives in terms of pace, speed and extent of motor action.
- ✓ (...)

2. Provide options for expression and communication

- ✓ Use different supports for communication (written language, oral language, drawing, music, visual arts, etc.).
- ✓ Use social networks and interactive web tools (discussion forums, chats, etc.).
- ✓ Use manipulable materials and tools for converting written material into oral language and vice versa, spelling and grammatical correctors, calculators.
- ✓ Use web resources (videos, movies, blogs, animation and presentation).
- ✓ Provide multiple examples with innovative solutions to real problems.

3. Provide options for executive functions

- ✓ Make guides and checklists available to support goal



setting.

- ✓ Integrate reminders to support strategy planning and development (“stop and think” before acting, showing and explaining work, thinking out loud).
- ✓ Provide checklists and planning models for a project to understand the problem (using questions for reflection)
- ✓ ...

Table 3 - Guidelines for pedagogical practices that provide multiple means of action and expression
(Adapted from Pereira, 2018, pp-25-26)

Methodological proposals

Working with students with intellectual disabilities requires varied methodologies and pedagogical resources that contribute to their learning. From the moment that a student feels motivated and that he is presented with sustainable and adaptable conditions to his/her needs, he/she tends to strengthen his/her self-esteem and progress in learning.

Therefore, consequently, instigated by the teacher, it will be more likely to move from a state of inertia to one of intellectual and cognitive mobility. It is therefore essential to adapt the teaching methods to students with intellectual difficulties, based on mutual cooperation between students and the construction of individual knowledge within their potential. Then, there are pedagogical strategies to consider in this process, such as:

- Establish a clear daily routine, with rest periods.
- Have organised space, logical activities and clearly defined rules.
- Use visual and auditory supports to establish and maintain these rules and expectations, such as calendars and posters.
 - Give instructions and guidelines in a direct, clear and short way.
- Observe if the student has all the necessary materials to perform the task and support him / her.
- Track the time left to complete a task.
- Enhance their skills and competences, aimed at developing their autonomy
- Use personal and group interaction games.
- Use the Symbol System called BLISS.
- Praise the social use of the language and use illustrations and reading sheets, so that the student establishes the connection between images and texts.

- Promote pair or group work with an academic or behavioural focus.
- Plan tasks sequentially, to increase their complexity.
- Outline activities that promote personal, interpersonal and social intervention development.
- Promote in an articulated way the development of personal and social autonomy skills.
- Promote the construction of an individual portfolio.

It is important to add that these strategies are meaningful only when based on communication and interaction with peers and the academic community. This reciprocal relationship will foster a holistic development, not only of the student but also of the other educational interlocutors. This healthy and proactive attitude will also keep the students more motivated and eager to learn. This way, they will respond better to the different stimuli presented to them.

To sum up, bearing in mind all the different ideas presented and explained, it is important to create and consolidate moments of daily routine, emotional stability, security and open dialogue spaces, in a dialogical perspective that allows the student to feel motivated, confident and calm in his academic daily life.



Glossary

BLISS- Symbol system: A set of basic symbols and images that facilitate communication between and with people with ID. Each symbol represents a concept and, together, they can represent new concepts. Also called Semantography.

Effective Communication: A process of transferring information, ideas and knowledge or feelings between people in an effective way. It aims at the improvement of each student.



Resources

Suggestions about ideas of resources for the VLE to enhance the topic.

Different technologies and computer applications (YouTube, social networks, and other Apps of interest)

Musical instruments

Painting materials

Educational games (digital and traditional) Interactive Books

Tools

Suggestions about ideas of tools for the VLE to enhance the topic.

Meeting platforms: Google Meet, Colibri Zoom, Moodle

Speech recognition software: e.g. Co:Writer Universal.

Assistive technological tools: e.g. Ginger, Inspiration (mind map or graphic organiser), VisionBoard Keyboard, PXC 550 Wireless.



Tips

Suggestions about advice to work with people with intellectual disabilities. It can be related to the topic, module or whole course.

Individual development programme – an educational plan centred/focused on the needs and potential of each student. It should result from a flexible and adjustable planning to suit the needs and potential of each student, to guarantee its full enforcement.

Curricular adaptations – adapt objectives and contents, seeking to sequence and prioritise, to promote learning that allows the student to achieve the general objectives and the key competences of the course, aiming at integration in society.

Work learning in specific areas - Information and communication technology, daily life activities enhancing students' autonomy, personal development, self-esteem and interpersonal relationship.

Important texts, events or cites to include as curiosity.

Suggestions about theoretical material to enhance the motivation and adhesion of the teachers to the course.

Blog: Relias.com available at <https://www.relias.com/blog/tips-for-effective-communication-between-caregivers-and-individuals-with-idd>

<https://www.mencap.org.uk/learning-disability-explained/communicating-people-learning-disability>

<https://www.icommunicatetherapy.com/adult-communication-difficulties-2/adult-learning-difficulties-intellectual-disability/>

Article available at http://www.council-for-learning-disabilities.org/wp-content/uploads/2014/07/Weiser_Motivation.pdf

Books:

Bérubé, M. (2016). *The Secret Life of Stories: from Don Quixote to Harry Potter, How Understanding Intellectual Disability Transforms the Way We Read*. New York & London: New York University Press.

Foreman, P. (2009). *Education of Students with an Intellectual Disability. Research and Practice*. Charlotte, NC: Information Age Publishing.



Links

<https://dre.pt/application/file/a/115648907> - Decree-Law n.º 54/2018, 6 July – Establishes the legal regime of inclusive Education, accessed on July 20, 2020.

http://gtaedes.ul.pt/gtaedes/inq_superior - Working Group to Support Students with Disabilities in Higher Education (GTAEDES), accessed on July 20, 2020.

<http://isec2015lisbon.weebly.com/the-lisbon-educational-equity-statement.html> (Lisbon Declaration, Portugal on Education and Equity. Retrieved on October 28, 2020)

<https://ria.ua.pt/bitstream/10773/22260/3/Boas%20pr%C3%A1ticas%20de%20Ensino%20e%20de%20Inclus%C3%A3o.pdf> (Good teaching and inclusion practices for students with special educational needs at the University of Aveiro. Retrieved on October 28, 2020)

<https://app.parlamento.pt/webutils/docs/doc.pdf?path=6148523063446f764c324679626d56304c334e706447567a4c31684a53556c4d5a5763765130394e4c7a684452554d76523152465253>

Introduction

Since it emerged in the field of architecture, Universal Design has expanded into other areas, including education, with the name of Universal Design for Learning (UDL). This approach, developed during the 1990s by the Center for Applied Special Technology (CAST), is based on a set of principles for the design and development of approaches that offer all individuals equal learning opportunities through the construction of a flexible and accessible curriculum, which can be effective for all students, regardless of the presence or otherwise of difficulties. UDL is a framework that can expand inclusionary options for students with an intellectual disability (ID) in general education settings, with its focus on providing flexible courses that support all students in mastering learning goals. UDL addresses learner variability by delineating the varied ways in which individuals process, express, and engage with information. UDL can be one possible answer if it “facilitates the access to the curriculum, to learning activities and to the social life in the classroom to all students” (Katz, 2012, p.25). The approach to UDL allows the teacher to develop work plans that are based on the students’ diversity and take into consideration what, how and why they learn.

UDL is a pedagogical model for creating educational objectives, methods, materials, and assessments that apply to everyone. It, therefore, offers equal opportunities and equity in learning to all pupils with different abilities. These resources work and are adaptable to everyone. To implement this model, it is necessary to understand the variability of the students’ educational and training needs and any learning barriers posed by the environment and curriculum from the very beginning—in other words, design flexible training courses that are accessible to as many students as possible without the need for subsequent adaptations. It is important to consider the training of teachers and students, who must be helped to think differently, facilitating their work in education. It is, therefore, necessary to identify



the educational barriers and student variability, two key components of planning (Israel et al., 2014). The researchers identified that teachers might not fully implement the UDL framework (Rao et al., 2014). Therefore, applying such practices as mentoring and coaching may be useful for motivating and supporting the teaching staff. Based on this, one could say that planning intended to meet the needs of all students requires an investment of time, preparation, and experience (Evans et al., 2010) and which is, however, indispensable for creating possibilities, universality, and equity in learning. Furthermore, the integration between the UDL framework and teaching strategies (e.g., functional behaviour analysis, class-wide peer tutoring, and curriculum modifications), can promote universal design for learning and inclusive teaching of all students, even with different levels of ID (Frolli et al., 2020)

Background of the topic

The Universal Design concept emerged in the 1950s to overcome barriers by building environments that were obstacle-free and accessible to everyone, in particular to people with disabilities. From the 1970s to the 1980s, this movement became increasingly stronger, gaining critical mass and the professional community's consensus (Rogers, 1995; Adaptive Environments, 2006). At the turn of the late 1980s and early 1990s, this movement passed from the idea of accessible design to that of universal design and acquired legal force as laws began to be promulgated that defined their importance. The Center for Universal Design (1997) has published seven Principles of Universal Design and associated guidelines applicable to different fields, including education. Universal Design in the 2000s was applied to learning, thus becoming universal design for learning (UDL), affirming the principle that learning is not only inherent in the student's ability but will become universal and accessible (Rose & Meyer, 2002) through interaction with flexible educational materials and methods. . In addition to UDL applied to general education, it is important to remember that four main approaches have emerged since the appearance of the Universal Design concept and its subsequent application to the educational field (Sala et al., 2014). The approaches presented are (a) Universal Design for Learning, (b) Universal Instructional Design, (c) Universal Design for Instruction, and (d) Universal Design in Education, developing a learning system that maximizes technology by adapting it to each student's needs, whether a student has a disability or not. UDL promotes a holistic as well as an authentic approach to learning and assessment. Its framework is based on the principle according to which the student has a normal and systematic variability. Therefore, it is necessary to plan proactively, designing the curricula on the assumption that the curricula, and not the students, are disabled. UDL is not simply a series of principles but, acquiring importance over the years, has become a standard in

new forms of educational planning. The guidelines can be applied to design objectives, methods, materials, and assessments (Meyer et al., 2014). The idea of learning is linked to the results and not to the means of achieving them. These means are left open in the sense that each student will find a way to achieve the result by expressing their educational needs. The emphasis is placed on personal characteristics and transversal skills combined with the curriculum and collaborative planning with teachers (Nevin et al., 2013). Students with intellectual disabilities (ID) experience university life by focusing more on learning than on experiences of inclusion and academic socialization, which are often insignificant. UDL provides flexible pathways that help all students, including those with significant disabilities (Sailor & McCart., 2014), to cope with learning objectives and also social inclusion (Rao et al., 2017). By applying UDL principles, students with ID would encounter more inclusive experiences and better academic results. Wehmeyer (2006) stated that educational content should be designed to be truly accessible to all students in advance, using technological means and pedagogical strategies. Only in this way can we guarantee access to the general curriculum for people with ID. Research on UDL in an academic context shows a positive relationship between academic results and the application of UDL principles (Rao et al., 2014). Teachers endeavour to use with people with ID effective and flexible practices such as visual aids, systematic education, positive reinforcement, self-determination strategies, and individual preferences based on personal needs (Browder et al., 2014). In a review analysing the effects of coaching on UDL (Craig, 2020), teachers reported that instructional coaching significantly influenced their ability to understand and then put the UDL framework into practice. The coach's impact appeared to influence three specific areas of improvement: (a) increased intentionality in the teachers' use of the UDL framework, (b) the ability to consider their instructional experience, and (c) could benefit a process

of student change. There is not much literature examining the application of UDL to students with ID. However, some encouraging studies show positive effects on performance in academic areas, student involvement, and social and behavioural outcomes based on UDL principles (Lieber et al., 2008; Kortering et al., 2008; Kennedy et al., 2014). These results refer to access to a secondary-school curriculum. However, due to the lack of means, many students with ID have experienced limited learning options in the post-school phase (Butterworth & Migliore, 2015). Although the road ahead is still long, some experiences give hope. In CAST (2011), a scientifically valid framework was applied to curriculum design in inclusive classes. Some researchers have explored how learning for people with ID could be improved using UDL (Copeland & Cosbey, 2008; Hartmann, 2015; Ryndak, Jackson, & White, 2013). The academic and social benefits achieved through implementing an inclusive environment (Cozier et al., 2013) should make us think about the significant planning expressed by the model. Cultural debates around UDL have set such priorities as implementation within learning, assessment of conditions concerning applicability, and the teaching staff's roles in its implementation (Thoma, Cain & Walther-Thomas, 2015), as well as inclusion in public policies to its impact with substantial funding and program developments (US Department of Education, 2010; Every Student Succeeds Act, 2015; Culatta, 2016).

Specific concepts

Universal Design (UD) initially emerged in the United States to promote a project without architectural barriers, accessible to all people, with and without disabilities. The term was coined by the architect Ronald L. Mace of North Carolina State University in the late 1980s to refer to the study from the outset of products, environments, and buildings constructed to be accessible to all people, regardless of age, ability, and social condition, without having to resort to subsequent adaptations. The goal is to create structures accessible to all, including people with disabilities, rather than acting *ex post* to adapt an inaccessible environment to an individual's difficulties. This approach, developed by the North Carolina State University Research Center (1997), is based on seven guiding principles:

1. **Equitable Use.** The design is useful and marketable to people with diverse abilities. For example, a website designed to be accessible to everyone, including people who are blind and using screen reader technology, employs this principle.
2. **Flexibility in Use.** The design accommodates a wide range of individual preferences and abilities. One example is a museum that allows a visitor to choose to read or listen to the description of the contents of a display case.
3. **Simple and Intuitive Use.** The design's use is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. **Perceptible Information.** The design communicates necessary information effectively to the user, regardless of their sensory abilities or ambient conditions.
5. **Tolerance for Error.** The design minimizes hazards and adverse consequences of accidental or unintended actions.

6. Low Physical Effort. The design can be used efficiently and comfortably and with a minimum of fatigue.
7. Size and Space for Approach and Use. Appropriate size and space are provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.

The European movement known as *Design for All* is based on the same principles

Universal Design has expanded into other areas, including education. Universal design in education is a framework of instruction that seeks to be inclusive of different learning preferences and learners and helps reduce barriers for students with disabilities. In the last few decades, it has been used with different approaches in education and teaching: Universal Design for Learning (CAST, 2011;2018), Universal Instructional Design (Silver, Bourke, and Strehon, 1998), Universal Design for Instruction (Roberts, Park, Brown &Cook, 2011,) e Universal Design in Education (Burgstahler, 2007). However, all these approaches have a common goal: to ensure full participation by all students in the learning process, regardless of disability.

Universal Design for Learning is a concept and a theoretical framework developed in the 1990s by the Center for Applied Special Technology (CAST). The universal learning design (UDL) is structured for improving and optimizing teaching and learning for all people based on scientific insights into how humans learn. UDL guides the design of learning experiences to meet the needs of all students proactively. This approach assumes that the obstacles to learning are in the environment's design, not in the student (CAST, 2008; 2011; 2018). The UDL is based on brain science and evidence-based educational practices. The three principles on which UDL is based were derived from this research:



- Multiple means of representation (the “what” of learning)– using a variety of methods to present information, provide a range of means to support.
- Multiple means of action and expression (the “how” of learning)– providing learners with alternative ways to act skilfully and demonstrate what they know.
- Multiple means of engagement (the “why” of learning) – tapping into learners’ interests by offering choices of content and tools; motivating learners by offering adjustable levels of challenge.

Nine guidelines were developed (CAST, 2008; 2011; 2018) from these three principles, representing UDL’s fundamental principles. The guidelines offer a series of concrete suggestions that can be applied to any discipline. This approach can help teachers customize a curriculum to serve all learners, regardless of ability, disability, age, gender, or cultural and linguistic background. UDL provides a blueprint for designing strategies, materials, assessments, and tools to reach and teach students with different needs.

Special needs for people with ID about the topic

Proper training on intellectual disability and the training needs of people with intellectual disabilities is one of the urgent needs internationally. The aim is for teachers to acquire appropriate training qualifications and promote inclusion and social autonomy for people with intellectual disabilities. The teachers' response actions should be based on programs aimed at developing the professional skills of people with disabilities to facilitate entry and permanence in the work world. The primary objective is to build effective tools to combat discriminatory attitudes on the part of the community. In becoming a welcoming community, active participation and flexibility are guaranteed, and social and mental barriers are reduced (Universal Design for Learning). Assuming that people with intellectual disabilities learn according to a hands-on model rather than abstract concepts, the learning experience should be constructed by teachers who select observable and concrete information. The lesson, therefore, should include a collection of visual aids such as graphs, images, and example tables. These tools could positively reinforce certain behaviours and help students themselves create a link between the questions and answers expected of them. These strategies can fall within the Applied Behavioural Analysis (ABA) educational model (Cooper et al., 2007), which responds to the student's need to achieve a learning objective by linking cause and effect in his mind according to such recognized theories as classical conditioning and operant conditioning. According to this model, complex behaviour can be broken down into simple behaviours. Moreover, individual skills can be acquired by the student according to a phased arrangement. Thus, each time a part of the skill is introduced through action and perfected, it is possible to pass to the next phase until the behaviour (competence) appropriate and functional to the situation are produced. The system is based on the reward tokens

provided if the student has acquired that specific skill and on a system based on gratification.

For students with intellectual disabilities, the emphasis is placed more on highly structured teaching of self-care, communication, and perceptive motor skills using direct methods and homework analysis. Structured teaching is a set of personal care and sensory stimulation combined with alternative communication methods (Westwood, 2004). Considering that each student sets specific objectives through the use of compensatory and dispensing tools and considering the theoretical model to which we refer, a series of effective learning strategies (Turnbull et al., 2002) for students with intellectual disabilities are to transmit each concept individually to make the student memorize one component at a time. Each concept should be sequential in such a way that this step provides a mental map constructed in stages and helps the reinforcement process of experience-based learning, and therefore learning by doing (mediated learning). Group work is stimulated so that the student acquires cooperative and collaborative skills, using small groups to foster relationships and socialization in order not to overload the student with information, using verbal or physical stimuli to guide the student to answer what is requested, provide gratification once even a simple goal has been reached to reinforce the learned behaviour by transporting the same behaviour to different situations to memorize it as a skill and make it automatic, and offer suggestions to the student to manage each phase of the activity being carried out. The aim is to ensure that the student self-monitors and self-regulates using cognitive and training methods such as those of metacognitive teaching (Chrobak, 2001). It is useful to emphasize and nurture introspective and self-control mechanisms, therefore working on self-efficacy, helping students develop beliefs about their ability to perform those sequences of actions necessary to produce certain results (Bandura, Freeman & Lightsey, 1999). In relation to the connection between emotional



aspects and UDL, please note that each principle has three related guidelines that can be used as a feature or tool to guide the implementation of UDL in education (McGuire and Scott 2006). Guideline nine states the importance of offering students more scaffolds, models, and feedback to manage frustration, seek external emotional support, and develop coping skills (Griful-Freixenet et al., 2017).

Methodological proposals

Universal Design for Learning (UDL) promotes the inclusion of students with intellectual disabilities (ID) in general education contexts. The Center on Applied Special Technology (2011) has been instrumental in developing the UDL framework. The framework consists of three principles (the 'what', 'how', and 'why' of learning) that are further defined by the nine guidelines and 31 checkpoints derived from an extensive literature review based on effective instructional practices. The checkpoints delineate specific approaches and methods identified as effective in reducing barriers to learning (Rao et al., 2017). UDL guidelines can be applied to design instructional goals, methods, materials, and assessments to build flexible learning paths. The UDL framework supports inclusion by ensuring that instructional environments include pathways for participation, progress, and success for students with varied abilities and needs. Educators should incorporate effective practices such as systematic instruction, visual supports, positive reinforcement, individual preferences, strategies of self-determination, and other practices that have research supporting their use by individuals with ID (Browder, Wood, Thompson, & Ribuffo, 2014). Educators should also keep in mind the unique profiles of students with ID to provide individualized supports as needed. The UDL guidelines provide a menu of options that can be applied in various ways. For example, the following strategies could be used: (Rose & Meyer, 2002; Israel, Ribuffo, & Smith, 2014; CAST, 2008; 2011; Burgstahler, 2007; 2020):

- Always supply clearly laid-out, highly legible materials with balanced texts in terms of the complexity level. Choose textbooks and other curriculum materials that address the needs of students with diverse abilities, interests, and learning preferences.
- Use different teaching methods to respond to different learning needs (e.g., images, videos, audio), promote group activities and

class discussion, and respect each student's rhythm and speed of learning.

- Use multiple strategies to present content. For example, enhance instruction through case studies, music, role play, cooperative learning, hands-on activities, guest speakers, internet simulations, and fieldwork.
- Provide teaching materials in different formats (e.g., lesson recordings with the visual support of slides summarizing key points, notes, or lecture notes in digital format, so students can decide how to access the material (in paper format or through technological aids). Other examples include online resources, videos, podcasts, PowerPoint presentations, e-books, etc.
- Provide flexible opportunities for assessment. The assessments used to evaluate student learning are flexible enough to accurately demonstrate their learning unhindered by their disabilities. Allow students to demonstrate their learning in multiple ways, including visual and oral presentations, rather than only through written assessments. Ensure that a test measures what students have learned and not their ability to adapt to a new format or presentation style.
- Interaction. Encourage regular and effective interactions between students, employ multiple communication methods, and ensure that communication methods are accessible to all participants.
- Information resources and technology. Ensure that course materials, notes, and other information resources are engaging, flexible, and accessible to all students. Example: Choose printed materials and prepare a syllabus in advance to give students the option of beginning to read materials before the course begins.
- Provide cognitive supports. Summarize major points; give background and contextual information, and deliver effective prompting. Provide summaries, graphic organizers, and other



scaffolding tools to help students learn. Key vocabulary, labels, icons, and symbols should be associated with alternate representations of their meaning (e.g., an embedded glossary or definition, a graphic equivalent, a chart or map), ensuring accessibility to content. In addition, idioms, archaic expressions, culturally exclusive phrases, and slang should be translated.

- Ensure that course materials, notes, and other information resources are engaging, flexible, and accessible for all students to present content in a logical, straightforward manner and in an order that reflects its importance. Avoid unnecessary jargon and complexity and define new terms when they are presented. Create materials in simple, intuitive formats. Provide options for gaining the technology skills needed for course participation. Select or create materials (including textbooks, syllabi, lesson pages, presentation materials) that are universally designed. For example, use electronic materials that are text-based, have flexible features, use formatted headings and lists, describe the content within images, use captioned videos and provide transcriptions for audio presentations.

References of the topic

Act, Every Student Succeeds. "of 2015, Pub." L (2015): 114-95..

Adaptive Environments. (2006). History of universal design.
<http://www.adaptiveenvironments.org/index.php?option=Content&Itemid=26>. Accessed July 17, 2007.

Anderson, O. (2009). Neurocognitive theory and constructivism in science education: A review of neurobiological, cognitive and cultural perspectives. *Brunei International Journal of Mathematics and Science Education*, 1, 1–32.

Bandura, A., Freeman, W. H., & Lightsey, R. (1999). Self-efficacy: The exercise of control.

Browder, D. M., Wood, L., Thompson, J., & Ribuffo, C. (2014). Evidence-based practices for students with severe disabilities. CEEDAR Document NO. IC-3. CEEDAR Center.

Burgstahler, S. (2007). *Universal Design in Education: Principles and Applications*. Applications.
http://www.washington.edu/doit/Brochures/Academics/ud_edu.html

Burgstahler, S. (2020). *Parità di accesso: progettazione universale delle istruzioni*. Seattle: DO-IT, Università di Washington. uw.edu/doit/equal-access-universal-design-instruction.

Butterworth, J., & Migliore, A. (2015). Trends in employment outcomes of young adults with intellectual and developmental disabilities, 2006-2013. Center for Applied Special Technology (CAST) (2008). *Universal design for learning guidelines version 1.0*. Wakefield, MA: Center for Applied



Special Technology. <http://udlguidelines.cast.org/more/research-evidence>

Center for Applied Special Technology (CAST). (2011). Universal design for learning guidelines version 2.0. Wakefield, MA: National Center on Universal Design for Learning
<http://udlguidelines.cast.org/more/research-evidence>

CAST (2018). Universal Design for Learning Guidelines version 2.2. Retrieved from <http://udlguidelines.cast.org>

Center for Universal Design (1997). The principles of universal design, version 2.0. Raleigh, NC: North Carolina State University.

Chrobak, R. (2001). Metacognition and didactic tools in higher education. In 2nd International Conference on Information Technology Based Higher Education and Training, Kumamoto, Japan.

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). Applied behavior analysis.

Craig, S. L. (2020). Effects of Coaching on Universal Design for Learning Implementation (Doctoral dissertation, University of Kansas).

Culatta, R. (2016). National Education Technology Plan. Educational Technology.

European Union (EU). (2006). Key competences for lifelong learning—European reference framework. Official Journal of the Europe, 394, 10-18.

Evans, C., Williams, J. B., King, L., & Metcalf, D. (2010). Modeling, guided instruction, and application of UDL in a rural special education teacher preparation program. *Rural Special Education Quarterly*, 29, 41–48.

Frolli, A., Rizzo, S., Valenzano, L., Lombardi, A., Cavallaro, A., & Ricci M.C. (2020). Universal Design for Learning and Intellectual Disabilities. *Global Journal of Intellectual & Developmental Disabilities*, 6 (5), 555696. DOI: 10.19080/GJIDD.2020.06.555696.

Griful-Freixenet, J., Struyven, K., Verstichele, M., & Andries, C. (2017). Higher education students with disabilities speaking out: perceived barriers and opportunities of the Universal Design for Learning framework. *Disability & Society*, 32(10), 1627-1649.

Israel, M., Ribuffo, C., & Smith, S. (2014). Universal Design for Learning: Recommendations for teacher preparation and professional development (Document No. IC-7). Retrieved from University of Florida, Collaboration for Effective Educator, Development, Accountability, and Reform Center website: <http://ceedar.education.ufl.edu/tools/innovation-configurations/>

Katz, J. (2012). Re-imagining inclusive education (inclusion). *CAP Journal. The Canadian Resource for School Based Leadership*, 22-25.

Kennedy, M. J., Thomas, C. N., Meyer, J. P., Alves, K. D., & Lloyd, J. W. (2014). Using evidence-based multimedia to improve vocabulary performance of adolescents with LD: A UDL approach. *Learning Disability Quarterly*, 37(2), 71-86.

Kortering, L. J., McClannon, T. W., & Braziel, P. M. (2008). Universal design for learning: A look at what algebra and biology students with and

without high incidence conditions are saying. Remedial and Special Education, 29(6), 352-363.

Lieber, J., Horn, E., Palmer, S., & Fleming, K. (2008). Access to the general education curriculum for preschoolers with disabilities: Children's school success. Exceptionality, 16(1), 18-32.

Mcguire, J. M., Scott, S. S., & Shaw, S. F. (2006). Universal design and its applications in educational environments. Remedial and special education, 27(3), 166-175.

Meyer, A., Rose, D. H., & Gordon, D. (2014). Universal Design for Learning: Theory and Practice. Wakefield, MA: Center for Applied Special Technology.

Nevin, A., Falkenberg, C. A., Nullman, S., Salazar, L., & Silió, M. C. (2013). Universal design for learning and differentiated instruction: Resolving competing mandates of the Individuals with Disabilities Education Act and No Child Left Behind.

Rao, K., Ok, M. W., & Bryant, B. R. (2014). A review of research on universal design educational models. Remedial and special education, 35(3), 153-166.

Roberts, K. D., Park, H. J., Brown, S., & Cook, B. (2011). Universal Design for Instruction in Postsecondary Education: A Systematic Review of Empirically Based Articles. Journal of Postsecondary Education and Disability, 24 (1), 5-15.

Rogers, E. (1995). Diffusion of innovations, 4th edition. New York: The Free Press.

Rose, D. & Meyer, A. (2002). Teaching every student in the digital age: Universal design for learning. Alexandria, VA: Association for Supervision and Curriculum Development.

Rose, D. H., & Meyer, A. (2002). Universal design for learning: Teaching every student in the digital age.

Sala, I., Sánchez, S., Giné, C. G., & Diez, E. (2014). Análisis de los distintos enfoques del paradigma del diseño universal aplicado a la educación. *Revista latinoamericana de educación inclusiva*, 8 (1), 143-152.

Sailor, W. S., & McCart, A. B. (2014). Stars in alignment. *Research and Practice for Persons with Severe Disabilities*, 39(1), 55-64.

Silver, P., Bourke, A. y Shaw, S. F. (2003). Universal Instructional Design in Higher Education: An Approach for Inclusion. *Equity & Excellence in Education*, 31 (2), 47-51.

Sousa, D. (2011). Mind, Brain, and Education: The Impact of Educational Neuroscience on the Science of Teaching. *Mind, Brain, and Education: Implications for Educators*, 5(1), 37-43.

Thoma, C. A., Cain, I., & Walther-Thomas, C. (2015). National goals for the education of children and youth with intellectual and developmental disabilities: Honoring the past while moving forward. *Inclusion*, 3(4), 219-226.

Turnbull, R., Turnbull, A., Shank, M., Smith, S. & Leal, D. (2002). *Exceptional lives* (3rd edn). Upper Saddle River, NJ: Merrill-Prentice Hall

US Department of Education. (2010). Higher Education Opportunity Act—2008.



Wehmeyer, M. L. (2006). Beyond access: Ensuring progress in the general education curriculum for students with severe disabilities. *Research and Practice for Persons with Severe Disabilities*, 31 (4), 322-326.

Westwood, P. S. (2004). *Learning and learning difficulties: A handbook for teachers*. Aust Council for Ed Research.



Glossary

Applied Behavioural Analysis (ABA): This scientific technique involves applying empirical approaches based upon the principles of respondent and operant conditioning to change socially significant behaviour.

Center for Applied Special Technology (CAST): It is a multifaceted organization with the singular ambition of “busting the barriers” to learning that millions of people experience every day. CAST created the Universal Design for Learning framework.

Universal Design: The concept of Universal Design (UD) comes from architecture and is designed to provide accessible environments for the entire population (Nelson, 2014). Although this concept was initially developed to ensure physical access to people in the most diverse conditions, these principles have been applied to other areas of knowledge. With regard to education, the term adopted in the United States is Universal Design for Learning (UDL).

Universal Design for Learning (UDL): UDL is a framework that guides the design of courses and learning environments to appeal to the greatest number of learners. It emphasizes flexibility in how instructional material is presented, how students demonstrate their knowledge and skills, and how they are engaged in learning.

Resources

Practical examples of the application of UDL principles

Example La, H., Dyjur, P., & Bair, H. (2018). Universal design for learning in higher education. Taylor Institute for Teaching and Learning. Calgary: University of Calgary

[https://taylorinstitute.ucalgary.ca/sites/default/files/UDL-guide_2018_05_04-final%20\(1\).pdf](https://taylorinstitute.ucalgary.ca/sites/default/files/UDL-guide_2018_05_04-final%20(1).pdf)

<https://commons.georgetown.edu/teaching/design/assessment/>

Meyer, A., Rose, DH e Gordon, D. (2014). Design universale per l'apprendimento: Teoria e pratica. Wakefield MA: CAST Professional Publishing. <http://udltheorypractice.cast.org/login>

Rose, D. H., Harbour, W. S., Johnston, C. S., Daley, S. G., & Abarbanell, L. (2006). Universal Design for Learning in Postsecondary Education: Reflections on Principles and their Application. Journal of Postsecondary Education and Disability, 19(2), 135-151. <http://www.cast.org/our-work/publications/2006/udl-postsecondary-education-reflections-principles-application-rose-johnston-daley>

<http://www.washington.edu/doit/videos/index.php?vid=13> (video presentation demonstrates strategies for making instruction in a classroom or a tutoring center accessible to all students)

<https://www.washington.edu/doit/universal-design-instruction-udi-definition-principles-guidelines-and-examples>

http://udloncampus.cast.org/page/udl_examples



Tools

Web Content Accessibility Guidelines (WCAG) 2.1

European Agency for Special Needs and Inclusive Education. Guidelines for Accessible Information. ICT for Information Accessibility in Learning (ICT4IAL)

https://www.ict4ial.eu/sites/default/files/Guidelines%20for%20Accessible%20Information_EN.pdf

Index for Inclusion

Tips

- Always supply clearly laid-out and highly legible materials, with balanced texts in terms of complexity. Choose textbooks and other curriculum materials that address the needs of students with diverse abilities, interests, and learning preferences.
- Use different teaching methods to respond to different learning needs (e.g., images, videos, audio, etc.), promote group activities and class discussion, and respect each student's rhythm and speed of learning.
- Use multiple strategies to present content. Enhance instruction through case studies, music, role plays, cooperative learning, hands-on activities, guest speakers, internet simulations, and fieldwork.
- Provide teaching materials in different formats (e.g., lesson recordings with the visual support of slides summarizing key points, notes, or lecture notes in digital format, so that students can decide how to access the material (in paper format or through technological aids). Other examples include online resources, videos, podcasts, PowerPoint presentations, e-books, etc.
- Provide flexible opportunities for assessment. The assessments used to evaluate student learning are flexible enough to accurately demonstrate their learning unhindered by their disabilities. Allow students to demonstrate their learning in multiple ways, including visual and oral presentations, rather than only through written assessments. Ensure that a test measures what students have learned and not their ability to adapt to a new format or presentation style



Links

http://www.washington.edu/doit/Brochures/Academics/ud_edu.html

<http://udlguidelines.cast.org/more/research-evidence>

<http://udlguidelines.cast.org/more/research-evidence>

<http://cedar.education.ufl.edu/tools/innovation-configurations/>

<https://commons.georgetown.edu/teaching/design/universal-design/>

<http://udloncampus.cast.org/home>

<https://www.youtube.com/watch?v=gR7GbBcGOVc>

<https://www.youtube.com/watch?v=KuTJJQWnMaQ>

<https://www.youtube.com/watch?v=dTxFYf50I-4>

<https://www.youtube.com/watch?v=YZQFErJn-Eg>

https://www.youtube.com/watch?v=d5KsyV2y2_E

<https://www.youtube.com/watch?v=pnXl-mzwjmU>



Important texts, events or cites to include as curiosity.

[https://www.washington.edu/doiit/sites/default/files/atoms/files/Universal%20Design%20in%20Higher%20Education Promising%20Practices_0.pdf](https://www.washington.edu/doiit/sites/default/files/atoms/files/Universal%20Design%20in%20Higher%20Education%20Promising%20Practices_0.pdf)

<http://udloncampus.cast.org/home>

Julie A. Zaloudek, Renee Chandler, Kitrina Carlson (2019). Universal Design for Learning: Teaching to All College. UW-Stout

Burgstahler, S. (2007). Universal Design in Education: Principles and Applications. Applications

Center for Applied Special Technology (CAST) (2008). Universal design for learning guidelines version 1.0. Wakefield, MA: Center for Applied Special Technology.

Center for Applied Special Technology (CAST). (2011). *Universal design for learning guidelines version 2.0*. Wakefield, MA: National Center on Universal Design for Learning

Introduction

Teaching with people with intellectual disabilities, as with any person with diverse needs, requires strategies that facilitate the involvement of each person in the educational process. In practice this means trying to provide answers to diverse needs.

The term “Support strategies” is understood as a set of practices that generally consider those needs and facilitate the necessary interaction of teachers with people with intellectual disabilities. They are aimed at teachers and lecturers who lack experience in teaching people with intellectual disabilities and are intended as especially practical tools. Their use often requires prior internalisation. For example, the belief that everyone has the ability to learn facilitates the work of a teacher. This is a belief that requires internalisation, personal work and a prior conviction.

We have grouped these strategies into four sections: those that have to do with communication and information, those related to teachers' attitudes, some methods to facilitate teaching and learning and, finally, applications and psychological support. The final part includes some examples and case studies that we hope will inspire and help readers in their teaching work.

These strategies are general. They serve to facilitate learning among all students, with “learning” understood to mean the result of the interaction or involvement of students with the opportunities that the environment provides them. Although they are designed to facilitate interaction with adults with intellectual disabilities, they could be applied to other educational contexts. However, it should be noted that each person is unique, and teachers have to consider and adapt their activities to the needs, objectives, desires, aspirations and expectations of each individual. At this point it is of interest for us to be able to use all



our creativity to offer solutions adapted to each person and each situation.

This section has been prepared with contributions from Conchi Camarero and Mónica García, two colleagues from the Aspanias Group with extensive experience in teaching people with intellectual disabilities in educational settings as diverse as a special education centre, an occupational centre and a special employment centre.

Background of the topic

In this topic, we propose recommendations to help universities to move towards inclusive education. We indicate the need for accessibility in university environments, planned transition processes, job counselling services, a positive attitude on the part of teaching staff, development of inclusive practices, use of technologies and the need for teaching staff to be trained in inclusion and disability. The conclusions of this article discuss the main results with previous work and make proposals to help higher education be more inclusive.

Fortunately, diversity among university students is becoming a more common sight, though this may not be true to the same extent for people with intellectual disabilities, few of whom currently (in Spain) obtain a degree after finishing their compulsory studies. The proportion who goes on to higher education is low, despite their having followed an ordinary or common education itinerary up to that point. This constitutes a barrier to learning for students with intellectual disabilities since their academic progress and achievements are not recognized.

The main barriers encountered by students with intellectual disabilities have to do with cognition, such as the use of intelligible language, tools, instruments or assessments, incomprehensible environments, an almost total lack of adaptations, etc. These barriers are often invisible or more difficult to detect. This hinders learning, access to and participation in the life of the educational establishment.

The number of people with disabilities who access university is currently increasing year by year (SEALE et al., 2015; VLACHOU; PAPANANOU, 2018). For example in academic year 2017-2018, the number of students with disabilities at Spanish universities totalled 21,435, compared to 18,418 in academic year 2011-2012 (UNIVERSIA FOUNDATION, 2018). Regulations have influenced this increase (YSSEL et al., 2016). In Spain,

the Organic Law on Universities (Act 4/2007) establishes the right to equal opportunities, free enrolment, the creation of specific help and support programmes and the application of educational adaptations. Royal Decree 1/2013 of November 29 includes an increase in the permitted number of attempts to pass examinations and the adaptation of exams to the nature of each student's disability.

These measures are necessary to guarantee access but are not enough in themselves. Actions and plans need to be promoted to ensure that these students can continue to attend university (MORIÑA et al., 2020; THOMAS, 2016). There are numerous documents from international organisations such as the United Nations that recommend that university education be inclusive, but the barriers faced by students with disabilities have not yet been eliminated, and universities are not sufficiently prepared to include them in the student body (MILIC BABIC; DOWLING, 2015; MORIÑA et al., 2013). However, even though there is still some way to go before university education can be seen as inclusive, a significant number of studies conclude that successful completion of higher education is an opportunity (LIPKA et al, 2019) and a vehicle to improve education and quality of life for people with disabilities (MISISCHIA, 2014; SHAW, 2009).

Some studies conclude that students with disabilities must overcome a number of barriers in their university studies (BEAUCHAMP-PRYOR, 2012; LIASIDOU, 2014; NORRIS et al., 2020; SEALE, 2017). In addition to their studies per se, students with disabilities must face their disability and the barriers derived from it (DENHART, 2008; JÄRKESTIG-BERGGREN et al., 2016; SEALE et al., 2015). Studies such as that of Candido, Bizelli and Pereira (2017) also show that obstacles are encountered not only by students but also by administration staff and teachers who have disabilities.

Some of the difficulties that students with disabilities encounter in university settings have to do with the lack of information and attention to disability and with red tape. Students often consider that there is a lack of interest and of positive attitude to dealing with their problems and difficulties (MORIÑA; MOLINA, 2011). They also encounter physical barriers related to inaccessible areas, websites and virtual resources, inability to hear properly, lack of reserved seats in the classroom and lack of Braille posters in university areas (DÍAZ VELÁZQUEZ, 2012).

Other barriers identified are related to access to the curriculum, so that it is difficult for students to participate in some practical activities or methodologies are used that leave some students out of the process. In this regard, as Liasidou (2014) comments, it would be advisable to use a participatory, flexible methodology based on the **Universal Design for Learning (UDL)**. This is also proposed by students with disabilities (GARABAL-BARBEIRA, 2015; GRADEL; EDSON, 2010; ROSE et al., 2006). The use of information and communication technologies can also favour inclusion, since it helps overcome physical and time-related barriers, making it highly beneficial for students with disabilities (MARÍN-DÍAZ et al, 2018; LERSILP, 2016).

The attitudinal and methodological barriers related to teachers are linked to the need for training in disability matters. As a rule, universities offer different courses and continuous training programmes for teachers in teaching strategies to improve the teaching-learning process (STES; VAN PETEGEM, 2015). In this sense, it would be advisable to include training in awareness of what disability is and how to respond adequately to the needs of students with disabilities (HADJIKAKOU; HARTAS, 2008; LOURENS; SWARTZ, 2019; MARTINS et al., 2018). Some universities have already designed and developed training programmes for this purpose. Examples include the Teachability proposal in Scotland (SIMPSON, 2002), materials designed by Healey et al. (2001) in England,

the proposal by Debran and Salzberg (2005) in the United States and the proposals by Dotras, Llinares and López (2008), Guasch (2010) and Moriña (2018) in Spain.

Finally, numerous authors, including Doughty and Allan (2008) and Fuller, Bradley and Healey (2004), recommend that the learning process in the university system be inclusive and capable of responding to the needs of all its students. A quality educational response is required, and this is achieved by increasing inclusive practices and eliminating those barriers that can lead to exclusion processes (MOLINER et al, 2011; SLEE, 2016).

This article uses the voices of students with disabilities to contribute to thinking about how a more inclusive university system can be built. Their testimonies enable us to come up with various aspects that must be improved, both in the institutional context and in the classroom.

Specific concepts

- **Intellectual disability:** This implies a series of limitations in the abilities that an individual learns in order to function in their daily life and to enable them to respond to different situations and places. Intellectual disability is expressed in the relationship with the environment. Therefore, it depends both on the individual and on the barriers or obstacles around them. If an easier, more accessible environment is provided, people with intellectual disabilities will have fewer difficulties, so their disability will seem less. People with intellectual disabilities find it harder than others to learn, understand and communicate. Intellectual disability is generally permanent, i.e. lifelong, and has a significant impact on the life of the person and their family. It is important to point out that intellectual disability is not a mental illness. People with intellectual disabilities are citizens like the rest. Each of them has abilities, tastes, dreams and needs, just as we all do. All people with intellectual disabilities are able to progress if they are given the right supports. There are many different types and causes of intellectual disability. Some originate before a baby is born, others during childbirth and still others from a serious illness in childhood, but always before the age of 18.
- **Support Strategies:** we understand a set of practices that generally consider the needs of individuals and facilitate the necessary interaction between teachers and people with intellectual disabilities. They are aimed at teachers and professors who lack experience in teaching people with intellectual disabilities and are intended as especially practical tools.
In the same way as we have added the concept of support strategies, it would be positive to include support strategies between equals, since for there to be true inclusion all students must have participated in school life, where there are many free teaching

spaces such as playgrounds, dining rooms, extracurricular activities, etc.

The expression “university environment” is understood to extend to the importance of colleagues or peer groups and social relationships for the development of personality and the acquisition of academic and professional skills.

- **Cognitive Accessibility:** State Reference Centre for Personal Autonomy and Technical Assistance (CEAPAT 2015) gives definitions and mentions of Cognitive Accessibility and / or factors that make it possible, including the following:
In current legislation "cognitive accessibility, whose development has been subsequent to that of other modalities of universal accessibility such as that of the built environment, that of urban spaces, that of the transportation or communication, to give the most consolidated examples –generally lacks regulatory standards, so our legislation does not adequately protect the rights and inclusion of people who need certain codes to understand and interpret the environment, interact autonomously and be independent". Spanish Committee of Representatives of People with Disabilities (CERMI) 05/18/2013
- The American Association on Intellectual and Developmental Disabilities. **AAIDD (2011)**. The publication "Intellectual disability, Definition, Classification and Support Systems" gives a detailed definition, which we follow in the field of intellectual disability.

Special needs for people with ID about the topic

COMMUNICATION AND ACCESS TO INFORMATION

Have you ever experienced difficulties in communication or access to information because you did not know the code that was used, or the channel was inappropriate? How did you feel? The same sensations that you could feel are felt by millions of people with intellectual disabilities around the world, and this is one of the main causes of social exclusion.

Communication is, possibly, one of the most important things in people's lives. Among many other issues, it helps shape our being, connects us with other people and the environment, makes learning possible, makes it possible for us to take part in social life and enables us to grow as human beings and go beyond our own selves.

There can be no doubt that in our work as teachers of people with intellectual disabilities we need to promote good communication in a way that enables us to connect adequately with our students.

Likewise, to help information become knowledge we must first make that information accessible. Accessibility is a challenge that applies not only to the teaching and learning relationship that we are going to generate but also to the context in which that relationship occurs and to the entire university environment.

The recommendations below are intended to facilitate processes of communication and make them more accessible in work as teachers of people with intellectual disabilities:

- Speak naturally and simply. Avoid complex, technical language and use direct, well-constructed sentences. Avoid circumlocutions (detour, roll up).
- Answer students' questions, making sure they understand you, and look for a response. You have to be patient: their reactions

may be slow and they may need more time to understand what has been said.

- Individualise communications as much as possible, as students with intellectual disabilities are very diverse in terms of their cognitive processes, response speed, communication skills, etc.
- Take advantage of questions to enable students to express their opinions, help them to reflect and develop their own thoughts.
- Encourage dialogue with classmates as a formula for learning and mutual support.
- Be aware that although their cognitive level may be lower than the other students whom you are accustomed to teaching, they are adults and must be addressed as such.
- Take care with non-verbal communication.

For information to be accessible, and therefore successful, it is important that when it is given in writing the guidelines proposed by the International Federation of Library Association and Institutions in Guidelines (IFA) for easy-to-read materials (2010) be followed as far as possible:

- a. Be specific. Avoid abstract language.
- b. Be logical. Action should follow a single thread with logical continuity.
- c. Action should be direct and simple without long introductions or too many characters.
- d. Use symbolic language (metaphors) sparingly. Such language may be misunderstood by some readers.
- e. Be concise. Do not include several actions in a single sentence. Arrange words in a single phrase on one line, if possible.
- f. Avoid difficult words but use language that is adult and dignified. Unusual words should be explained through context clues.

- g. Explain or describe complicated relationships in a specific, logical manner so that events take place in a logical chronological framework.
- h. Encourage writers and illustrators to get to know their target audience and be informed about what it means to have reading difficulties. Let them meet their readers and hear about their experiences and daily life.
- i. Test the material with actual target groups before it goes to press.

In this full link you can see the standard by which we abide for the adaptation of texts to easy reading and you can also download the information manual for everyone.

<https://www.plenainclusion.org/content/lectura-facil> (only in Spanish)

Likewise, it is important to bear in mind that spaces (environments) with high cognitive accessibility and stimulants will favour learning processes, as well as provide students with disabilities with the autonomy and security necessary for their university experience to be profitable, rewarding and meaningful to their lives.

Therefore, it is important that we make sure that the environment (the classroom and the spaces to be used) are also cognitively accessible. To that end, it is recommended that some of the following guidelines included in the book *Cognitive Accessibility*, published by State Reference Centre for Personal Autonomy and Technical Assistance (CEAPAT (2015) be taken into account:

- Standardise the names of all buildings, services and destinations, and display them consistently across all graphic applications.
- Use easy reading criteria in texts.
- Adapt the size of messages and signals to be viewed from a distance.
- Ensure that there are spaces between letters, words and message lines.

- Place maps in all exits, entry and main decision or intersection points inside buildings.
- Provide "you are here" information on all maps.
- Train building staff so that they can help any disoriented user to interpret signs and maps.
- Use colour and graphics for zone coding.
- Use pictographs to facilitate the understanding of written signalling messages (they are not texts, they are titles, names of spaces, positions, actions, etc.).
- Establish a numbering system in the directories at the main entrance and on each floor, clearly indicating which floors are above and below the floor they are on.

But universal accessibility to educational processes for students with intellectual disabilities does not only mean focusing on cognitive accessibility: it is also important to keep in mind that, in more than a few cases, it will be necessary to deal with needs related to physical or sensory accessibility, due to the existence of other associated disabilities. Thus, in making adaptations and supports linked to other disabilities (such as hearing loss, impaired sight, reduced mobility, speech disorders, etc.) we recommend you contact the support service for people with disabilities, attention to diversity or social affairs at your university, as they will have experience in this field and will be able to guide and help you.

If platforms or websites are used to support teaching processes, cognitive accessibility criteria must be applied and Technology of the Information and Communication (ICT) development departments must be asked to follow the Web Content Accessibility Guidelines (WCAG) and World Wide Web Consortium- Accessibility (W3C) guidelines on Accessibility.

The best resource for personalising supports for a person with a disability is that person themselves and their supports and resources: their family, friends and / or a specific organisation or social services. Thus, our recommendation is that you always take into consideration the person and their environment to configure the best supports for each student in the classroom.

ATTITUDES OF THE TEACHER

Our own beliefs and attitudes clearly condition our results. This is valid in any context, but it becomes especially relevant in an educational setting. Our attitudes as teachers, our beliefs, our own expectations are going to condition the results of our teaching activity greatly. The attitudes that we maintain in relation to students with intellectual disabilities can turn into overprotection or limited expectations about their abilities. This will lead implicitly to certain results.

The Pygmalion effect. If, as teachers, we think that learning difficulties are due only to the limitations of the student, this can make our work in the classroom difficult. If we focus on limitations instead of potential, we run the risk of making an effort that is less than desirable, which, in turn, will lead to poor performance by students with intellectual disabilities, which will reinforce our initial belief: that their learning difficulties are due to their limitations.

Likewise, by focusing on limitations we risk falling into overprotection. We underestimate the person and thus propose activities that are not very relevant to their learning and personal development, depriving them of opportunities for growth and development as a student and as a person.

It is important, therefore, that teachers reflect on their actions in the classroom, actions that are often conditioned by their attitudes and beliefs, by their perceptions of the educational needs and learning abilities of students and how to enhance their influence as teachers by

modifying attitudes and beliefs. It is also desirable, as indicated below, that teachers share these reflections on their experiences in the classroom.

The attitudes and subsequent actions of the teacher determine how the class is led, how communication is oriented and what interactions take place in the classroom. This leads to a certain way of being and doing in class, what is called the “social climate”, which greatly influences learning.

Here are some strategies related to attitudes that we consider desirable to promote learning and, as mentioned above, to promote the personal development of students in general and those with intellectual disabilities.

Acceptance

- Accepting each person, i.e. (that is) loving them as they are, is perhaps the best summary of this whole section and one of the keys to success in learning processes. Carl Rogers emphasises “unconditional acceptance” as an essential requirement in the helping relationship between human beings in general, and in the therapeutic process. According to this thinking, personal acceptance is conducive to empathy and security in relationships with other people.

Disability and age

- Except for intellectual matters, treat people with intellectual disabilities according to their age. You are interacting with adults, i.e. (that is) individuals aged over 18, and you must treat them as such. It is important not to infantilise people with intellectual disabilities: if you treat them like adults they will behave like adults.

Overprotection

- Avoid overprotection. Let them do or try to do as much as they can on their own. Help them only when really necessary, and try to have them do things on their own in the rest of the activities.
 - Accompany, go alongside or behind then providing support.
 - Ask before acting to help.
 - Empower, try to get them to use their tools and develop actions through what they already have or know how to do.

The importance of attention

- Put the focus on skills, strengths and talents and not on weaknesses and limitations.
 - Work from what they know and can do.
 - Use their strengths and interests to help them to overcome obstacles.

Put yourself in their shoes ... but take off yours first

- Empathy is a fundamental tool in the learning process. Following Howard Gardner, empathy is one of the two legs of interpersonal intelligence and is defined as the set of abilities that enable one to recognise and understand the emotions of others, their motivations and the reasons that explain their behaviour. What is popularly known as putting yourself in the place of the other, for which it is important to put aside one's own values and beliefs. The fundamental tool in empathising is attentive listening, listening that also includes non-verbal communication, also listening with the eyes, observing. Listen to understand, not to respond.

When you understand the other, their way of thinking, their motivations, and their feelings, you can choose the most appropriate way to present your message. This is the other leg of

interpersonal intelligence: the ability to manage interpersonal relationships. This has a lot to do with how people communicate. The same can be said in many ways and at many times. Knowing how to choose the right form and the right moment makes a difference.

Dignity as people

- Do not ignore people with intellectual disabilities. Behave normally with them, as with anyone else, especially including the usual rules of courtesy.
 - Learn their point of view: be open to their own reality.
 - Encourage them to participate and take their opinions into account.

The art of waiting or the mother of science

- Patience is understood as that attitude that leads human beings to be able to endure setbacks and difficulties to achieve any benefit. It is also the art of knowing how to wait.
 - With people with intellectual disabilities, it is important to know how to wait, respect their rhythms, their need for additional time.

Generate collaborative spaces

- Facilitating their relationships with others contributes positively to their personal development.
- If participation and involvement in the execution of tasks is stimulated, it will improve both students' interest in learning and their self-esteem.
- By fostering cooperative and mutually supportive relationships, creativity is encouraged and performance is improved.

Learning styles

- Learn the learning style of each one, i.e. (that is) what facilitates the acquisition of knowledge.
 - Visual
 - Kinaesthetic
 - Auditory

Sensitivity to group demands

- Match classes to group requests to accommodate learning.
 - What motivates them?
 - Type of teaching that activates the group.

TEACHER'S BELIEFS

Robert Dilts states that beliefs are judgements and evaluations about ourselves, others and the world around us. They are principles of action on which we act as if they were determined and which therefore influence our way of perceiving reality. We all have our own reality created and sustained by our beliefs and we act according to that reality.

Beliefs are neither good nor bad: it depends on what the objective is, depending on what one wishes to achieve they will be empowering or limiting, i.e. (that is) they will help achieve objectives (empowering beliefs) or hinder their achievement (limiting beliefs). This can be summed up as follows: "Whether you think you can or not, you are right".

In the educational and pedagogical context, helpful beliefs (enhancers) include the following:

- We all have resources and if not, we can create them.
- All behaviour has a purpose.
- We make the best of decisions at all times.
- We have all the answers.
- There are no failures, there are learnings.

Limitations, in general, are related to one's own abilities and those of students. The phrase "I can't" is the most powerful negating force in the human psyche. Limiting beliefs are said to be the main reason why we do not reach our goals.

General limiting beliefs relevant to the field of education include the following:

- It is not possible; my goal is not achievable.
- It is not possible; your goal is not achievable.
- I am not able / he or she is not able.

In addition to believing that we ourselves are capable, that anyone is capable and that objectives are possible, the following beliefs also help in the process of teaching:

- Everyone can learn, regardless of their abilities.
- Everyone is different, including people with intellectual disabilities, i.e. what is valid for one person may not be valid for another.
- Reality on the part of the teacher is not necessarily the same as it is for students. We build our reality from our beliefs, and everyone has their own beliefs, including people with intellectual disabilities.
- Effort may not be reflected in results: there does not have to be a link between the effort made and the result obtained. Work may be incomplete or, when completed, may be the result of considerable extra time and effort on the part of the student.
- Everyone, with or without a disability, possesses aptitudes and/or skills in certain disciplines.

Methodological proposals

METHODOLOGY

Before delving into those elements that teachers of people with intellectual disabilities at university will have to consider when developing teaching-learning processes, and which we consider here as the methodological bases to be applied, it seems important to look at the etymological origin of the concept of methodology. This word is Greek in origin and is a compound of the following words: *μετά* (*meta*), which means "beyond"; *οδός* (*odós*), which means "path"; and *λόγος* (*lógos*), which means "study". Thus, the methodology to be applied in the classroom can be seen as a path or process that, through continuous learning, enables teachers to help students with intellectual disabilities to go further in regard to both their self-imposed limits and those limits imposed by others.

This concept is linked to the realisation that the job of teachers is not only to teach but also to accompany each student in their university learning process. It is therefore key to understand and deal with the diversity that teachers encounter. Thus, the success of any learning process in or outside the classroom depends less on the teacher than on the student.

Thus, applying the findings of Carl Rogers in Client Centered Therapy (1981) to the field of education, there is a need to develop an "education focused on the student". This means that teaching staff must take on a new role: that of facilitators. In other words, they must want to accompany the student's learning process and know how to do so.

In that accompaniment there will be essential questions, as already seen in this topic, related to the attitudes, beliefs and perceptions held by teaching staff and the motivation and implication of teachers. Let's not kid ourselves: the effort in terms of adaptation that a new group of students with intellectual disabilities requires from university teachers is

going to be greater than, or at least very different from, that which they have made so far in their entire teaching careers.

The different methodological strategies, understood as meeting points between objectives and content, within the learning path to be accompanied and focused on students with intellectual disabilities, are conditioned by the following principles:

a) Principle of activity and participati

This means promoting active learning by students through experimentation, reflection and learning by discovery, by setting up activities with practical content. Remember that practice strengthens knowledge in everyone, but even more so in the case of people with intellectual disabilities.

This principle is illustrated nicely by this Chinese proverb: "what is heard is forgotten, what is seen is remembered, what is done is learned."

Depending on each person, it must sometimes also be borne in mind that it is important to positively encourage and reinforce students in the face of potential difficulties during tasks, so as to counter their possible desire to abandon them. It is important to realise that their levels of frustration are usually very low and they are just as likely to have low levels of self-esteem. Throughout their lives, they have been told "you can't" too many times. Positive reinforcement and encouragement is therefore usually a powerful tool.

b) Principle of significant learning

Students with intellectual disabilities find reasoning processes harder, so it is important for the planned learning to be related to previous knowledge or experiences (and if that knowledge is related to their day-to-day life, then all the better). In many cases the contents of the subject are new to them, so to connect them with previous experiences it is important for students to be able to experience them first in class.

This helps them to internalise knowledge more easily and thus favours its subsequent application.

Bear in mind that people with disabilities find generalisation processes harder, so it is important to encourage and recreate different contexts so that previous experience enables them to apply what they have learned. Rote learnings are of little use because students will find it difficult to apply them in different contexts.

Likewise, the more useful and functional they find what they learn, the easier it will be for the learning to last over time.

c) Principle of globalisation

When programming content it is important to keep in mind that learning is easier for people with intellectual disabilities if they are given the basic connections for different topics and concepts. That is, shifting from the global to the particular generates a core and connects it with one of their centres of interest. Remember also that learning is connected to their experiences or interests it is greatly facilitated.

Another key point is that learning must be incremental, i.e. as the most general, most important concepts are seen to be becoming stronger, it becomes possible to continue, on a case by case basis, towards more complex, more specific concepts. In this regard, it is important to ask and re-ask questions so as to receive constant feedback from students.

Dividing work into “micro tasks” and sequencing them is conducive to learning processes based on practice and experience among people with intellectual disabilities, and also enables them to come closer to more complex knowledge.

d) Personalisation principle

Like everyone else, people with intellectual disabilities are all different. There is diversity within diversity. Thus, when promoting learning processes both their personal and cognitive circumstances must be considered,

i.e. (that is) the starting point of each individual, their background, their special needs, their emotional moment and their previous experiences.

Experience indicates that "not everything works for all people at all times", and it is the job of the teacher to personalise and adapt learning and demand levels as much as possible, considering the particular characteristics of each student.

Likewise, remember that the job of teachers is to accompany each person along a path that helps them go further, based on realistic objectives that need to be met.

e) Principle of interaction

Shared learning and group or cooperative work are of great value for students with intellectual disabilities. This is not only because they enable students to learn and understand reality through interaction with the rest of their classmates, but also because they help them to acquire basic skills for their future such as teamwork, to understand diversity, to empathise with others and to promote their sense of belonging.

Mixed work groups including people with and without intellectual disabilities are usually very stimulating for all parties and equally conducive for all members to understanding and managing diversity. This is key in creating inclusive societies and includes the assumption of responsibilities and adequate levels of demand and self-demand.

f) Principle of flexibility

Each student with intellectual disabilities has their own learning rhythm. Indeed, it is not uncommon to find significant differences in the same person from one day to another. Thus, flexibility is a principle that must be applied constantly and consciously.

The principles included here provide a good reference and starting point for university lecturers who are about to deal for the first time with a group or a class where there are people with intellectual disabilities. In

any case, observation with “the eyes and the heart” and continuous learning are the best tools for bringing about the methodological adaptation required by students with intellectual disabilities and fostering success for all parties.

g) Some useful tools for teachers in their day-to-day work

To supplement the foregoing, here are some useful tools for teachers in their day-to-day work. They include the Universal Design for Learning (UDL) and the Multilevel Curriculum (MC), which enable teachers to create adapted, multilevel materials for all students, or in other words accessible and flexible programming, thus encouraging participation.

Glossary

Accessibility Chain: The ability to approach, enter, use and exit any space or enclosure independently, easily and without interruption. Continuity of movement from the point of origin to the destination is necessary for the person's autonomy.

Accessibility: Accessibility does not refer to a single thing or product but to a chain of accessibility, which refers to the ability to approach, access, use and exit any space or enclosure independently, easily and without interruption.

Adapt: to accommodate, modify, in this case the curriculum to make it more accessible.

Applied Communication Technologies (ICTs): ICTs are the set of technologies that allow access, production, processing and communication of information presented in different codes (text, image, sound,...). The most representative element of the new technologies is undoubtedly the computer and, more specifically, the Internet.

Attitude: Manifest disposition of mind

Beliefs: That in which one believes, certainty that one has about something.

Circumlocution: A roundabout way of saying something that could have been expressed more briefly.

Diversity: A notion that refers to difference, variety, an abundance of different things or dissimilarity.

Easy Reading (LF): There are two slightly different definitions of the term "easy reading". One means linguistic adaptation of a text that makes it

easier to read than an average text, but does not make it easier to understand; the other definition is adaptation that makes both reading and understanding easier.

Empathy: the ability to understand the feelings and emotions of others, based on the recognition of the other as similar, putting oneself in the other's place.

Empower: to give power [to a disadvantaged group, so that, through self-management, they can improve their living conditions

Guidelines for easy-to-read materials: The aim of easy-to-read publications is to present clear and easy-to-understand texts appropriate for different age groups. To achieve this and to arrive at an Easy-to-read product, the writer/editor must take into account the content, language, illustrations and layout, which are the guidelines we are talking about.

Inclusion: Inclusion seeks to encourage and ensure that everyone is "part of" and does not remain "separate from". Inclusion, therefore, means that the systems in place will provide access and reciprocal participation; and that the individual with a disability and his or her family have the possibility to participate on an equal basis.

Kinaesthetic: Kinaesthesia (kinaesthesia) is the science that studies human movement or the sensation of perception as universal movement. This tool is used to replace or enhance bodily functions related to proprioception.

Micro-tasks: these are small movements of work, lasting on the order of several minutes, which lead you to complete the task.

Multilevel Curriculum (MC): A methodological strategy used to teach the same concepts to learners who have unequal levels of

competence, knowledge and learning styles through a shared learning experience.

Occupational Centre (OC): it is a support service for adults with intellectual disabilities, it is also one of the options that young people with intellectual disabilities have to continue with their training once they have finished their school stage, a training centred on work and daily life skills.

Overprotection: In the case of disability, overprotection aims to give the child what he/she cannot provide for him/herself and to "protect" him/her from the environment, as the environment is often seen as a threat. Many parents see their child as "small" throughout his or her life without taking into account his or her chronological age.

Pygmalion effect: The influence that one person can exert on another, based on the image that person has of him or her.

Special Employment Centre (CEE): The Special Employment Centres are companies whose main objective is to provide workers with disabilities with a productive and paid job, adequate to their personal characteristics and which facilitates their integration into the ordinary labour market.

Universal Design for Learning (UDL): is a teaching model that takes into account the diversity of students and aims to achieve effective inclusion, thus minimising physical, sensory, cognitive and cultural barriers that may exist in the classroom. In this way, it promotes equal opportunities in access to education.

Web Content Accessibility Consortium Guidelines (WCAG): The Web Content Accessibility Guidelines (WCAG) are documents that explain how to make Web content accessible to people with disabilities.



Web Content Accessibility Guidelines (W3C): The Web Content Accessibility Guidelines 2.0 define how to make web content more accessible to people with disabilities. Accessibility considers a wide range of disabilities, such as visual, hearing, physical, speech, cognitive, language, learning and neurological disabilities.



Important texts, events or cites to include as curiosity.

Add theoretical material to enhance the motivation and adherence of the teachers of the course.

Links

1. Easy reading (only in Spanish): writing and evaluation methods
<https://www.plenainclusion.org/sites/default/files/lectura-facil-metodos.pdf>
2. Information for everyone. Easy-to-read European guidelines (only in Spanish)
<https://www.plenainclusion.org/informate/publicaciones/informacion-para-todos>
3. Easy to read: a model designed for everyone, Education Methodology Technology Innovation Knowledge (Emtic). (only in Spanish)
<https://enmarchaconlastic.educarex.es/224-nuevo-emt/atencion-a-la-diversidad/3002-lectura-facil-un-modelo-de-diseno-para-tdos>
4. Easy reading for a more accessible world (only in Spanish)
<https://www.aulapt.org/2016/12/13/lectura-facil-mundo-mas-accesible/>
5. The Spanish Constitution in easy reading (only in Spanish)
https://www.plenainclusion.org/sites/default/files/la_constitucion_espanola_en_lectura_facil.pdf
6. AC Buildings Orientation Guide (only in Spanish)
<https://www.plenainclusionextremadura.org/plenainclusion/publicaciones/gu%C3%ADa-orientaciones-ac-edificios>
7. This document from the Ministry that has a short section that talks about how easy reading can help at primary schools and high schools:
https://sede.educacion.gob.es/publiventa/descarga.action?f_codigo_agc=16917

8. Introduction of the importance of reading comprehension for learning and of making documents accessible in order to foster participation (only in Spanish):

https://www.plenainclusion.org/sites/default/files/informe_comprehension_lectora_2019.pdf

9. This document is from Inclusion Europe and is aimed at teachers. It gives guidelines on how to make classes easier for students (it is aimed at adult students) (only in Spanish):

https://www.plenainclusion.org/sites/default/files/ensenar_puede_facil.pdf

10. This is a very useful document when it comes to talking about space from a cognitive point of view (only in Spanish):

<https://www.plenainclusion.org/sites/default/files/accesibilidad-cognitiva-en-los-centros-educativos.pdf>

11. And this is the guide for evaluating the environments of the Accessibility Network (only in Spanish and other existing languages in Spain)

https://www.plenainclusion.org/sites/default/files/guia_de_evaluacion_de_la_accesibilidad_cognitiva_de_entornos.pdf



Resources

State Reference Centre for Personal Autonomy and Technical Assistance (CEAPAT 2015): Cognitive accessibility

http://www.ceapat.es/InterPresent2/groups/imserso/documents/binario/reto_diez_acc_cog.pdf

International Federation of Library Associations and Libraries (IFLA) (2010): Guidelines for easy-to-read materials

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiQxs2G7Nn2AhWaQ_EDHZCRAmQQFn0ECAYQAQ&url=https%3A%2F%2Fwww.ifla.org%2Ffiles%2Fassets%2Fhq%2Fpublications%2Fprofessional-report%2F120-es.pdf&usg=AOvVaw2rkakqxfBmK7OaZKNZtw3K

[Plena Inclusión](#)

[Inclusión Europe](#)

[Inclusión Europe Diccionario](#)

[Inclusión Europe Easy to Ready](#)

Tips

1. We must be clear about the concepts and content that we are going to transmit and do so clearly and concisely in short sentences.
2. We must accept each student, each person, love them as they are and respect their times and beliefs.
3. The idea of observing with the eyes of the heart should be integrated into all specialist work.
4. We must learn from the different learning styles of each of the individuals for whom we work. Little things involving great people
5. Do not to talk about them with others as if they did not understand.
6. Speak naturally about academic needs and do not talk to them too much in public.
7. Ask short, straight questions if the student has difficulties in communicating.
8. Use visual material and concept maps to help students learn.
9. Test material with actual target groups before it goes to press.

Tools

Some technological tools are provided that set trends in cognitive accessibility and help to simplify information:

- [Diccionario Fácil](#) an online service in Spanish where definitions are adapted for easy reading according to the glossary of terms and expressions in the ever-expanding database.
- [Wikipicto](#) (only in Spanish): an online application that allows you to search for different terms to find a representation for them through pictograms and facilitate understanding.
- [Simplext](#) (only in Spanish): a project led by Technosite which seeks to be a system of text simplification in Spanish, though for the moment it appears as a demo version. There is also a version for English.
- [Text to speech converters](#): applications that allow you to listen to a selected text written in digital format as an audio. Some examples can be found in the following articles: [Lectores de pantalla](#) and [Herramientas gratuitas para convertir texto en voz](#).
- [Readspeaker](#): a web accessibility plug-in that allows you to listen to written content that is posted on the Internet.
- [Readability](#): A resource that simplifies the reading of any website by selecting only the text part and giving it a format similar to that of a text document.
- [Orange Comfort+](#): a solution that makes websites more readable for the comfort of all. Available for various browsers. Although the explanation is in Spanish, it allows giving the improvement query in English
- [Mefacilyta](#), for Android mobiles, intended for specialists who work with Near Field Communication (NFC) technology that is used by people with cognitive difficulties.



- Pictotraductor (only in Spanish): an online converter of phrases to pictograms.
- Araword (only in Spanish): A free application in the form of a word processor that enables you to write with pictograms. There are PC and Android versions.
- Adapro (only in Spanish): A word processor with an interface adapted for people with reading difficulties (for example dyslexia) which is easily configurable.
- The European project "ICT for Information Accessibility in Learning" offers guidance on how to make text and / or multimedia documents accessible on its website
- Tecnobility (only in Spanish): <https://tecnobility.com/es>
- Change of beliefs
- Learning styles
- Create group, self-regulation, the group should be given rules.
- Formulate Specific Measurable Achievable Relevant Time-bound (SMART) goals
- Cognitive regulation, the ability to deal with emotions through cognitive strategies that decrease the intensity and duration of emotional states.
- Professional Wheel, professional skills/sentences

Introduction

Life today cannot be understood without technology applications, which in turn have become a fundamental tool in teaching-learning processes. If we add to this the contributions that technology can make and has made for people in terms of identification, then it can be seen not only as a tool but as something that has become necessary and important in order to influence not only the learning of people with such characteristics but also their inclusion in all kinds of processes in the most appropriate way possible.

Therefore, it is very important for Teaching and Research Staff (TRS) to be aware of and familiar with, to research and to use the knowledge and know-how provided by the resources available to work with all kinds of people. This includes especially a group that until recently was totally unknown or rather segregated in the best of cases.

TRS should see ICT as an opportunity to do a good job and as a tool consistent with the decisive role that they play in accessibility in all areas of life so as to enable these people to attain autonomy and full development. In the field of education, special emphasis is placed on assistive technologies that help them in this immersive process in all aspects of educational life.

To achieve significant progress, it is important to recognise that this group is broad and heterogeneous and involves different ways of learning. This means that there can be no single way of teaching, so different strategies need to be used depending on the needs of each student.

This chapter provides TRS with an overview of elements, strategies, information and resources that can help them start handling ICTs for



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people with intellectual disabilities. However, we are sure that it will also help to include and improve teaching for all students in general.

Background of the topic

It was once normal to see intellectual disability as an anomaly or a shortcoming of a person. This vision often involves barriers, limitation of rights and damage. It also causing segregation and isolation in environments intended to alleviate or reduce such anomalies. Over the years perceptions have evolved, with numerous claims and regulatory changes.

In the 1960s-70s, care for people with disabilities was focused on making those characteristics associated with disability disappear. This medical-rehabilitative perspective gave rise to protests, with the **Independent Living Movement (ILM)** being a prominent movement, founded in the US, which fought for the emancipation and empowerment of people with functional diversity and advocated for quality of life. Ed Roberts (1989)¹, who is regarded as an example of struggle, was the father of that movement, which was soon to expand across numerous countries.

In Spain there was no ILM as such, and it was not until the end of Franco's rule in 1978 and the advent of the **Spanish**² Constitution that any specific official reference was made to people with disabilities. This came significantly later than in the rest of Europe.

As early as the 1980s, various movements managed to see that the rights of persons with disabilities were given importance internationally. In 1982 the United Nations adopted its World Programme of Action concerning Disabled Persons Paragraph f. Equalisation of Opportunities, (Article 21) states that "to achieve the goals of "full participation and equality",

1

Documentary about the life of Ed Roberts: Free Wheeling. <https://www.youtube.com/watch?v=ci3ek-tqiGQ&feature=youtu.be>

2

Article 49. "The public authorities shall carry out a policy of preventive care, treatment, rehabilitation and integration of the physically, sensorially and mentally handicapped, who shall be given the specialised care that they require. And be afforded special protection in order that they may enjoy the rights conferred by this Title upon all citizens". Spanish Constitution (1978).

rehabilitation measures aimed at the disabled individual are not sufficient" (UN, 1982, p. 6). It was at that time that the perspective began to change, starting a transition towards models that treat welfare and rehabilitation and the social sphere with equal importance, recognising that people with disabilities must fulfil their role in society.

"Nothing about us without us" was the motto that marked the 1990s. American activist James Charlton (1998) tells in his book how he first heard this slogan from South African disability rights activists Michael Masutha and William Rowland. It was in the late 90s when inclusion-based models began to develop for the necessary participation of these people in society, placing them at the forefront of action. This was highlighted in the Salamanca Statement adopted in 1994 at the **World Conference on Special Needs Education** convened by UNESCO and the Spanish State. This statement offers a proposal for common action, calling on the education sector and society at large to accept and respect the diverse capacities of people, promoting their inclusion and active participation.

All these efforts over the years were reflected in the International Convention on the **Rights of Persons with Disabilities**, the wording of which was approved in 2006 and ratified in Spain a year later. This convention represents a paradigm shift in the approach to and attitude towards persons with disabilities and aims to ensure full enjoyment of human rights, whatever the capabilities of the individual.

Currently, as a result of changes in social and regulatory considerations, models of action are developed that highlight the importance of aspects inherent in the human being, encouraging participation, quality of life and self-determination.

Disability is not an inherent aspect of a person but a consequence of the interaction between that person and their environment. Therefore, the focus should not be on people's abilities but rather on the

environment and its conditions. Based on the possibilities offered by the environment, it is considered essential to develop contexts accessible to all. This is the case in subparagraph 22 of the preamble to the 2006 **International Convention**, which recognises:

the importance of accessibility to the physical, social, economic and cultural environment, to health and education and to information and communications, in enabling persons with disabilities to fully enjoy all human rights and fundamental freedoms.

It is essential to note that ICT plays a decisive role. Since the 2016 **European Parliament Resolution** on the implementation of the said Convention, in particular Article 133 thereof, emphasis has been placed on:

the importance of digital systems for persons with disabilities as a tool for of facilitating their participation in all aspects of society, and recommends continuing to investigate the use of ambient-assisted technologies in education.

Specific concepts

For Doyal & Gough (1994), social participation and freedom are the universal objective of human self-existence. This universal objective inherent in every human being brings us closer to the concept of **quality of life**, understood as emotional *well-being*, (favouring a positive self-concept, self-determination, acceptance, etc.), physical *well-being* (ensuring health and safety) and social *well-being* (ensuring inclusion and social and labour participation, interpersonal relationships and the enjoyment of rights and freedoms).

In 2010 the European Commission adopted the **European Disability Strategy 2010-2020**, which included a common commitment to promote a barrier-free Europe, identified eight key areas of action and associated concepts: "accessibility, participation, equality, employment, education and training, social protection, health and external action".

Accessibility: Incorporating a "design for all" that guarantees access for persons with disabilities in the same circumstances as other people to the physical environment, to means of transport, to ICT, to training and to work, favouring investment in technological support instruments.

✓ *Participation*: Ensuring the enjoyment of benefits as a citizen of the Spanish State and the EU, ensuring free movement, the right to vote, consumer rights, the right to participate in the economy and politics, culture, sport and leisure, etc.

✓ *Equality*: Eliminating all discrimination on the basis of disability in all contexts of society.

- ✓ *Employment*: Securing economic independence and bringing about personal achievement. This is about removing barriers to access to workplaces by creating structures and plans for support, training and incorporation into the labour market.

- ✓ *Education and training*: Eradicating legal and organisational barriers in the education system, promoting inclusion, personalised learning and early care and meeting the needs of specialists at the training level and in the provision of the necessary resources.

- ✓ *Social protection*: Facilitating access to social protection and poverty reduction systems, facilitation services, benefits and retirement by compensating for social exclusion and inequality in income levels.

- ✓ *Health*: Enhancing equality in access to all health services and facilities, promoting needs assessment, early care, rehabilitation and care services.

- ✓ *External action*: Promoting awareness of the rights of persons with disabilities and their needs, raising international dialogues and commitments and ensuring access to emergency actions and humanitarian aid.

Following Benitez, Peral and Hermida (2019), to guarantee that people with intellectual disabilities can access these contexts, "supports are essential, i.e. an organisation of the environments that make them inclusive". New technologies have become not only a requirement for



participation in society but also an important facilitating environment, for people in general and for those with intellectual functional diversity in particular.

Special needs for people with ID about the topic

For new technologies to be applied in the teaching-learning process of students with intellectual and developmental disabilities it is necessary to recognise that we are dealing with a broad, heterogeneous group and that there is no single way to learn. It must therefore be recognised that each student has different support needs in terms of type and intensity.

As an essential strategy for teachers, methods need to be customised, applying individualised training depending on the particular features of students with intellectual disabilities and the differences between them, in ways appropriate to their age, levels and socio-educational contexts.

However, most research in this regard indicates that **among people with intellectual disabilities practices** in ICT use are broadly close to those of the general population. Young people with intellectual and developmental disabilities are part of the technology generation, and both researchers and special education teachers assure that it is surprising how they handle it, which does not mean that they do not require instructions for effective, safe use.

Despite the above, educating young people with intellectual disabilities in a university environment entails a need to identify their specific needs, so as to provide teachers with greater security and success in their teaching plans. We identify some of those needs and some of the criteria that help overcome them in general terms.

1. MAIN PROBLEMS FACED BY PEOPLE WITH INTELLECTUAL DISABILITIES IN THE USE OF ICTS

Cognitive limitations

- Difficulties in understanding concepts and interpreting content.
- Difficulty maintaining attention for long periods.
- Difficulties retaining concepts.

- Short-term and long-term memory difficulties.
- Difficulties in the generalisation and abstraction of concepts and learnings arising from difficulties in literacy and in interpreting some complex concepts.
- Lack of initiative to start activities without clear indications from the teacher.
- Difficulties in understanding the instructions for using a tool, platform or device.
- Low levels of personal autonomy, requiring supports adapted to different levels.
- Frustration at perceived failures in previous learning processes.

Accessibility issues. Such issues can arise from the design of tools, which often have clear indications for use and can require a multitude of steps to access information.

Finally, there are other problems associated with the digital divide that arises from the social context. We refer to the extent of ICT use, which stems on many occasions, not from a lack of drive or capabilities but from the real difficulties of accessing devices in social and family environments with limited technological resources. Providing a device for continuous use minimises these limitations.

In particular, students with intellectual disabilities may face some of the following problems in using ICTs:

- Disorientation or difficulty in locating a point within a website and reaching the desired content, and in returning to the desired point to restart browsing.
- Overinformation online, so that they are unable to focus on what they really want to do and randomly execute actions.

- Failure to recognise interactive elements, making it difficult to access the intended information if they are not told what link or button to use.
- Loss of interest online because of waiting times. If the answer is not immediately available their attention tends to slip.
- Distraction online due to sound effects and animations.
- Lack of clear and available help items, so that they need someone on hand to clarify how they should browse.

2. SOME APPROPRIATE STRATEGIES FOR TEACHERS TO INTERVENE IN CASE OF LIMITED ACCESSES

- Do not try to get students to memorise too much information. Use alternative resources to make memorisation simple, linking it to images, phrases or personal experiences.
- Relate content to experiences from daily life. It is very useful to relate tools to the use that can be made of them in everyday activities.
- Apply relational learning: link current content with previous content.
- Apply progressive learning, move from less difficult to more difficult content.
- Reduce the need for complex skills that require many steps to be followed to reach the final content. If you go straight to a step-by-step explanation, people will understand it better.
- Use simple words (not technical jargon) that listeners and readers will understand. Also use short, simple sentences.
- Always provide information in advance, so that students know what will happen and can prepare.
- Give enough time. Some students need more time to perform tasks.

- Offer individualised support from the teacher.
- Think about people who need high levels of support: do not just wish that they had greater capabilities.
- Learn with new technologies. Teach based on practice. Avoid written conceptualisations and make sure students can work with the tool or device.
- Convert texts to easy reading. Easy reading is a way to make documents easier to understand which benefits people with comprehension difficulties. It involves adapting texts, with images of documents and the design or appearance of documents.
<https://www.youtube.com/watch?v=rwXYd2j4Le4>
- Use augmentative or alternative communication systems in explanations, such as photographs, drawings, pictograms, more words or simpler words, letters or gestures.

- With regard to tools, it is advisable to:

- Use those in which intuition is basis for browsing by students.
- Prioritise tools or devices with clear, simple menus and not many intermediate steps, with less text and more audiovisual or visual content, with good on-screen distribution, with facilities for content search and with no disruptive elements.
- Use tools that encourage students to act and avoid those that bore them or that do not offer positive reinforcements when they access information or complete tasks. Such reinforcements increase the motivation of students.
- Rate technological adaptations for on keyboards, housings, pointers and screens and apply if useful.

Methodological proposals

TEACHING STRATEGIES

The teaching strategies that can be used include attention targeting strategies:

- Explaining the relevance of the topic is useful for students and brings together and gives meaning to activities.
- Proper feedback is critical and must be present in all activities.
- Make positive assessments of the learning process not based solely on final results.
- Try to find something new that can arouse curiosity at the beginning of each proposal.
- Provide a different, unexpected or personalized approach to study content, or let students research for later sessions
- Foster environments based on trust between students and teachers
- Use cooperative and collaborative work.
- Place students in groups or seat them in a U-shape
- Avoid or minimise lecturing and encourage interactive exposition.
- Transmit information backed up by images, audio, texts, etc.

It is of the utmost importance to ensure feedback in regard to the content taught, so we propose that small tasks be interspersed throughout the exercise to check that information is being received correctly and learning is taking place. This may entail asking students to:

1. Describe a content-related situation.
2. Present an example.
3. Look for information similar to the proposal.
4. Help classmates who have not understood the problem.
5. Establish the similarities between two similar activities.
6. Summarise or refer to previous situations.

STRATEGIES FOR MEMORISING CONTENT

- Conceptual maps, schematics and representations of concepts

These strategies can be used at the beginning of a unit **as preliminary organisers** of content (in this case the proposal is developed by the teacher) and can be used on completion of the unit for students to draw up a **reorganisation** of content and prioritise learnings hierarchically. These strategies improve learning and increase meaningful learning.

- Conceptual maps can be made with different techniques

They can include both written techniques and the use of symbols or drawings, and can also be produced using the Visual Thinking methodology, a methodology that serves to organise and represent thoughts through drawing which involves processes of globalisation of content, structuring and summary. These symbolic representations of content help link tutorials and work on visual memory.

In addition to conventional methods for making conceptual maps, there are applications that help make them, which can be a great help.

[Text 2 Mind Map](#). This free online tool automatically creates concept maps as you type. Just type the concepts at different levels of tabulation, and the web structures the information graphically.

Bubble.us. By simply registering, this online resource allows you to create conceptual maps individually, and also collaboratively, export them as an image and share them on the Internet. In addition, you can customise them with the shapes and colours you choose.

[Popplet](#). Available on the web and for iPad, it helps you think and organise ideas in a visual way. It offers multiple customisation options, as

well as the possibility to add photos, videos or drawings from your computer or the Network.

[Creately](#). Backed by numerous educational institutions, this application is available in different formats, including the app version and the online version. In addition to facilitating collaborative work in the realisation of conceptual maps in real time, it stands out for its intuitive use and the numerous templates it incorporates.

Summaries are a widely used strategy to get students to implement competencies in synthesising and extracting relevant information from an oral or written speech. Abstracts and outlines develop metacognitive and self-regulation skills (activity design, review and self-assessment) which encourage students to learn independently.

Written and oral summaries can be used in different forms. One fun, visual way to make a summary using technologies is to use infographics, which Vallejo (2013) states must follow this outline:

- a) Choose the most suitable colour scheme. You should favour reading (dark letters on a light background or vice versa).
- b) Do not include too much text. Selection of easily readable fonts.
- c) Select relevant graphics and images of proportionate size that are easily readable (should not be pixellated).
- d) Organise information through the relationships established previously.

Some applications that can help in the **design of infographics** are:

[Easel.ly](#)

Create an infographic from scratch or modify any of the templates they offer.

[Infogram](#)

With Infogram you can make infographics, graphs and interactive maps.

[Piktochart](#)



Infographics, presentations, posters and graphics can be made.

Wordle

This is used to visually represent clouds of words. Word clouds serve to graphically represent the most repeated terms in a text, so that the most repeated terms appear in a larger size.

Tableau

This allows anyone to publish interactive data visualisations. Create infographics and use those that have been published in the portal.

Bibliography

Barrios de la Fuente, D. L., Millán, M., & Sarmiento, Y. (2014). *Guía de orientación para docentes que atienden a estudiantes con discapacidad intelectual*. Panamá: Instituto Panameño de Habilitación Especial.

Belinchón, M.; Casas, S.; Díez, C. y Tamarit, J. (2014). *Accesibilidad cognitiva en la escuela*. Ministerio de Educación, Cultura y Deporte.

Benítez Jaén, A.; Peral Ortega, R.; Hermida Fernández, J.M. (2019) En: R. M. Díaz Jiménez (Coord.) Universidad inclusiva. *Experiencias con personas con diversidad funcional cognitiva*. (p. 123-133). Ediciones Pirámide.

Berrios, O. (2019): *La accesibilidad cognitiva*. Contenidos del curso online. Plena inclusión España.

Charlton, James I (1998). [Nothing About Us Without Us](#). University of California Press. ISBN 0-520-22481-7. Consultado el 15 de junio de 2021.

Comisión Europea (2010). *Estrategia Europea sobre Discapacidad 2010-2020: un compromiso renovado para una Europa sin barreras*.(COM/2010/0636) <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0636:FIN:es:PDF>

Constitución Española [Const] Art. 49. 29 de diciembre de 1978. (España) <https://www.boe.es/buscar/pdf/1978/BOE-A-1978-31229-consolidado.pdf>

Fontanillas, J. (2011): *Las TIC en el alumnado con necesidades educativas especiales*. SCOPEO, El observatorio de la forma en red. Boletín de SCOPEO 48.

García Alonso, J. V. (2003.) *Movimiento de Vida Independiente*. Experiencias internacionales. Fundación Luis Vives.

http://repositoriocdpd.net:8080/bitstream/handle/123456789/469/L_VidalGarciaAlonsoJ_MovimientoVidalIndependiente_2003.pdf?sequence=1

Giné, C. (2004). Servicios y calidad de vida de las personas con discapacidad intelectual. *Siglo Cero: Revista Española de Discapacidad Intelectual*, 35(2), Num 210, 1-14.

https://www.researchgate.net/profile/Climent_Gine/publication/239930941_Servicios_y_calidad_de_vida_para_personas_con_discapacidad_intelectual/links/56489a5908aef646e6d1ef58.pdf

Gough, I., & Doyal, L. (1994). *Teoría de las necesidades humanas*. Editorial Icaria.

Gutiérrez P. y Martorell, A. (2011). *Las personas con discapacidad intelectual ante las TIC*. *Comunicar. Revista científica de educación* v. XVIII. 36, 173-180. DOI:10.3916/C36-2011-03-09.

Luque, D. J.; Luque-Rojas, M.J. (2012). *Aspectos psicoeducativos en las relaciones con las TIC y la discapacidad intelectual*. *Revista Intercontinental de Psicología y Educación* 14(1), 27-48

<https://www.redalyc.org/articulo.oa?id=80224034003>

ONU (1982, 3 de diciembre). Programa de Acción Mundial para las personas con discapacidad. Resolución 37/52. Asamblea General de las Naciones Unidas.

http://www.insor.gov.co/home/wpcontent/uploads/filebase/programa_mundial_discapacidad_1982.pdf

ONU (2006, 13 de diciembre). Convención sobre los Derechos de las Personas con Discapacidad.

<https://www.un.org/esa/socdev/enable/documents/tccconvs.pdf>

Parlamento Europeo (2016, 15 de noviembre), Aplicación de la Convención de las Naciones Unidas sobre los Derechos de las Personas con Discapacidad, con especial atención a las Observaciones Finales

del Comité de la CDPD de la ONU. (2015/2258(INI))
https://www.europarl.europa.eu/doceo/document/TA-8-2016-0318_ES.pdf

Pérez, L; Berdud, M.J.; Valverde, S. y Sánchez, M.E. (2003). Formación en tecnologías de la información y la comunicación para personas con discapacidad intelectual: un modelo de enseñanza-aprendizaje. Siglo Cero. Revista Española de Discapacidad Intelectual, 34 (1). 341, 62-66.

UNESCO (1994, 10 de junio) Conferencia Mundial sobre Necesidades Educativas Especiales: Acceso y calidad.
https://unesdoc.unesco.org/ark:/48223/pf0000110753_spa

Vallejo, C. (2013). Infografía y competencia digital. Disponible en <http://recursostic.educacion.es/observatorio/web/es/cajon-de-sastre/38-cajon-de-sastre/1091-infografias-y-competencia-digital>

Glossary

Accessibility: Quality of a thing that can be easily used or a space that can be easily accessed.

Acquired Brain Injury (ABI): Acquired Brain Injury (ABI) is an injury to the brain, which appears suddenly and with a varied set of sequelae that vary depending on the area of the injured brain and the severity of the damage. These alterations cause abnormalities in perception, physical, cognitive and emotional disturbances. One of these alterations may cause intellectual disability.

Adaptation of the workstation: Consists of modifying the conditions of the workstation so that it can be carried out by a person with a disability. The modifications can be the elimination of physical barriers, flexible schedules for medical visits, the adaptation of space, lighting or furniture...

Alternative and Augmentative Communication Systems (AACs): Forms of expression other than spoken language, which aim to augment (augmentative) and/or compensate (alternative) for the communication and language difficulties of many people with disabilities.

Architectural barriers: Physical obstacles or impediments that prevent or limit a person's access, freedom of movement, stay and movement in a safe manner.

Autonomy: The ability to control, cope with and make, on one's own initiative, personal decisions about how to live and how to carry out the basic activities of daily living.

Behavioural problems: A series of behaviours that are unusual in a context or environment, of an intensity, frequency and duration, which

may entail a risk for the person him/herself and his/her environment, a clear limitation of the person's activities and participation in the community.

Cognitive accessibility: A characteristic of things, spaces or texts that makes them understandable to everyone.

Day centre: Service that guarantees comprehensive and continuous attention to the needs of the person during the day, promoting their autonomy and strengthening their abilities. People receive support, taking into account their personal life project, in activities of daily living (food and personal care, health, communication...), social and community activities.

Developmental disability: All those disabilities that originate before the age of 18. They involve limitations in relevant areas of life such as language, mobility, learning, self-care and independent living.

Disability: Is a complex phenomenon that reflects an interaction between the characteristics of people (physical, mental, sensory...) and the characteristics of the society in which they live (WHO).

Discrimination: Different and harmful treatment given to a person on the basis of race, sex, disability, religion, political ideas, etc.

Impairment: Any loss or abnormality of an organ, in its structure or its psychological, physiological or anatomical function. Impairment is not synonymous with disability (see definition of disability in this glossary).

Inclusion: A situation in which a person enjoys the same rights as any other citizen and participates in society because he or she is within it.

Inclusive education: Education that allows the presence, participation and learning of all students together, regardless of their characteristics and/or support needs.

It is a right included in:

- Convention on the Rights of the Child.
- Convention on the Rights of Persons with Disabilities.

Insertion company: These are companies whose objective is the socio-labour inclusion of people at risk of exclusion, through paid work.

Integration: The process or way of helping people to become part of a social group.

Intellectual disability: People with intellectual disabilities have some limitations to function in their daily lives.

Learning disability: A difficulty in an academic area (reading, mathematics or written expression). The person's ability in that area is below what is expected for their age, educational level and level of intelligence. The difficulty is significant enough to interfere with academic success or normal age-appropriate activities of daily living.

Legal capacity: This is the legal capacity to be the subject of rights and obligations. All persons have legal capacity from birth, regardless of their age, marital status or mental and physical health. For example, a newborn child can be the owner of a bank account because he or she has legal capacity.

Maturational delay: A slower progression of the normal neurological development of any child.

Mental retardation: Intellectual functioning that is below normal. This term is no longer in use, and the concept of intellectual disability is now used.

Occupational Centre: Its objective is to provide an occupation, promoting the personal and social development of people with intellectual and developmental disabilities, in order to maximise the development of their abilities and skills, both for daily life and in the community, as well as for work.

Partnership: A group of people who are united because they seek to achieve the same goals.

Personal assistance: A right that consists of one person (personal assistant) helping another person to develop his or her life. Personal assistance is a way for people with intellectual disabilities to live alone and independently. The personal assistant does not do things, but supports the person with an intellectual disability to do things. In this way he/she has more opportunities and supports and can better control his/her life.

Physical disability: A disability that limits or prevents a person's mobility; people find it difficult to make movements or manipulate objects and may affect other areas such as language.

Professional Care: Care provided by a public institution or entity, whether for profit or not-for-profit, or by a self-employed professional for the purpose of providing support to dependent persons, at home, or in a centre.

Quality of life: Set of variables used to examine and assess applications to the administration in order to obtain social services or benefits (residential places, home help, etc.).

Regular education: Modality of schooling that occurs regularly or more frequently.

Self-care: The attitude and ability to voluntarily and systematically engage in activities aimed at maintaining health and preventing disease.

Self-determination: The ability of an individual or population to act and decide for themselves.

Sensory disability: A disability that affects the senses (sight, hearing, speech...) and makes it difficult to relate to the environment.

Set of laws: Rules that serve to organise relations between people or countries. The aim is to protect people.

Social barriers: False beliefs about disability, feelings of pity or sympathy, resistance to change and acceptance of diversity, etc. These barriers interfere with personal relationships and generate situations of exclusion.

Social exclusion: A situation that hinders the participation of a person or group of people in society. Social exclusion occurs due to discrimination, poverty and many other causes.

Special Education: Educational modality aimed at pupils with intensive support needs (pupils with special educational needs - SEN) due to physical, sensory, intellectual and/or developmental difficulties.

Support system: A set of resources and strategies aimed at promoting the development, interests, quality of life and autonomy of individuals.

Supported employment: Accompaniment and assistance that a person with a disability receives to enable him/her to work within a company. This help is provided by a job coach.

Supports: Resources and strategies that aim to promote the development, education, interests and well-being of a person and improve their functioning.

Technical Assistance: Any product (including equipment, instruments, devices, technology and software) specially manufactured or commercially available to prevent, compensate for, control, mitigate or neutralise impairments, activity limitations and participation restrictions of the person.

Training: Creating opportunities (experiences, training, collaboration...) for people to acquire competences and develop their capacities and skills to the maximum.

Universal accessibility: A feature of a place, product or information that can be used or accessed by everyone.

Universal design: This is when all spaces, services, resources, objects, etc. are designed and intended for everyone to be able to use them without having to adapt them.

Volunteering: A group of work done by volunteers who serve a community or environment by free choice.

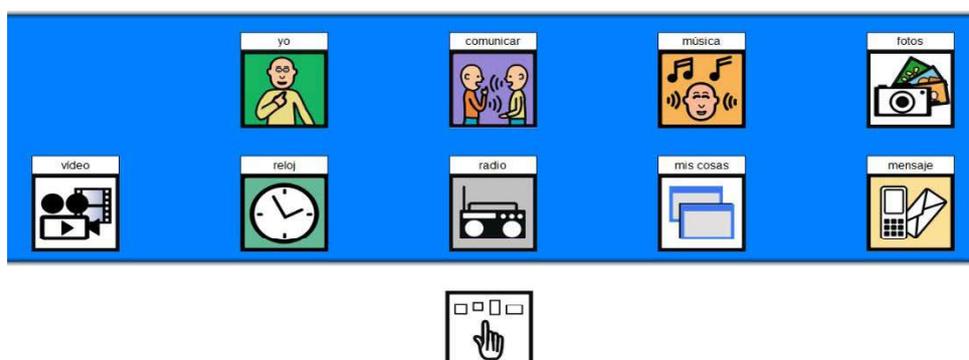
Resources

Following Benitez, Peral and Hermida (2019), in selecting essential content for ideas that aim to bring people with intellectual disabilities closer to new technologies, this section includes several **APPS** and websites which provide resources on the following **contents**: email, mobile phone, tablet or PC, financial resource management, social networks, employment portals, word processors and data, among others.

APPS:

A number of apps are presented below that seek to promote communication, the organisation of time, easier access to the working environment and leisure, among other things.

ARAHAR:



- Recipients: INTELLECTUAL DISABILITY AND ASD.
- Operating system: WINDOWS AND ANDROID.
- Link to website/ download:

<http://www.proyectoazahar.org/azahar/applications.do>

- Objectives:
 - Ensure communication and work on phrase-building.
 - Improve the meeting of basic daily needs.

- Promote leisure: images, drawing, videos, radio, the Internet.
- Encourage organisation and routines.
- Development: Azahar is a set of free, customisable applications that allow you to improve your communication, plan your tasks and enjoy your leisure activities.

FOLLOW ME:

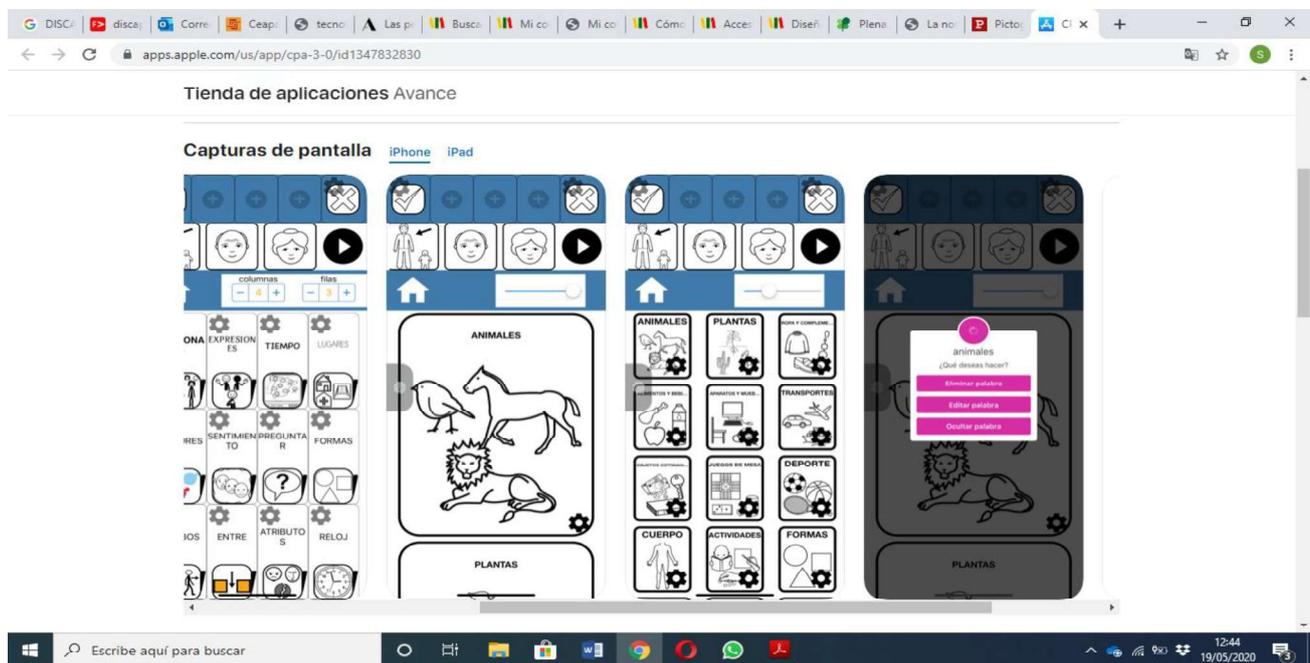


- Recipients: INTELLECTUAL DISABILITY AND ASD.
- Device: IPHONE
- Link to website/ download:

<https://apps.apple.com/es/app/sigueme/id691960078>

- Objectives:
 - Address perceptual-visual and cognitive-visual development.
 - Facilitate access to the meaning of words.
 - Promote access to reading and writing,
- Development: Six phases are included ranging from basal stimulation to the acquisition of meaning from videos, photographs, drawings and pictograms, including in the latter phases categorisation and association activities through games. (...)

CPA (COMUNICADOR PERSONAL ADAPTABLE [“ADAPTIVE PERSONAL COMMUNICATOR”]):



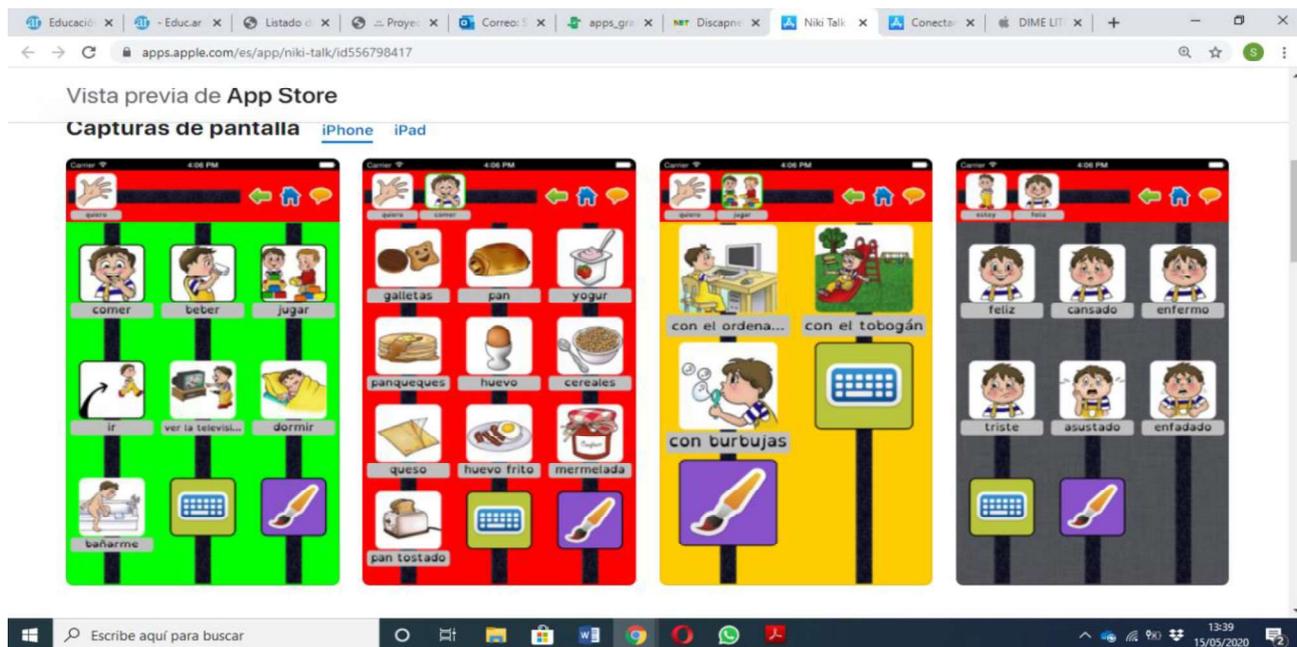
- Recipients: PEOPLE WITH COMMUNICATION PROBLEMS.
- Device: IPHONE
- Link to website/ download:

<https://apps.apple.com/us/app/cpa-3-0/id1347832830>

- Objectives:
 - Promote communication and learn vocabulary associated with meaningful contexts.
 - Promote pictogram-word association.
- Development: CPA "Adaptive Personal Communicator" is a communication system for people with serious communication problems (ASD, neurological disorders, motor disabilities, aphasia, etc.).



NIKI TALK:

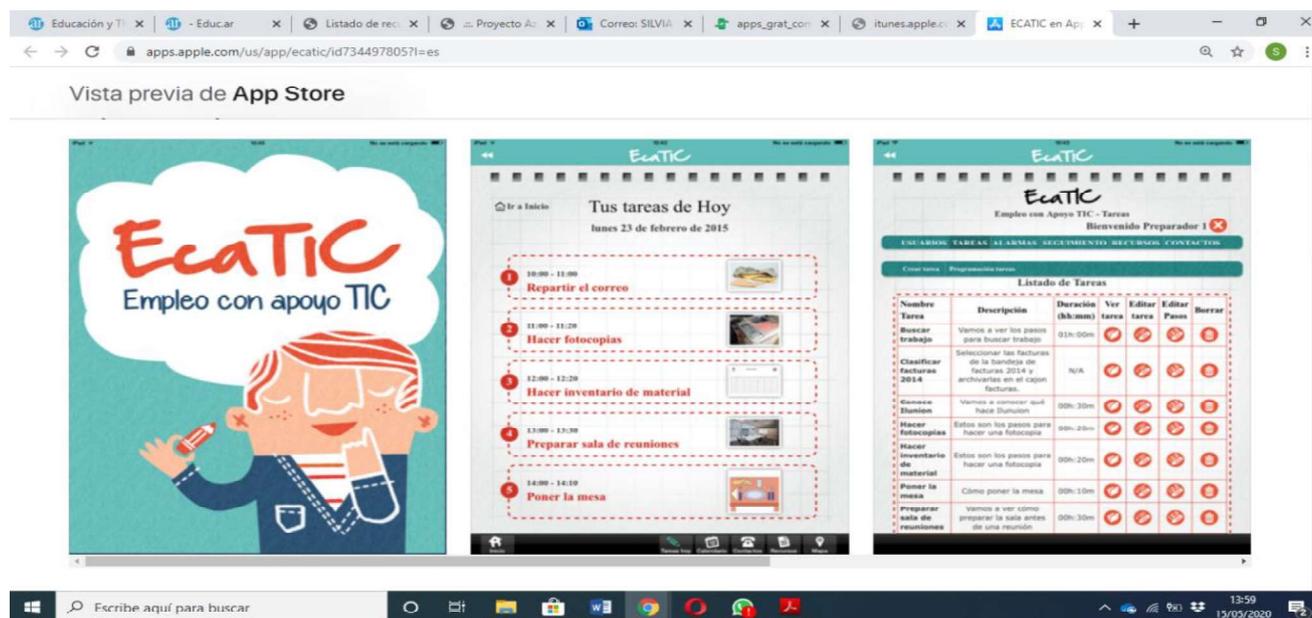


- Recipients: PEOPLE WITH COMMUNICATION PROBLEMS.
- Device: IPHONE
- Link to website/ download:

<https://apps.apple.com/es/app/niki-talk/id556798417>

- Objectives:
 - Promote communication, expression of emotions and interests and the meeting of daily needs
 - Promote pictogram-word association.
- Development: This is an Alternative and Augmentative Communication System. It is about creating communication boards with no limit on levels, customising the colour of the page, including your favourite images and using "text-to-speech" in 31 languages and 70 different voices.

EcaTIC:



- Recipients: INTELLECTUAL DISABILITY, ASD, CEREBRAL PALSY (WITH DIFFICULTIES FOR COMMUNICATION), HEARING DISABILITY, MENTAL DISEASE AND DEAF-BLINDNESS.

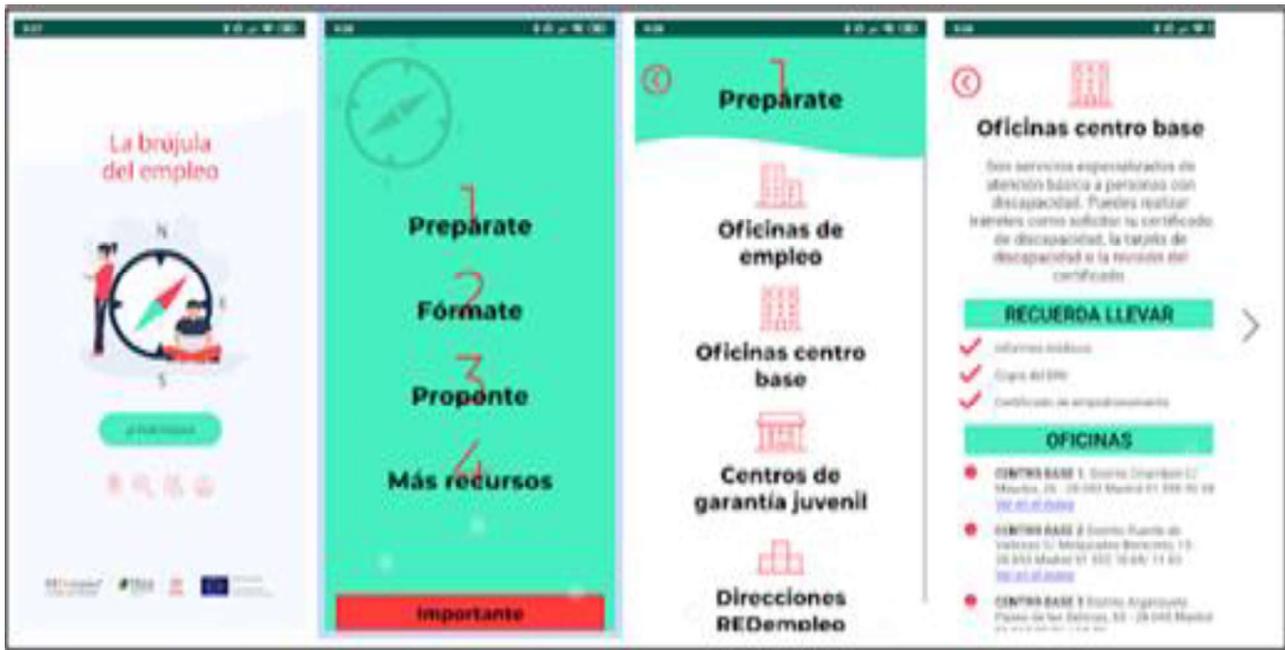
- Device: IPHONE
- Link to website/ download:

<https://apps.apple.com/us/app/ecatic/id734497805?l=es>

- Objectives:
 - Promote the inclusion of persons with disabilities in the workplace.
- Development: Employment with Support and ICT Project (ECATIC): the objective of this app is to take advantage of the many possibilities that tablets have to offer in support for employment, favouring the autonomy of workers with disabilities and efficiency by the work trainer. (FundaciELEVEN)



THE COMPASS FOR EMPLOYMENT:



- Recipients: INTELLECTUAL DISABILITY.
- Device: ANDROID.
- Link to website/ download:

<https://play.google.com/store/apps/details?id=com.plenainclusion.brujula&gl=ES>

- Objectives: To facilitate job searching.
- Development: This is an extensive database of job search resources that orients the person in their search through different steps. It includes geolocation.

ACCESSIBLE PUBLIC EMPLOYMENT (EPA):



- Recipients: INTELLECTUAL DISABILITY.
- Device: ANDROID.
- Link to website/ download:
 - <https://play.google.com/store/apps/details?id=plenainclusion.oposiciones&rdid=plenainclusion.oposiciones>
- Objectives:
 - Facilitate access to public-sector job offers for people with intellectual disabilities certified at more than 33%.
- Development: This is an application that provides information on the different public-employment examinations available to people with intellectual disabilities, offering them all the information they need to know to present themselves.

DISCONTRATA:

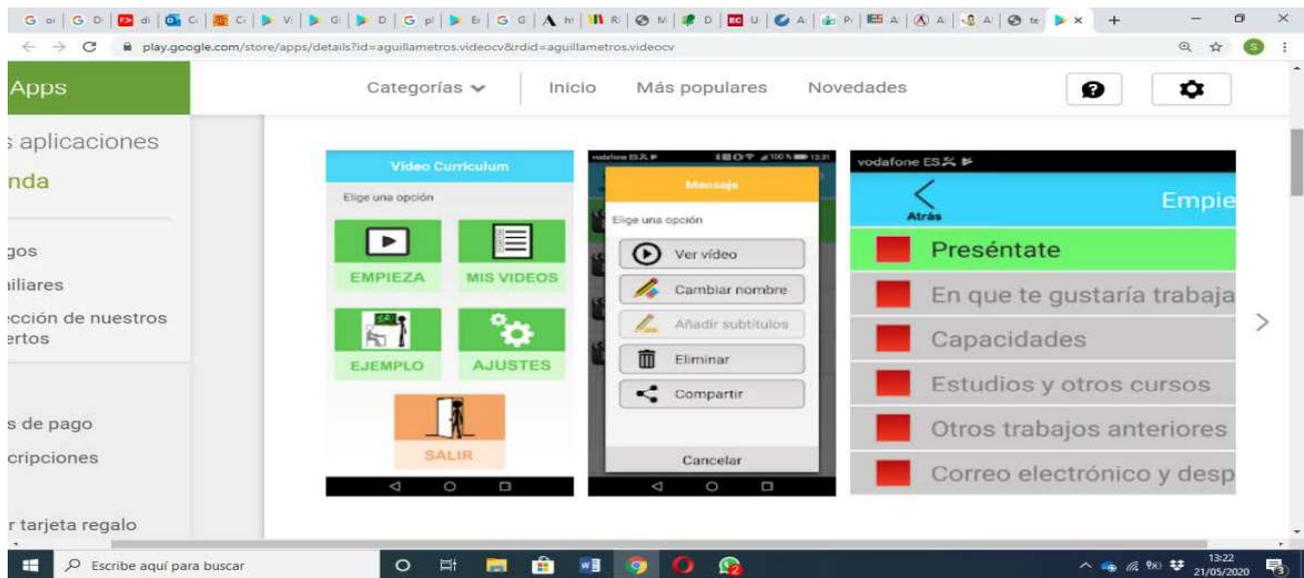


- Recipients: COMPANIES
- Operating system: ANDROID
- Link to website/ download:

<https://play.google.com/store/apps/details?id=info.si2.discontrata>

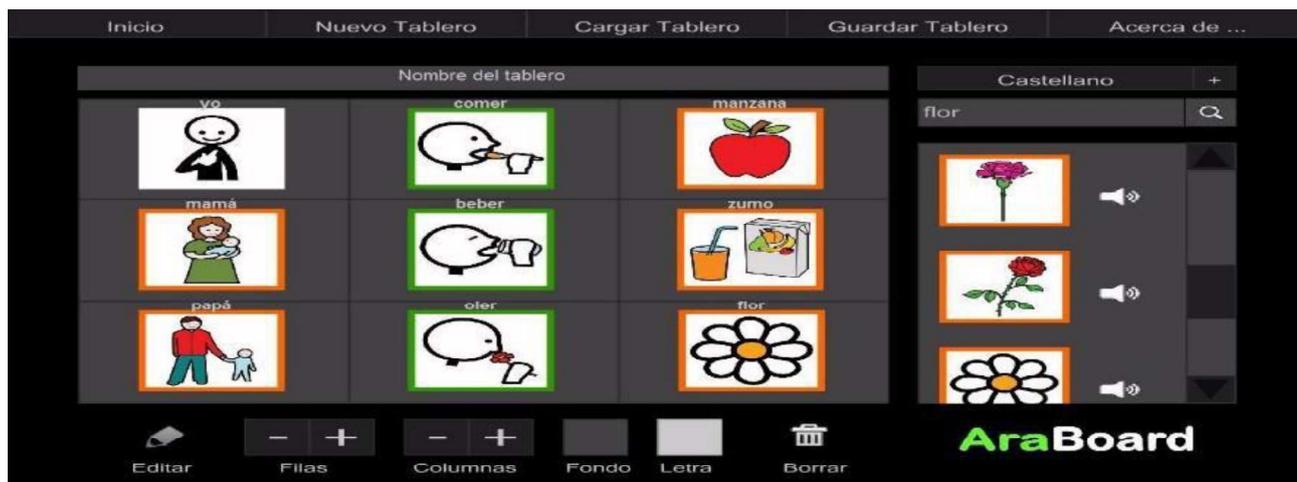
- Objectives: To promote the inclusion of persons with intellectual disabilities in the work environment.
- Development: An app that enables the percentage of people with intellectual disabilities that a company can hire to be calculated.

VIDEO CURRICULUM FULL INCLUSION MADRID:



- Recipients: INTELLECTUAL DISABILITY
- Operating system: ANDROID
- Link to website/ download:
<https://play.google.com/store/apps/details?id=aguillametros.videocv&rdid=aguillametros.videocv>
- Objectives: To promote the inclusion of persons with intellectual disabilities in the work environment.
- Development: Facilitate the creation of a video curriculum through a system of questions and answers.

ARABOARD:



- Recipients: PEOPLE WITH COMMUNICATION PROBLEMS.
- Operating system: ANDROID AND WINDOWS
- Link to website/ download:

http://www.arasaac.org/software.php?id_software=8

- Objective: To facilitate the functional communication of people who have difficulties in this field, using images, pictograms and text.
- Development: AraBoard consists of a set of tools that are designed for alternative and augmentative communication, which can be used to create, edit and use communication boards for various devices (computer, smartphone or tablet)

TICO PROJECT (INTERACTIVE COMMUNICATION BOARDS):



- Recipients: PEOPLE WITH COMMUNICATION PROBLEMS.
- Operating system: WINDOWS, LINUX and MacOS.
- Link to website/ download:

http://www.arasaac.org/software.php?id_software=5/
<https://sourceforge.net/projects/arasuite/>

- Objectives: To facilitate the functional communication of people who have difficulties in this field, using images, pictograms and text.
- Development: An app for generating and managing communication boards interactively. The program consists of two distinct but mutually complementary applications: the Editor, with which the boards are built, and the Interpreter, which enables them to be used to overcome communication limitations.

TEXT PROCESSOR: ARAWORD:



- Recipients: PEOPLE WITH COMMUNICATION PROBLEMS.
- Operating system: ANDROID
- Link to website/ download:

<http://www.arasaac.org/software.php>

<https://sourceforge.net/projects/arasuite/>

- Objectives:
 - Facilitate the development of resources and materials accessible to people with communication problems.
 - Promote literacy learning.
- Development: AraWord is a freely distributed IT application that facilitates the creation of augmentative communication materials, making numerous curricular materials more accessible and adaptable. It consists of a word processor that enables text and glyphs to be written simultaneously.

DAY TO DAY:

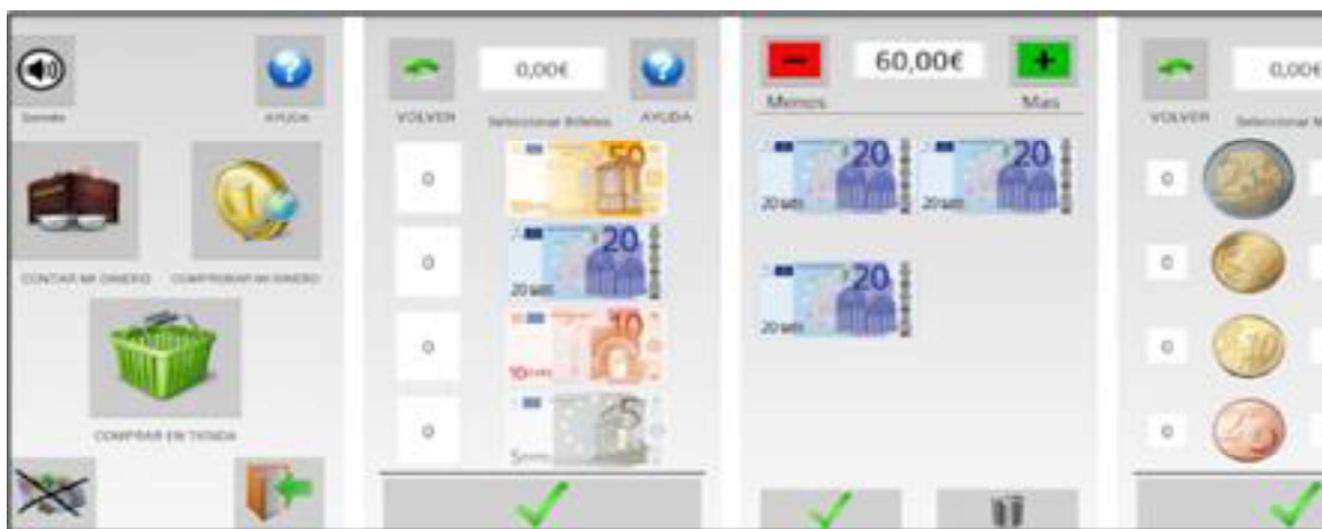


- Recipients: PEOPLE WITH DIFFICULTIES IN COMMUNICATION.
- Operating system: ANDROID.
- Link to website/ download:

<https://play.google.com/store/apps/details?id=com.orange.diaadia>

- Objectives: Organise time and anticipate what will happen in the future.
- Development: This is a visual journal that allows you to graphically save what you have done and predict what will happen. It can include people, places, events, and it can be customised.

MY PURSE:



- Recipients: INTELLECTUAL DISABILITY
- Operating system: ANDROID.
- Link to website/ download:
 - <https://play.google.com/store/apps/details?id=es.fundacionvodafone.mMonedero&hl=es>
- Objectives: To facilitate personal economic management.
- Development: This is an app that facilitates the management of money and promotes autonomy in making purchases. It offers the possibility of counting banknotes and coins in a simple way.

WEBSITES:

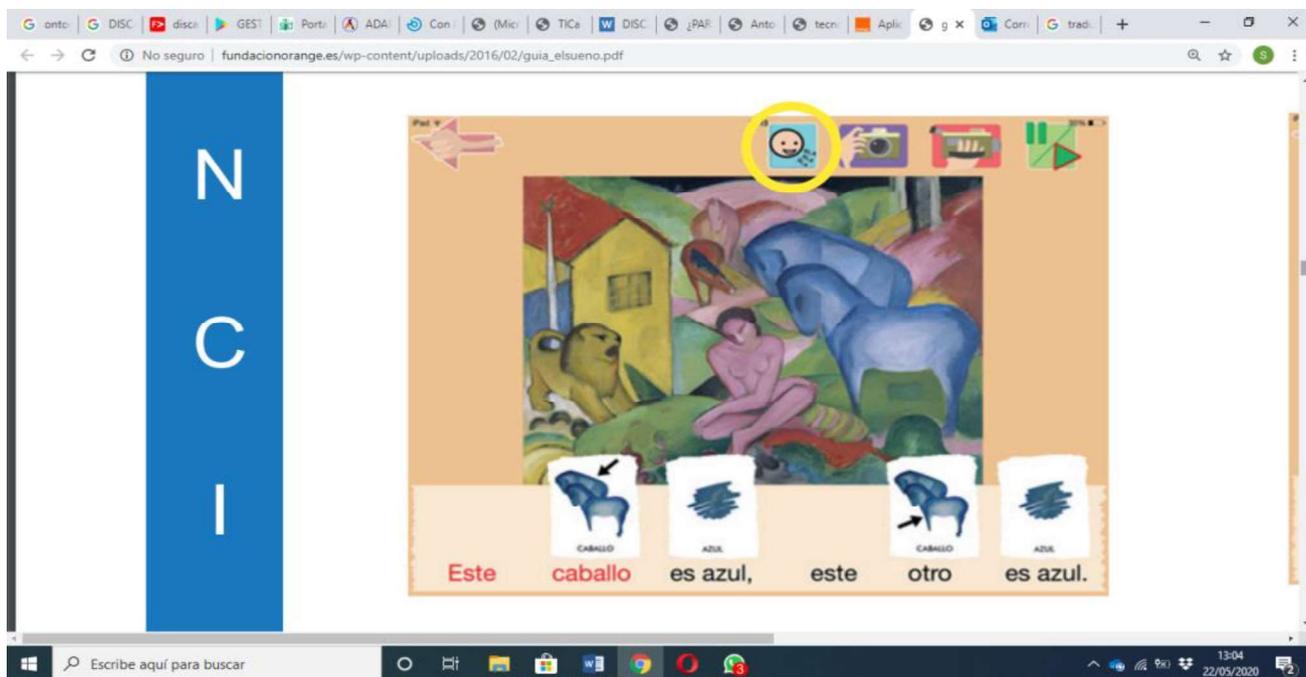
The following websites can direct you to useful tools. They are classified according to their purpose, function or type of content:

Organising schedules, calendar and leisure

ARASAAC Creation Tools: This is a set of tools that aim to promote alternative, augmentative communication and provide accessible organisational resources and materials for leisure and free time: Animation creator, symbol maker, phrase maker, schedule generator, calendar generator, board generator, bingo maker, La Oca [a snakes-and-ladders type game], domino generator, etc.

URL: <http://www.arasaac.org/herramientas.php>

Talking to Art Apps: These apps seek to bring art closer and develop creativity and educate the emotions of people with autism or intellectual disability.



URL: <http://www.fundacionorange.es/aplicaciones/hablando-con-el-arte-apps/>

Communicative pictograms

ARASAAC Resources: *Pictograms, Images, Voiceovers, Videos, LSE*
[Spanish sign-language] *Photography*:

URL: <http://www.arasaac.org/descargas.php>

Wikipicto: Dictionary of pictograms.

URL: <https://www.wikipicto.com/buscar-picto>

Pictotraductor: Translates words and phrases into glyphs.

URL: <https://www.pictotraductor.com/>

Pictogramas.es:

URL: <https://pictogramas.es/index.html>

E-mail, chats and social media

ABLE TO INCLUDE: Project aimed at facilitating the integration of people with intellectual disabilities, improving accessibility to tools such as email (Kolumba), the use of communication chats (AbleChat) and the use of social networks (Social Media APP):

URL: <http://able-to-include.com/>



Kolumba: Email.

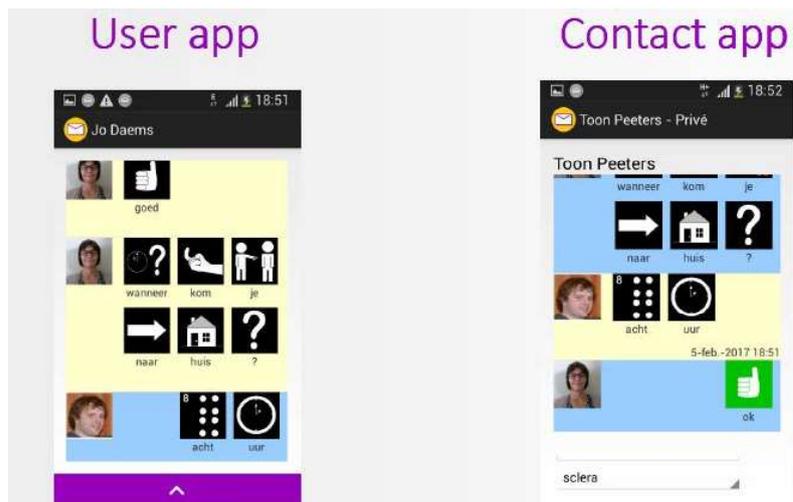
An email program adapted for people with intellectual disabilities that helps integrate their work. It is used especially with Gmail. It features the use of three services:



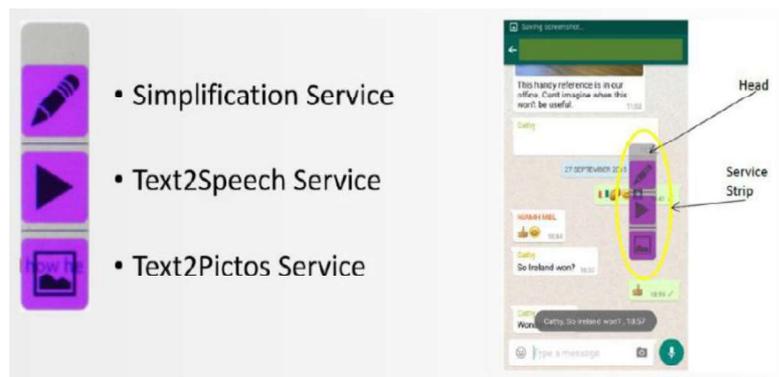
- SIMPLEX: The received text is translated for simple reading.
- TEXT2PICTO: Translation of text to glyphs. Ready for use by people with low literacy or reading comprehension skills.
- TEXT2SPEECH: Transforms written text to speech.

AbleChat:

This is an app for Android smartphones which can translate text into pictograms, enabling users to send and receive messages in an understandable way.



Social Media APP: A social networking app that allows users to access and use these resources and thus communicate through them.



MICROSOFT OUTLOOK EMAIL: The technical support available on the website provides instructions on how to make this resource a little more accessible and adapt it to the needs of people with disabilities. Alternative text can be added to images or graphics, more accessible fonts, styles and colour formats, etc. can be used.

URL: <https://support.microsoft.com/es-es/office/hacer-que-el-correo-electronico-de-outlook-sea-accesible-para-personas-con-discapacidades-71ce71f4-7b15-4b7a-a2e3-cf91721bbacb#PickTab=Android>

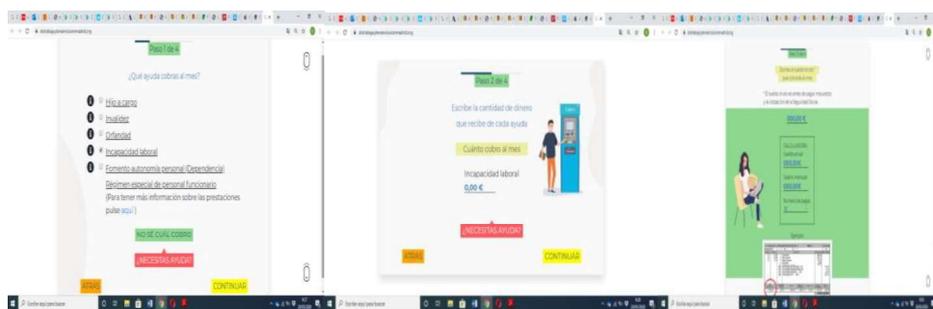
GUREMINTZA: A social network aimed at people with intellectual disabilities, which they can use to create profiles, add friends, create groups, communicate by direct messaging or through posts on boards, post updates, share photos and videos, etc.



URL: <http://www.guremintza.net/usuarios/index.php?id=>

Access to employment

Plena Inclusión Madrid (the Federation of Organisations of Persons with Intellectual or Developmental Disabilities of Madrid) has developed several resources, including [*distrabaja*](#), a website built on the basis of the analysis of different subsidies and benefits received by people with intellectual disabilities, with the aim of providing information and answers for those who have accessed a job or are unemployed, in line with hours of work and wages.



Website: <https://distrabaja.plenainclusionmadrid.org/>

Fundación Adecco: This foundation works to prevent the exclusion of people with intellectual disabilities in the work environment through various actions: employment portal, employment school, workshops, etc.

Website and employment portal: <https://fundacionadecco.org/trabajo-de-discapacidad/>

TUTOR-DIS: Software that facilitates integration into work and adaptation to the workplace. It supports time management, provides reinforcement

activities, facilitates communication and manages the location and development of workers with intellectual disabilities at posts.

URL and software: <http://tutor-dis.ibv.org/>

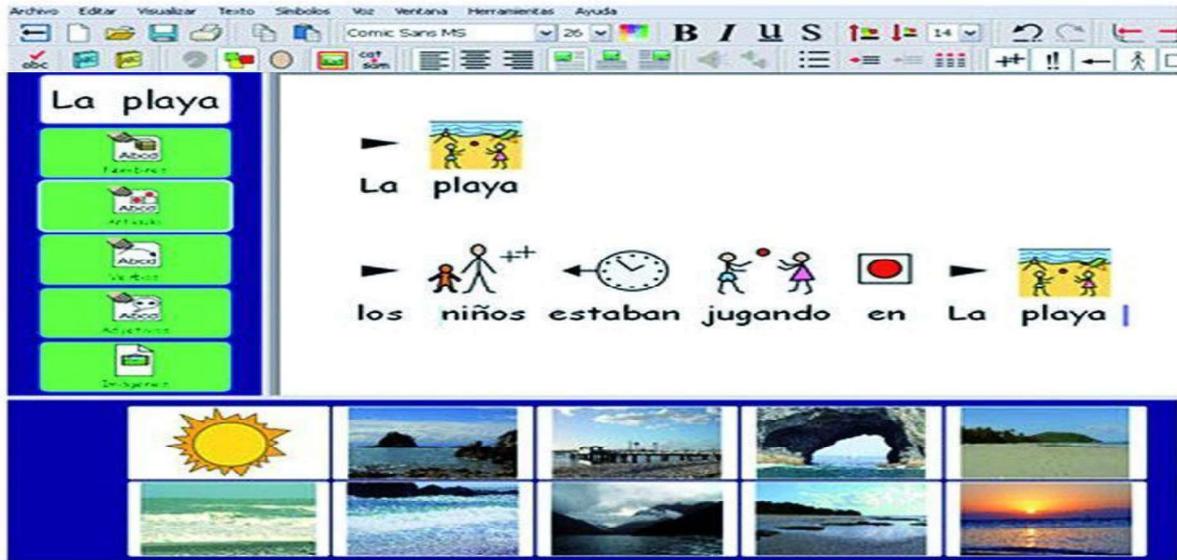
Word and data processor

ADAPRO (ADAPTED WORD PROCESSOR): This is a resource designed to be used with Windows, Apple and Linux that uses ARASAAC pictograms to turn the text input into images. It also offers the option of creating a virtual keyboard to enhance accessibility still further for persons with certain disabilities.



URL and download: <http://adapro.iter.es/>

COMMUNICATE SYMWRITER: This is a word processor based on symbols that allows you to create your own documents. It works on the understanding and meaning of words and on expanding vocabulary.



URL, purchase and download: <https://bjadaptaciones.com/software-para-la-comunicacion-y-le>

Tools

- **State Reference Centre for Personal Autonomy and Technical Aids:**

https://sipaceapat.imserso.es/sipa_01/prod/cat/nav/index.htm

Tools are offered for needs of all types, classified by categories:

- **Food and household chores:** open plugs, automatic mop-drainer, cutlery grips, etc.
- **Toilet and personal care:** Pill extractor, shock absorption cap, voiced blood pressure monitor, side-opening trousers, etc.
- **Communication:** adapted phones, mouth stick holders, keyboards, image sorters, augmentative communication programs, etc.
- **Learning and employment:** Adapted sewing machine adapter, adapted gardening tools, etc.
- **City and buildings:** Elements for tactile signage, visual, soft or non-slip flooring, etc.
- **Mobility and handling:** transfer platforms, standing frames, rods with rungs, belts, cup holders, grips, pushbuttons, etc.
- **Leisure:** Radio adapter, remote control, control adapter for console, etc., pushbutton-switch, tricycle with assisted pedalling, pool flotation supports, etc.
- **Housing adaptation:** rubber wall coverings for stairs, automatic sliding doors, support bars, etc.
- **Accessible private transport:** vehicle adaptations, multifunction seats, etc.

- **ENABLE VIACAM:** "Facial Mouse". Mouse substitute. The pointer moves with head movement. For PC with Webcam.

<https://eviacam.crea-si.com/index.es.php>

- **Free Software: Touch the screen:** This system works on stimulation, cause-and-effect, movement, etc. Used with a monitor and mouse or interactive digital displays. <http://antoniosacco.com.ar/tlp.htm>



- **Interactive Digital Whiteboard:**

https://bjadaptaciones.com/buscar?controller=search&orderby=position&orderway=desc&search_query=PIZARRA&submit_search=

- **Access to technological devices: Mice, keyboards, joysticks, etc.**

<https://bjadaptaciones.com/4-acceso-a-dispositivos>



Tips

- Find out as much as possible about Intellectual Disability, including specific teaching techniques and strategies to support the student.
- Provide opportunities for success.
- Consult with other specialists to identify effective teaching methods, ways to adapt the curriculum and follow a Universal Design for Learning
- Try not to stick only with verbal information, show a photo and provide the student with materials and practical experiences.
- Break new or more complex tasks into smaller steps. Provide help as needed.
- Offer feedback immediately.
- Encourage the student to participate in activities in groups or organizations.
- Work with other school staff to create and implement an educational plan that meets the needs of the student.
- Share information on a regular basis about how the student is doing at school and at home.



Important texts, events or cites to include as curiosity.

- *"If there's one thing we've learned about the civil rights movement, it's that when others speak for you, you lose."* Ed Roberts (1989), a leading activist for the rights of persons with disabilities and father of the Independent Living Movement in the United States.

- *"Nothing about us without us."*

A motto coined by the movement in defence of the rights of persons with disabilities. Source: **Charlton, James I** (1998). *Nothing About Us Without Us*. University of California.

Links

- **Ed Roberts: Free Wheeling:** Video about the father of the Independent Living Movement:
<https://www.youtube.com/watch?v=ci3ek-tqjGQ&feature=youtu.be>
- **Ibero-American Disability Repository:**
<http://riberdis.cedd.net/?rd=0031507977849548>
- **Plena Inclusión:** Network of organisations that ensure the rights of people with intellectual and developmental disabilities in Spain.
<https://www.plenainclusion.org/>
- **Technology for Persons with Disabilities (Plena Inclusión):** More information on ICT tools and resources:
https://www.plenainclusion.org/sites/default/files/tecnologia_para_personas_con_discapacidad_intelectual.pdf
- **Adecco Fundación:** Against Social Exclusion in Employment:
<https://fundacionadecco.org/>
- **Ayudatec.** Accessibility and technology content.
<https://ayudatec.cl/tecnologiasdiscapacidad/>
- **E-Accesibilidad.** Elimination of Barriers to Access to the Digital Knowledge Society.
https://sid.usal.es/idocs/F8/FDO20912/Estudio_eaccesibilidad.pdf



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

- **BJADAPTACIONES.** Technology assistance company for people with disabilities: <https://bjadaptaciones.com/>

Introduction

High school or university students with intellectual disabilities (ID) must be guided by teachers who have received adequate training on (a) the learning processes of students with ID, (b) the strategies to adopt to facilitate such processes and (c) the best communicative and relational approaches to implement to establish meaningful interactions.

These three components affect the overall quality of the course and its goals, that is, to enhance and empower the cultural, professional and relational aptitude of students with ID to improve the quality of their future life.

Despite the significant increase in the number of students with ID and other forms of disability and learning disorders enrolled in higher education and university in the last few years (Lipka et al., 2020), teachers continue to lack the skills to address and manage these situations, as they often feel a general inadequacy and inability to respond to these students' needs or difficulty in establishing relationships with them. This may lead to the naïve belief that the teaching profession in higher education and university does not entail the duty to also address cases of cognitive disability.

Hence, we must start examining the perception of such difficulties to improve our knowledge of the topic, define some key concepts, identify effective teaching strategies and change beliefs that demean and devalue people. In this perspective, human diversity is deemed essential to higher and university education and as such, it must be at the core of any ethical-normative approach to well-being, aimed at an idea of quality of life, that is, Sen's concept of 'well-being' (1993).

Within this framework, the selected contents are a central part of a basic training course that aims to enable teachers to manage students with ID in an increasingly appropriate way as well as master effective and evidence-based teaching strategies (Horner et al., 2005; Katz et al., 2012).

Background of the topic

An enrolled university student with ID may not be able to complete their studies; therefore, these students must be observed to understand both their potential and their limits to avoid setting unrealistic expectations for them and their families, which may lead to more negative than positive consequences. However, the path undertaken in this regard must be that of significant growth, which empowers the student to actively participate in community life and assume valued social roles. Constructing a positive identity for students with ID depends not only on their personal characteristics but also on the image built around them by different social groups of reference. In our case, if a teacher considers a student with ID as a suitable individual to attend their lessons, the rest of the class will adopt the same perception. This shared expectation will help the student with ID to strengthen their propensity to behave in a manner consistent with the image they are presented. They will feel and behave as students and not as 'different persons' who always need support and assistance.

In addition, considering a person with ID as not autonomous and functional to the maintenance of the welfare system establishes an identity stereotype (Moscovici, 1984) that affects an individual's construction of the identity of the other and reinforces the distinction between what is the norm and what deviates from it.

If teachers want to counteract this stereotype and promote a positive attitude, they must build *personal skills and knowledge about people with ID* as well as *professional skills on effective teaching strategies* to facilitate their learning and relationship-building.

A 2007 document by the European Commission titled *Communication from the Commission to the Council and the European Parliament. Improving the Quality of Teacher Education* examines in detail the state of the art of the teaching situation in Europe, which can be clearly extended to higher institutions and universities. It argues that if the

teaching profession is inspired by the values of inclusiveness and the need to nurture the potential of all students, it can profoundly influence society and play a vital role in advancing human potential and the education of future generations. It defines a specific framework of skills for carrying out an action as complex as it is fundamental (Commission 2007, p. 14):

- identifying each individual's specific needs and addressing them with a wide range of teaching strategies;
- supporting the development of young people to become fully autonomous throughout their lives;
- helping young people acquire the competencies listed in the Common European Framework of Reference on Skills;
- working in multicultural contexts (including the ability to understand the value of diversity and respect for difference);
- collaborating closely with colleagues, families and the wider community and
- acquiring, developing and using management and functional skills.

All these aspects will be considered in the following sections. We will focus on the learning difficulties experienced by students with ID and analyze the educational methodologies to be promoted at the higher-education and university level. The aim is to broaden each individual's *capabilities*, that is, the set of resources and opportunities available to everyone as well as the ability to use them according to the value attributed (Sen, 1999). This view is also supported by the [International Classification of Functioning, Disability and Health \(ICF\)](https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health) perspective (<https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health>).

Specific concepts

The key concepts of this topic are

1. the learning characteristics of students with ID,
2. the learning facilitation strategies at the higher-education and university level and
3. the personal skills that teachers must acquire to successfully manage complex teaching situations characterized by the presence of students with ID.

1. Learning characteristics of students with ID

People with ID engaged in content-learning tasks, sometimes even complex, manifest difficulties that affect all their functions: attention, working memory, long-term memory, communication, comprehension, metacognition, motivation, self-esteem and perception of self-efficacy.

2. Learning facilitation strategies at the higher-education and university level

Regarding strategies to promote learning in students with ID, the research raises an interesting question: Do 'special' students need 'special' methods? (Mitchell, 2012), or are methods that work for 'special' pupils not substantially different from those that are effective for the majority of individuals? Most studies agree that generally, all students need 'good teaching.' If we analyze the results of the main meta-analyses on teaching strategies for students with special needs (Hattie, 2009; Mitchell, 2012), we see that effective methodologies strongly correspond with recurrent models in studies outside the field of special needs.

Among such methodologies, we point out the following:

- Cognitive-behavioral strategies based on assisted modeling, which allows students to learn step-by-step through regular feedback, focus on relevant information without distracting elements.
- In the first collaborative strategy, *cooperative learning*, students work together in small groups and help each other perform shared tasks, assuming specific roles. In the second collaborative strategy, *peer tutoring*, some students play the role of tutors to support the learning of their peers, who assume the role of tutees.
- *Cognitive and metacognitive strategies* consist of didactic approaches that aim to foster the acquisition of knowledge, skills and competencies as well as help students organize information to reduce its complexity and link new knowledge with existing knowledge (*flipped classroom, metacognition, self-regulation, etc.*).
- Methodologies for *guided discovery* and *problem-solving* in various disciplinary areas are utilized to promote transferable and meaningful learning.
- Multisensorial methodologies and technological approaches help consolidate more abstract concepts through direct perceptual experience (*Univesal Design for Learning-CAST*, see topic 5).
- Traditional strategies such as *direct instruction*, that is, teacher-directed teaching methods that intend to provide students with explicit, guided instructions, are based on planned lessons, frequent evaluation and effective targeted feedback.

Another important aspect to consider is the reference to other languages such as nonverbal ones. This calls for attention to the analogical language that shortens distances through gestures, posture, mimicry, proxemics and methods and is a teaching approach that can benefit both students and teachers themselves.

3. *Teacher's personal skills to successfully manage complex teaching situations characterized by the presence of students with ID*

A teacher's personal skills entail communication, decision-making, negotiation and implementation:

- *Communication* involves both verbal and nonverbal language (proxemics, macrokinesics and microkinesics).
- *Decision-making* concerns the teacher's ability to address problems successfully and make relevant decisions (*problem-solving and decision-making*) in complex situations such as those involving students with special needs.
- *Negotiation* entails reconstructing contents through didactic transposition as well as using didactic mediators (active, analogical, iconic and symbolic).
- *Implementation* concerns the management of the 'inclusive class,' which requires an effective organization of time and activities.

Finally, a teacher is expected to exercise strong self-control in managing potentially stressful contexts while ensuring quality interactions with students with ID. These skills should therefore be addressed in a basic teacher training course. As already mentioned, to acquire inclusive competency, teachers must adopt a certain mindset toward people with ID, groups, institutions, issues, behaviors and symbols. Such a mindset would include openness toward people from other functional backgrounds, respect for differences and an inclusive attitude.

Special needs for people with ID about the topic

The special needs of students with ID in terms of learning the topics covered in university lectures depend on several issues associated with their disability.

First, they experience difficulties in all aspects of *attention* and the exercise of executive control (Pritchard et al., 2015). These aspects involve both the ability to inhibit all stimulation that are irrelevant to the completion of the learning task and, above all, the ability to select facets of the situation that may be useful in solving a problem (*selectivity*). Additional problematic aspects for these students include attention stability, which enables one to maintain their concentration on a task or activity to allow them to perform it. This function, called *sustained attention*, plays a fundamental role in learning academic contents and varies depending on both the individual student with ID and the type of task being undertaken. Two further aspects of attention that these students significantly lack are the ability to quickly shift their focus relative to the demands of a task (*shift*) and having enough *attentional capacity* to deal with different situations requiring focus.

Another class of problems for these students involves their *working memory*. This cognitive system with limited capacity can temporarily hold and process information while performing different cognitive tasks. Working memory allows for access to stored information to complete a mental task and/or to meet a set goal. After extensively studying this system, Baddeley and his collaborators (Baddeley, 1986, 1990, 2003a; 2003b; Baddeley & Hitch, 1974, 1994; Baddeley & Jarrold, 2007) introduced a model consisting of several components that help maintain and process specific types of information: the *central executive*, the *phonological loop*, the *visual-spatial notebook* and the *episodic buffer*. Research on deficits experienced by individuals with ID

has highlighted problems in all components with particular reference to the central executive and the phonological loop.

Regarding *long-term memory*, explicit memory is affected to a larger extent than implicit memory, the functions of which are better preserved. Simply put, studies generally agree that people with ID suffer from more recognizable difficulties in tasks that require explicit memory retrieval processes (*memory strategies*) and that they experience fewer challenges in tasks that require implicit and relatively automatic processes.

Some difficulties also involve communication skills in that students with ID may be affected by speech and language impairments.

Regarding the intellectual functions of people with ID, quantitative research has highlighted their low Intelligence quotient (IQ), while qualitative studies have identified two main features of their cognitive and psychological profile: *concreteness and rigidity*.

Overall, research results show not only shortcomings and delays but also relatively well-preserved skills in some areas. Despite problems associated with language, verbal working memory, explicit long-term memory, problem-solving ability and emotional control, people with ID still possess fairly functional areas such as imitative ability, receptive language, visual-spatial working memory and implicit long-term memory. All these favorable conditions can be enhanced and maximized when an inclusive environment is created, motivation is stimulated and evidence-based teaching strategies are implemented. An inclusive environment is also conducive to self-perception, a psychological factor that conditions learning and relating processes.

Hence,

- students with ID must be provided individual education plans that outline their profiles and identify their strengths and weaknesses, with the



former being used as a means to stimulate and compensate for the latter and

- focus should be on their attention span for the task, as students with ID have limited selective and supported attention. Lessons must be suitable for short attention spans and complemented by periods of hands-on activity.

Tutorials and collaborative peer work are also helpful.

Methodological proposals

From a methodological standpoint, the inclusive teacher should help students with ID avoid separating their private and university lives and create opportunities to connect these two dimensions. In this way, these students' university careers will be profound even if in the end they do not graduate. To accomplish this, the teacher must act in two directions. On the one hand, the teacher must develop appropriate learning contexts by selecting meaningful teaching contents to be didactically transposed so that the tasks fit the students' characteristics. On the other hand, the teacher must encourage students with ID to reflect on some key questions: What do I expect from this course of study? What benefits would I gain from attending this course? Is there collaboration among the students? Would I find it useful to study with some classmates? Who is the teacher I get along with the most? Which discipline do I find most difficult? Am I cooperative? Do I actively participate in university and city life? Do I feel included? What will future work look like for me? These educational choices and learning contexts will benefit not only students with ID but also the entire university community.

In conclusion, considering the above highlighted elements, the course must address

1. basic principles about learning of students with ID
2. attention, memory and executive functions in people with IDs
3. communication, comprehension and ID
4. motivation, self-esteem and perception of self-efficacy among students with ID
5. enhancement of inclusive teachers' personal and professional skills
6. strategies to promote meaningful learning for students with ID

With reference to the last point, we provide some innovative evidence-based pedagogical strategies to promote the development of teachers' didactic skills:

- problem-based learning (PBL)
- flipped classroom
- debate

These teaching–learning strategies can be integrated with one another and adopted in any educational setting. Following the UDL approach, these strategies must be adapted to the special needs identified in the previous paragraph (e.g. individual support in self-study activity, adaptation of didactic materials such as videos, concept maps, the decomposition of problems into subproblems, etc.).

The **PBL** methodology consists of problem-based lessons and is organised in the following scheme:

<p>Preparation phase</p>	<p>1. The teacher sets goals and constructs a problem, ensuring that it is</p> <ul style="list-style-type: none"> • focused on content appropriate to the students' cultural and/or professional development; • complex enough for the students' existing knowledge (neither too simple nor too complicated); • brief, well-structured and concretely formulated and • open to different learning and teaching strategies and styles. <p>2. The teacher prepares to play a tutor/facilitator role.</p>
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	<p>3. The teacher prepares a list of bibliographic resources (from the library or online) to suggest to students for their independent study.</p> <p>4. The teacher establishes evaluation strategies and ensures that they conform with previously established teaching/learning objectives.</p> <p>5. The teacher foresees possible criticalities.</p>
Start-up phase	<p>1. The teacher explains the characteristics of PBL, clarifies the 'seven jumps' procedure and clearly describes the objectives to be achieved.</p> <p>2. The teacher prepares the classroom environment for activities in small groups (6–8 students if possible) within which the teacher identifies a moderator and a secretary.</p> <p>3. The teacher explains his or her role as a tutor/facilitator, which replaces the traditional role of a disciplinary expert who provides information through lectures.</p>
Application phase	<p>1. In the first meeting (about two hours), the teacher introduces the problem and uses scaffolding to guide students through the first five phases of the investigation:</p>



	<ul style="list-style-type: none">• Clarify unclear or unfamiliar terms and concepts (jump 1).• Define the problem (jump 2).• Analyse the problem (jump 3).• Make a systematic list of explanations derived from jump 3 (jump 4).• Formulate learning outcomes (jump 5). <p>2. The teacher/tutor is concerned about enhancing each member's contribution within their groups, highlighting different perspectives to create situations of sociocognitive conflict that increase students' motivation for independent study.</p> <p>–3. At the end of the meeting, the students autonomously deepen their knowledge so they can test the hypotheses they have formulated, utilising the teacher's/tutor's bibliographical suggestions (jump 6). The duration of the self-directed study phase may vary (generally from three to seven days).</p>
Revision	<p>1. After the self-directed study phase, a collective peer review is conducted in which students discuss and share their independently acquired knowledge.</p> <p>2. A second meeting, roughly an hour long, is held to synthesise and evaluate students' additional information acquired through the independent study</p>



	<p>(jump 7).</p> <p>3. The teacher supervises the evolution of learning outcomes and promotes self-study and self-evaluation strategies.</p>
Evaluation	<p>1. The teacher develops tasks to assess the knowledge and skills involved in the problems they have formulated.</p> <p>2. The teacher describes students' behaviour in terms of their</p> <ul style="list-style-type: none">• teamwork skills,• ability to formulate problem-solving strategies and• ability to apply existing knowledge to problems to understand them better. <p>3. The teacher certifies the students' level of acquired skill.</p>

The **flipped classroom** methodology consists of two main phases. First, the students autonomously study video materials provided by the teacher. Second, the class discusses and deepens their knowledge of key aspects of the topic and its most contentious points. The following scheme describes the organisation of the work:



Preparation phase	<ol style="list-style-type: none">1. The lesson's objectives are developed.2. Activities and materials are provided (in paper or digital format) to activate preconceptions and present and explain the lesson's topics. Students autonomously participate in the proposed activities and study the materials before the face-to-face lesson.3. Critical points are expected.
Start-up phase	<ol style="list-style-type: none">1. The lesson's goals are explained.2. The classroom environment (classroom and digital resources) is organised for the presentation of the materials that the students studied at home.3. A first reconnaissance is conducted (through activities dedicated to the purpose) to identify the students' preconceptions and express any doubts or criticalities on the subject of the lesson.
Application phase	<ol style="list-style-type: none">1. The key concepts of the lesson's disciplinary contents (already identified in the materials examined at home) are shared through plenary discussions.2. The students conduct, among their peers, in-depth activities (such as problem-solving,



	<p>discussions and structured exercises) requiring them to use superior cognitive skills applied to the disciplinary content of the lesson.</p> <p>3. Feedback on the activities is provided, critical issues discussed and any doubts clarified.</p>
Revision	<p>1. Under the guidance of the teacher, students conduct a final review of the lesson's main contents.</p> <p>2. Reflection sessions are arranged to assess the effectiveness of the adopted strategies in managing the various activities.</p> <p>3. Students are advised to self-evaluate based on the objectives explained at the beginning of the lesson.</p>
Evaluation	<p>1. The teacher creates tasks to evaluate the knowledge and skills involved in the discussed topics.</p> <p>2. The teacher identifies descriptors of students' behaviour associated with their</p> <ul style="list-style-type: none">• autonomy in the learning process at a distance,• critical processing capacity and• metacognitive skills. <p>3. The teacher certifies the students' level of acquired skill.</p>

The **debate** is a didactic strategy consisting of a communicative exchange guided by rules between two teams ('for' and 'against') that face each other on a topic to be discussed, developed, endorsed, and defended.

<p>Preparation phase</p>	<ol style="list-style-type: none"> 1. The teacher clearly explains the objectives to be achieved, the characteristics of the debate and the rules to be followed. 2. The teacher briefly introduces the topic that the students will discuss. 3. The teacher will also present the materials (e.g. books, online resources, etc.) that students can consult to substantiate their arguments.
<p>Start-up phase</p>	<ol style="list-style-type: none"> 1. The teacher reiterates the objectives and brainstorms the students' preconceptions about the selected topic. 2. The teacher divides the students into teams—'for' and 'against'—to deliberate on the key issue defined in the preparation phase. 3. The classroom is arranged so that the two groups can interact separately from each other and consult the relevant sources.



Application phase	<p>First, the teacher supports the two groups individually so that all group members can</p> <ol style="list-style-type: none">1. interact with one another,2. properly use the sources they need to construct their group's arguments and3. reflect on their assertions. <p>Afterward, the teacher facilitates the discussion, ensuring that the two groups</p> <ol style="list-style-type: none">1. emphasise the empirical evidence in support of their theses and2. use different argumentative and communicative strategies.
Revision	<p>At the end of the debate, the teacher</p> <ol style="list-style-type: none">1. reflects with the students on the essential elements emerging from their respective arguments and2. monitors how students modified their preconceptions and evaluates their learning outcomes.

Evaluation	<ol style="list-style-type: none">1. The teacher creates tasks to assess the knowledge and skills involved in the discussion topic. 2. The teacher develops descriptors of students' behaviours associated with their ability to<ul style="list-style-type: none">• argue/justify their positions,• critically analyse the issue under consideration and• support a communicative exchange.3. The teacher certifies the students' level of acquired skill.
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With reference to teachers' development of their evaluation skills, we propose a focus group organised around four main questions that aim to define the purpose of evaluation, the types of evaluation tests, the evaluation criteria, the descriptors of students' behaviour and the adopted assessment scale. This will include adaptations to the evaluation process, such as using support devices, allotting extra time for answering the test and adapting the test according to the special needs of students with ID.

The four questions are as follows:

1. How does the discipline you teach influence the way you evaluate?
2. What evaluation practice do you adopt?
3. What are your main evaluation goals?
4. What are the main criticalities that you encounter regarding evaluation practices?

References of the topic

- Baddeley A.D. (1986). *Working memory*. Oxford: Clarendon Press. (Tr. it. 1990. *La memoria di lavoro*. Cortina, Milano).
- Baddeley A.D. (1990). *Human memory*. Theory and practice. Hillsdale: Lawrence Erlbaum Associates. (Tr. it 1992. *La memoria umana*. Bologna: Il Mulino).
- Baddeley A. (2003a). Working memory and language: An overview. *Journal of Communication Disorders*, 36(3), 189–208.
- Baddeley A. (2003b). Working memory: looking back and looking forward. *Nature Reviews. Neuroscience*, 4(10), 829–839.
- Baddeley, A.D., Hitch, G.J. (1974). Working memory. In G.H. Bower (Ed.), *The psychology of learning and motivation*. New York: Academic Press (pp. 47–90).
- Baddeley A. D., Hitch G. J. (1994). Developments in the concept of workingmemory. *Neuropsychology*, 8(4), 485–493.
- Baddeley A., Jarrold C. (2007). Working memory and Down syndrome. *Journal of Intellectual Disability Research*, 51(12), 925–931.
- Communication from the Commission to the Council and the European Parliament. *Improving the Quality of Teacher Education*, Brussels (3.8.2007), <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52007DC0392> .
- Hattie, J. (2009). *Visible Learning - A synthesis of over 800 meta-analyses relating to achievement*. New York: Routledge.



- Horner R. H., Carr E. G., Halle J., McGee G., Odom S., Wolery M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children*, 71(2), 165–179.
- Lipka O., Khouri M., Shecter-Lerner M. (2020). University faculty attitudes and knowledge about learning disabilities. *Higher Education Research & Development*, 39(5), 982–996 doi.org/10.1080/07294360.2019.1695750.
- Mirinda J. P. (2012). Including students with developmental disabilities in general education classrooms: Educational benefits. *International Journal of Special Education*, 17(2), 14–25.
- Mitchell D. (2012). *What really works in special and inclusive education: Using evidence-based teaching strategies*. 2nd edition. Abingdon, Oxon: Routledge.
- Mitchell, D. (2015). Inclusive Education is a Multi-Faceted Concept. *Center for Educational Policy Studies Journal*, 5(1), 9–30.
- Moscovici S (1984). The Phenomenon of Social Representation. In R. Farr and S. Moscovici (Eds.), *Social representations*. Cambridge: Cambridge University Press.
- Pritchard A. E., Kalback S., McCurdy M., Capone G. T. (2015). Executive functions among youth with Down Syndrome and co-existing neurobehavioral disorders. *Journal of Intellectual Disability Research*, 59(12), 1130–1141.
- Sen, A.K. (1993), Capability and well-being. In M.C. Nussbaum e A.K. Sen (Eds.), *The quality of life*. Oxford: Clarendon Press.
- Sen, A. (1999). *Development as freedom*. Oxford: Oxford University Press.



➤ Watson, Sue. (2021, July 31). A List of Accommodations to Support Student Success. Retrieved from <https://www.thoughtco.com/accommodations-to-support-student-success-3110984>.

Glossary

Central executive: It is a flexible system for controlling and regulating the cognitive processes required by the situation. It links information from different sources into coherent episodes, coordinates subsystems (so-called “slave systems”), selectively directs available attentional resources.

Concreteness: Inability to achieve abstract thinking. In Piagetian terms, inability to pass the stage of concrete operations.

Cooperative learning: It is a teaching-learning method that applies particular techniques to group work aimed at acquiring knowledge, skills or attitudes. A central aspect of cooperative learning is the concept of positive interdependence, that is, the perception of being connected with others in such a way that the individual cannot succeed without doing group (and vice versa). The method takes the form of a plurality of methodologies and techniques for organizing activities, in which students work in small groups while respecting the roles assigned by the teacher and assuming responsibility with respect to the goal of the task.

Direct instruction: This is an approach that dates back to the 1970s and is based on a well-planned design, small learning advances and pre-defined teaching tasks; it is characterized by strong guided interaction. Underlying it is the idea that leaving too much space for the pupil consolidates his misconceptions and cognitive practices; he must therefore be guided with very clear instructions; there is only one sequence, all pupils receive work instructions at the same time, all materials are organized in one logical order. Cross-references and links from one passage to another are strong, well-structured and must be

clear to all pupils. It is believed that even subjects with greater difficulty can, if guided, follow the same path.

Episodic buffer: Subsystem that links together information from different domains to form integrated and coherent units from the visual, spatial, and verbal information available according to a chronological order (the memory of a story or movie scene).

Feedback: Return information that a subject or system receives as a result of an action. Feedback serves the subject or system to make appropriate adjustments according to a goal or threshold that should not be crossed. In education it is associated with the concept of formative assessment. The management of feedback is considered essential both when the teacher communicates precise directions to the learner on how to improve a behavior or performance and when the teacher accommodates the difficulty expressed by the learner. According to Hattie (2009), good feedback must have the following three characteristics: it must make a learner understand the point at which he or she has arrived, it must remind him or her of the goal to be achieved, and it must show him or her what step to take to proceed toward it.

Formative assessment: Form of verification carried out in itinere, such as in the course of an explanation, which is intended to take stock or redirect the learner toward the final goal.

Individualized Educational Plan: Is prepared by support and curricular teachers, in consultation with health professionals and the family. It describes the mutually integrated and balanced interventions prepared for the pupil with disabilities for the purpose of realizing the right to education, instruction and school inclusion. Such educational choices take into account diversity as a quality and not as a deficit.

Kinesics: A branch of semiotics that analyzes human gestures understood as a form of signification. It is divided into microkinesics and macrokinesics. Microkinesics concerns “micro” behaviors, particularly those of the face (facial expressions, visual behavior, particularly gaze). Macrokinesics concerns posture and gestures as indicative elements of status, attitudes toward self and feedback in interpersonal communication.

Learning environment: Constructivist concept indicating a complex of apparatuses - conceptual, psychological and social (even before technological and instrumental) - suitable for facilitating the occurrence of learning processes through authentic experiences, forms of problem solving, collaborative activities with multi-perspective views of the aspect studied.

Peer tutoring: Means “mutual support” and derives from the tradition of collaborative learning, which today assumes great importance particularly within 'learning environments. It has its roots in the nineteenth-century tradition of mentors and mutual teaching but also in the common-sense knowledge that helping interactions between peers can be educationally useful. This is true, as recent research has confirmed, not only because of the benefits received by the helped peer but also because of the enrichment in terms of mastery and awareness that accrues to the more experienced companion.

Phonological loop: Maintains, in the short term, acoustic-verbal information. It is characterized by a phonological store and a process of “rehearsal” (subvocal repetition) that serves to keep the information in the phonological store “active”.

Problem-solving: It concerns all situations in which the subject senses a gap between the actual situation and a desired situation and the mind is activated to overcome it. Interest in learning as problem solving has

been central to both the Deweyan and Gestalt traditions, also giving rise to educational orientations based on learning by discovery or insight. Today, problem solving receives much attention in the international debate: the ability to solve problems is counted among the key competencies and skills for the life.

Proxemics: A discipline that studies the position between bodies and the distances between people during communication, as well as the way in which spaces and distances of people to each other and also in relation to objects come to be adjusted.

Rigidity: Inability to extend a knowledge to situations other than that of acquisition, that is, to adapt to the mutability of reality.

Summative assessment: A final assessment that has the function of certifying learning and awarding a merit judgment, usually on a numerical basis.

Visual-spatial sketchpad: Concerns the storage and processing of visual and spatial information as well as mental images.

Working memory: In the cognitivist approach, a system that performs important mental activities of integration, coordination and manipulation of incoming information. These activities, enabled and governed by the central executive, are divided into two independent lines of processes, concerning verbal and visual-spatial information. Working memory constitutes the active part of the memory system and is closely related to attention and consciousness. As it stands, it consists of four independent subsystems.

Resources

Video conferences/tutorials/lessons available online:

Costruzione di percorsi di apprendimento aperti. In this video, we present an example of how training courses are designed using content available online: <https://www.youtube.com/watch?v=X2nwE3fakHk> (Italian).

Flipped teaching approach to case-based learning:

<https://www.youtube.com/watch?v=w6lfuc9IAH8> (English)

Problem-based learning:

<https://www.youtube.com/watch?v=-1TTglZVVDU> (English)

Effective teaching methods and ID:

<https://www.mentalhelp.net/intellectual-disabilities/effective-teaching-methods/> (English)

Inclusive teaching strategies:

<https://teaching.cornell.edu/teaching-resources/building-inclusive-classrooms/inclusive-teaching-strategies#:~:text=Inclusive%20teaching%20strategies%20refer%20to,which%20students%20feel%20equally%20valued> (English)

Sirem Società Italiana Ricerca Educazione Mediale, Metodologie didattiche innovative e utilizzo di tecnologie nella didattica:

https://youtu.be/h6VKMyEv35A_ (Italian)

Le basi metacognitive dell'apprendimento. Videolezione di Rossana De Beni - 1° parte: <https://youtu.be/DfQak4FWpVA> (Italian with English (and other languages) automatic translation available)

Harry Kanasa - Griffith University, Queensland, Australia, Collaborative learning strategies: https://youtu.be/vjK_Sc5utsk (English)



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Presentation by the Department of Foundations of Education's Scholar in Residence Dr. Robert A. Slavin, titled "Cooperative Learning: Making Groupwork Work," delivered April 26 at Oliver Hall:

<https://youtu.be/agTGdOZ6PsE> (English)

Tools

Some ideas: observation protocols to be provided to teachers and guidelines on procedures for adapting the curriculum of a teacher's discipline using UDL principles and for organizing evaluation activities.

Videos on learning facilitation strategies that can also be implemented in higher education and university:

<https://epale.ec.europa.eu/en/blog/facilitating-access-education-adults-intellectual-disabilities-why-fully-inclusive-models-work> (English)

Reading Instruction for Students with Intellectual Disabilities

<https://www.youtube.com/watch?v=ePdeV6v5FHg> (English)

Intellectual Disability - Inclusive Teaching – ADCET: Austed discussions during 2014 highlighted the challenges that students with an intellectual disability can experience at university level.

<https://www.adcet.edu.au/inclusive-teaching/specific-disabilities/intellectual-disability> (English)

Paper describing research-based best practices that suggest how to adapt existing video clips featuring academic content: Evmenova, A. S., & Behrmann, M. M. (2011). Based strategies for teaching content to students with intellectual disabilities: Adapted videos. *Education and Training in Autism and Developmental Disabilities*, 315-325. (English, open access)

Tips

Add advice to work with people with intellectual disabilities. It can be related to the topic, module or whole course.

Besides the suggestions already mentioned in the previous points, we discuss the usefulness of a functional use of ICT.

ICT is an important resource for students and universities to support lessons and promote the inclusion and access of students with ID to activities and teaching materials.

New technological approaches:

<http://crea-sansebastiano.org/IT/articolo.php?id=210&t=nuovi-approcci-tecnologici-a-sostegno-dell-accessibilita-della-comunita-per-persone-con-disabilita-intellettive-e-cognitive> (Italian)

Teaching practical tips for special education teachers:

<https://therapytravelers.com/strategies-teaching-students-intellectual-disabilities/> (English)

Important texts, events or cites to include as curiosity.

Kubiak, J. (2015). How students with intellectual disabilities experience learning in one Irish university. *Irish Educational Studies*, 34(2), 125–143. <https://doi.org/10.1080/03323315.2015.1025532>

Moore, E. J., & Schelling, A. (2015). Postsecondary inclusion for individuals with an intellectual disability and its effects on employment. *Journal of Intellectual Disabilities*, 19(2), 130–148: https://trace.tennessee.edu/utk_theopubs/15/

Let's Talk About Intellectual Disabilities: Loretta Claiborne at TEDxMidAtlantic – YouTube:

https://www.youtube.com/watch?v=0XXqr_ZsMg (English)

Teaching Students with Intellectual Disabilities /Developmental Disabilities College Ready Skills: <https://www.youtube.com/watch?v=FDGt9hek8J0&t=4306s> (English)

Six Myths About People With Intellectual Disabilities - YouTube <https://www.youtube.com/watch?v=6SJvvA4619Q> (English)

Links

- Literacy instruction for students with intellectual and developmental disabilities:
<https://milnepublishing.geneseo.edu/steps-to-success/chapter/9-literacy-instruction-for-students-with-intellectual-and-developmental-disabilities/> (English)
- ID and language disorder:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5801738/> (English)
- The Effects of a Computer-Aided Listening Comprehension Intervention on the Generalized Communication of Students with Autism Spectrum Disorder and Intellectual Disability:
<https://journals.sagepub.com/doi/10.1177/0162643419832976> (English)
- Communication from the Commission to the Council and the European Parliament. Improving the Quality of Teacher Education, Brussels, 3.8.2007:
<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52007DC0392> (English)
- Savery, J. R. (2015). Overview of problem-based learning: Definitions and distinctions. Essential readings in problem-based learning: Exploring and extending the legacy of Howard S. Barrows, 9, 5–15:
<https://docs.lib.purdue.edu/ijpbl/vol1/iss1/3/> (English)
- Debate:
<http://heart-of-europe.org/> (English)
<https://hilt.harvard.edu/news-and-events/events/debate-as-pedagogy-practices-tools-and-examples-from-harvard-faculty/> (English)
- Yang, C. H., & Rusli, E. (2012). Using debate as a pedagogical tool in enhancing pre-service teachers learning and critical thinking. *Journal of International Education Research (JIER)*, 8(2), 135–14

<https://www.researchgate.net/publication/298909772> Using Debate As
A Pedagogical Tool In Enhancing Pre-
Service Teachers Learning And Critical Thinking

- Bohning, K. (2000). Curricular and instructional adaptations for special needs students in the general education setting.
<https://scholarworks.uni.edu/cgi/viewcontent.cgi?article=1373&context=grp#:~:text=Curricular%20adaptations%20are%20defined%20as,Udvari%2DSolner%2C%201992> (English)
- Algahtani, F. (2017). Teaching students with intellectual disabilities: Constructivism or behaviorism?. Educational Research and Reviews, 12(21), 1031-1035.
<https://academicjournals.org/journal/ERR/article-full-text-pdf/118EAB166524.pdf> (English)
- Teaching special education:
<http://www.projectidealonline.org/v/teach-special-education/> (English)
- New college program for students with intellectual disabilities:
<https://www.youtube.com/watch?v=cYY2zQFVhA8> (English)
- Matthew Williams (TEDxVancouver), How much do you know about intellectual disabilities?
<https://www.youtube.com/watch?v=BURbLmQL1BE> (English)
- International Classification of Functioning, Disability and Health (ICF):
<https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health> (English)
- Embodied cognition:
<https://www.youtube.com/watch?v=HW0JnjgCO3o> (English)

Introduction

The American Association on Intellectual and Developmental Disabilities (AAID) provides the following definition for an intellectual disability:

“A disability characterized by significant limitations in both **intellectual functioning** and in **adaptive behaviour**, which covers many everyday social and practical skills. This disability originates before the age of 18.” (AAID)

Intellectual functioning refers to general capacities such as learning, reasoning, problem solving, while adaptive behaviour is the collection of conceptual, social and practical skills that are learned and performed by people in their everyday lives. An important component is that of social skills.

We often narrow down intelligence to the intelligence quotient (IQ), solely based on abstract thinking. Intelligence in itself, however, is not only limited to abstract thinking or problem solving, but is also expressed in terms of emotional intelligence. Emotional intelligence is part of a larger concept: social intelligence.

Students with intellectual disabilities require a focus not only on their cognitive emotional needs, but also on their emotional intelligence and level of emotional development. These last two factors will, in turn, influence the students' cognitive performance and learning.

Studies have shown that people with intellectual disabilities often struggle with adaptive behaviour, more specifically with social and emotional skills. This can lead to problematic or even aggressive behaviour towards family and caregivers. Above all, people with intellectual disabilities are at higher risk of displaying challenging behaviour (Zijlmans, Embregts, Gerits, Bosman & Derksen, 2011).

Another problem that can emerge is that students with intellectual disabilities are frequently being under- or overestimated, which can lead

to a mismatch between teachers' expectations and the ability of the student. Tension in the relationship between teacher and student may subsequently arise, with a possibility of displaying problematic behaviour due to a reduced tolerance or frustration. This can, as a result, lead to negative expectations from the teacher, creating a negative vicious cycle.

Last but not least, a relationship exists between the level of someone's emotional intelligence and his or her academic success: higher levels of emotional intelligence are shown to lead to a higher academic success. (Ferando et al., 2010; Swanepoel & Brits, 2017)

In order to understand this behaviour, it is important to have enough knowledge about the emotional intelligence of students with an intellectual disability. Furthermore, research has shown that emotional intelligence can be influenced by multiple factors, implying that teachers can train their own emotional intelligence and thus influence the emotional intelligence of their students, possibly resulting in a better relationship with the students.

After going through this paper:

- You will gain knowledge about the concept of emotional intelligence and concepts closely linked to emotional intelligence
- You will have knowledge about the specific characteristics of emotional intelligence in students with intellectual disabilities
- You will gain insight into your own level of emotional intelligence
- You will gain insight into how your own emotions and emotional intelligence have an influence on the relationship with your students, especially with students with ID.

Background of the topic

The concept of emotional intelligence is not new and many people tend to have a 'natural feeling' of understanding what it really means. The concept of emotional intelligence has gotten more and more attention over the course of the last decades. A possible explanation for this increased interest and attention is that it has the potential to explain existing differences between individuals (Van Heck & Brenda, 2010). There is, however, not one conceptual definition: there are multiple definitions that describe the concept of emotional intelligence, each one of them with specific characteristics. A short overview will be provided of these different definitions and conceptualisations of emotional intelligence.

In short, we can make a distinction between two major trends within the different ways of defining emotional intelligence. The first way is to operationalise emotional intelligence as an ability (= ability models). The second way is to define it as a mix of several traits (= mixed models).

One of the first ground-breaking definitions of emotional intelligence was formulated by Salovey en Mayer (1990). According to their definition, emotional intelligence is an ability and is part of social intelligence. According to Salovey & Mayer, emotional intelligence consists of three components:

1. the ability to monitor one's own and others' emotions
2. to discriminate among them
3. to use the information to guide one's thinking and actions (1990, p 433).

Another definition of emotional intelligence is the one formulated by Bar-On (1997), stating that emotional intelligence is a set of non-cognitive skills necessary to cope with environmental demands. Later, Petrides & Furnham defined emotional intelligence as emotion-related

perceptions and part of the personality hierarchy (2001). These definitions are more in line with the trend of defining emotional intelligence as a personality trait (mixed models).

Despite the fact that there are differences in ways to look at the concept of emotional intelligence, depending on a trait or ability view, they both emphasise emotion-regulation as a core of emotional intelligence (Van Heck & Brenda, 2010). Also, they both tend to correlate to social functioning and thus also with social relationships (ref). For example, emotional intelligence is linked to behaving more socially appropriate and it is also linked to more prosocial behaviour in children and adaptive behaviour in adults.

Regardless of the different accents in both models, they share the idea that apart from IQ and cognitive skills, emotional skills are also important to experience success in life. The concept of emotional intelligence thus refers to a set of skills, which are formed through the social-emotional development of people with intellectual disabilities. The developmental dynamic approach offers a framework to understand emotional development. According to Dosen (2005), emotional development is part of the personality development and four different dimensions can be distinguished: the biological dimension, the psychic dimension, the social dimension and the developmental dimension.

These dimensions are all interrelated and influence each other. Personality development is the result of these four different aspects. Children with intellectual disabilities go through the same developmental stages, but in a slightly different way: the speed of development can vary or they can have a different kind of growth, compared to people without intellectual disabilities. This is why it is of great importance to always assess the level of emotional development of the student with intellectual disabilities, in order to make sure that the correct dynamics can exist in the relationship between teacher and

student. In addition, it is shown that the level of ED is amongst the most important predictors for challenging and aggressive behaviours among people with ID (Sappok 2013).

Another theory that discusses the concept of emotional intelligence is Gardners' theory of multiple intelligences (1983). In this theory, Gardner states that there is no such thing as one form of intelligence, but rather that there are multiple forms of intelligence. He described the concept of intelligence as a person's potential, that can be influenced by several factors, such as culture.

The different types of intelligence are distinguished as follows: Linguistic intelligence; Logical – mathematical intelligence; Spatial intelligence; Musical intelligence; Bodily-Kinesthetic intelligence; Naturalist intelligence and last but not least: Personal intelligence, which includes interpersonal feelings (understanding emotions and feelings in other persons) and Intrapersonal intelligence, i.e. the understanding of one's own emotions and feelings. Although Gardner understands the latter two as two different concepts, they cannot be understood and interpreted separately. The same applies to all concepts: Gardner considers them to be different, but they cannot function separately from each other. This also has implications for the classroom and teaching practices: all types of intelligence need attention in order for someone to develop them fully. No individual has the same amount of skill in the different intelligences. This causes different learners to have different learning styles. As a teacher, it is important to gain insight into these learning styles and, as much as possible, to adapt to them.

Last, the concept of emotional intelligence is linked to several concepts of quality of life, such as the ability to cope with stress or a sense of self-efficacy (Ciarrochi, Deane & Anderson, 2002). Not only is emotional intelligence important for mental health, a link has been found between

emotional intelligence and physical health. For example, people who tend to score low on emotional intelligence can experience more cardiovascular complaints (Salovey, 2001). Similarly, people who tend to have more attention for their own emotions show different levels of cortisol and blood pressure. (Salovey et al., 1995).

The development of emotional intelligence skills starts early in a child's development stage. By interacting with parents and maybe even siblings, children learn to recognise their emotions, respect them and adapt them to a certain social situation. Early life experiences are very important in the development of emotional intelligence (Kothari, Skuse, Wakefield & Micali, 2013).

Specific concepts

A few concepts are closely linked to the topic of emotional intelligence. In this section, we briefly discuss them and discover how they are related to emotional intelligence.

- **Emotion regulation** was defined by Eisenberg & Spinrad as

“the process of initiation, avoiding, inhibiting, maintaining or modulating the occurrence form, intensity, or duration of internal feeling states, emotion-related physiological, attentional processes, motivational states, and/or the behavioural concomitants of emotion in the service of accomplishing affect-related biological or social adaptation or achieving individual goals” (2004, p.33).

When growing older, children learn to use strategies to control their emotions and also how to regulate the expression of their emotions. This is of great significance, because this is necessary if they want to achieve a certain goal (Cole et al., 2004). Children getting better at regulating their own emotions, and, as a consequence, the skills to maintain and enhance their social relationships, is a process called socio-emotional regulation.

- **Emotions:** Even though there is consensus about the fact that there are different kinds of emotions - basic emotions (fun, fear, anger and social interest) and more elaborate emotions (sadness, love, empathy, fear of failure) – different models to define them were proposed. The basic emotions are present at birth, but the more elaborate emotions arise when one goes through the process of emotional development and the educational process. Complex emotions also depend on educational and cultural influences, as

well as the models provided by the adult (Morisse , De Neve & Dosen, 2019).

- **Emotional responses:** In general, emotions serve two main functions: an adaptive function, in which emotions help us to react to events and may also prepare us to take action. A second function is that emotions provide information to others about how we feel about certain things.
- **Emotional components:** Emotions consist of three components: neurophysiological (heart rate, sweating, breathing, blood pressure), cognitive (an experience/feeling that allows the emotion to be named) and a behavioural component (tone of voice, facial expression, body movements etc). Knowledge about these components of emotions allows us to learn something about what we feel and also allows us to manage how we will (re)act. By knowing these components of emotions, a teacher can obtain information about students' emotions and what they are feeling at a specific moment (Bisquerra, 2004).
- **TOM** (known as Theory Of Mind) refers to a cognitive ability. It is the ability to understand one's own mental state and emotions and that from others. In order to be able to understand another person's emotions, it is important to take another perspective. In other words: Theory Of Mind refers to the ability to put yourself in someone else's place in order to understand why someone is reacting in a specific way. One way to assess this Theory Of Mind is by the use of a 'false belief' task. In addition, Theory Of Mind has been linked to the concept of social intelligence, rather than general intelligence (Rajkumar, Yovan, Rayeendran & Russel, 2008).



- **Social intelligence** was defined as the ability to respond to people in a correct and adequate way in order to interact with them in a responsive way. The core of this definition lies within social sensitiveness, social attitudes and the understanding of people (Kang, May & Meara, 2005). Evidently, there is great overlap with the concept of emotional intelligence since the concept of emotional intelligence can be looked at as a subcomponent of social intelligence.
- **Social information processing** (also known as SIP) has been proposed as a concept of sequential steps by Crick & Dogdge (1996). They describe the social information process as the process of encoding and interpreting information in a situation to determine goals and meet them with an adequate response, based on an evaluation of this response. The importance of this model lies within the possibility to explain individual differences based on individual differences in processing these different steps (Crick & Dodge, 1996). Even more, the SIP-model can provide an explanation for aggressive behaviour in people.

In general, we could describe all of these skills as **social-cognitive skills**, necessary to process social information in order to adequately react and behave in a certain situation. These skills include understanding and recognising emotions, recognising facial expressions, and the ability to look at situations from one another's perspective (TOM) (Van Nieuwenhuijzen, Vriens, Scheepmaker, Smit & Porton, 2011).



Special needs for people with ID about the topic

Students with intellectual disabilities can encounter some difficulties in classroom, due to the fact that they have some characterizing difficulties and needs, related to their level of emotional intelligence. As mentioned above, people with intellectual disabilities encounter more difficulties when it comes to social-cognitive skills, sometimes leading to problematic or risk behaviour (Sappok, 2013; Zijlmans et al., 2011). Not every individual will have the same difficulties, so it is very important to have good knowledge about and insight into the student and his or her level of functioning.

Students with an intellectual disabilities often show a **disharmonic developmental profile**, implying that not every aspect of their development has developed to the same extent. An important remark is that the level of emotional development is not often in line with the level of general intelligence development. As a consequence, students with an intellectual disability are often misunderstood and they seem to be able to do more than they actually can. Following this impression, family, friends, caregivers or even in this case, teachers, can develop expectations that are far from realistic, which in turn can lead to fear of failure or even feelings of frustration when not meeting these expectations (Douma, 2018).

Besides experiencing high and often unrealistic expectations from teachers or caregivers, it is possible that the student with intellectual disabilities may also have high and unrealistic expectations of himself. A possible explanation lies within the fact that people with intellectual disabilities have more difficulties with **self-reflection**. As a consequence, it is possible that they will be confronted with their own limits, which in turn can again lead to negative feelings or even fear of failure, as mentioned above (Vermeer, Lijnse & Lindhout, 2004). To conclude, the

risk of setbacks and fear of failure is high in people with intellectual disabilities. It thus not unlikely that students with an intellectual disability have a rather **negative self-image** (Jochemsen & Berger, 2002). The problem, however, resides within the fact that it is possible that students will not show this to other people, often resulting in behaviour that doesn't match with the students self-image, again increasing the risk of creating expectations that do not fit with the actual level of competence of the student. Therefore it is highly recommended to have a good understanding of the student with intellectual disabilities. Talking to parents or caregivers can provide you with a lot of information that you need to be able to set adequate goals and expectations for that student in particular.

With regard to **emotions and emotion regulation**, children with intellectual disabilities experience more difficulties with identifying and recognising their own emotions as well as feelings and emotions in others. This is not only the case for verbal information, also non-verbal information (i.e. facial expressions) is more difficult to identify and recognise for students with intellectual disabilities (Wood & Stenfert Kroese, 2007). In addition, children with intellectual disabilities experience more difficulties with taking and understanding someone else's perspective, related to the concept of Theory Of Mind.

Research has shown that children with intellectual disabilities have a different way of processing information in social situations (i.e. **social information processing**), compared to children without intellectual disabilities. For example, children with intellectual disabilities tend to select more negative information and they have less assertive problem solving skills or have a narrower attentional focus, so they lose a lot of information to understand the emotional and relational dynamics of a situation (Van Nieuwenhuijzen, Orobio de Castro, & Matthys, 2006). This

way of social information processes provides an explanation for the possible aggressive behaviour posed by people with intellectual disabilities.

Because of the fact that children with intellectual disabilities experience difficulties in their **social skills**, they often get rejected by their peers and they also experience difficulties in establishing and maintaining **social relationships** (Freeman, 2000). When students participate in higher education, it is important to monitor the social wellbeing of the student with intellectual disabilities. In this case, it can be a good idea to work with a buddy system in which the student with intellectual disabilities is supported by one or two peers. This way, the student with intellectual disability can build a social relationship with peers and those peers can help in different kinds of situations, including situations in which the student encounters social difficulties. Not only will this be helpful for the student with intellectual disabilities, but it is also proven that providing students with support can have beneficiary effects for the supporting peers (Kleinert, Jones, Sheppard-Jones, Harp & Harrison, 2012).

Methodological proposals

In 2000, Jawary stated that true inclusion can only succeed when students have the necessary social and emotional skills to manage social interactions between students, teachers, etc. An inclusive environment has emphasis on support, a clear value structure and has the necessary resources in order to realise this kind of environment. Interventions with a shared emphasis on both social-emotional and academic learning have the best outcomes of supporting student with learning disabilities, and thus possibly students with intellectual disabilities also (Jawary, 2000).

In addition, Elias highlighted the importance of the learning environment in which caring relationships are built between teachers and students, in order to help developing the necessary social-emotional skills (Elias, 2004). Because of the characteristics of people with intellectual disabilities (limitations in both **intellectual functioning** and in **adaptive behaviour**) there is a potential risk that (behavioural) problems will occur. The extent to which supervisors, in this case teachers, deal with students with an ID, is very decisive in this respect. It is therefore important that teachers create a **safe learning climate** for all students. The following elements are important in creating a safe educational context:

1. offering emotional support and sensitive responsiveness;
2. creating autonomy and space for learning and development;
3. structuring and setting boundaries;
4. providing and explaining information;
5. supervising interactions between peers (Jongepier, Struijk & Helm, 2010).

Supporting emotional intelligence in teachers

Research has shown that the level of emotional intelligence of caregivers or teachers can have an influence on the behaviour of the student with intellectual disabilities. This influence can be both positive or negative, depending on the level of emotional intelligence of the teacher. In addition, the level of emotional intelligence of a teacher is also linked to the level of competence, well-being and a feeling of self-efficacy (Hen & Sharabi, 2014).

Teachers often don't feel prepared enough to teach students with intellectual disabilities and it is possible that they experience a range of emotions that can cause work-related stress. However, in order to be able to do their job, it is required that they can regulate these emotions and this is where emotional intelligence comes in (Brackett & Katulak, 2006). Multiple studies have shown that training programs can have a positive effect on the emotional intelligence levels of teachers. These training programs have a common structure that is based on three components: knowledge of emotional intelligence, a focus on the relationship with stress, self-regulation and relationships and finally strategies to increase emotional intelligence such as role plays, simulations and discussions (Brackett & Katulak, 2006).

In their workshop, Brackett & Caruso (2005) mention one specific tool teachers can use to monitor their emotions, the **emotional intelligence blueprint**. The blueprint is based on the model of emotional intelligence and it follows all necessary steps, starting from perceptions of an emotion and ending with managing this emotion. By posing questions that are related to each step in the emotional intelligence model (emotion perception, the use of emotion, understanding the emotion, managing the emotion), teachers are encouraged to reflect upon their emotions and emotion regulation strategies. They are encouraged to reflect on the effectiveness of their used regulation strategies and also to

think about other possible regulation strategies. Not only can this tool be used by teachers, it is also something that can be used by the students, with a little support from a peer, family or the teacher himself.

Next, Brackett & Caruso (2005) state that it is of great significance to practice the different skills related to emotional intelligence. They propose four activities, based on the separate skills:

1. Emotion perception: write down (for a few days) which emotions you felt during certain events. Try to think about the emotions other people would have felt that day and why. By doing so, teachers will automatically pay more attention to one's own emotion and the (possible) emotions from others.
2. Using the emotion: think about your environment and how this can affect your emotion and motivation. Also think about the impact your environment has on the way you teach and interact with others. How does your environment affect your mood? What about upcoming activities? Think about ways to influence the emotions and moods of students in upcoming situations.
3. Understanding the emotion: think about a recent emotion. Think about what caused the emotion, how intense the emotion was, how long it lasted, how it ended. Reread this experience and try to think about causes of the emotion and why the emotion faded or went away.
4. Managing the emotion: think about a negative emotion you experienced at work, the trigger, the used strategies to deal with the emotion and how effective this strategy was. After that, think about possible other strategies to manage this emotion in order to evaluate the effectiveness of the used strategy to manage this emotion.

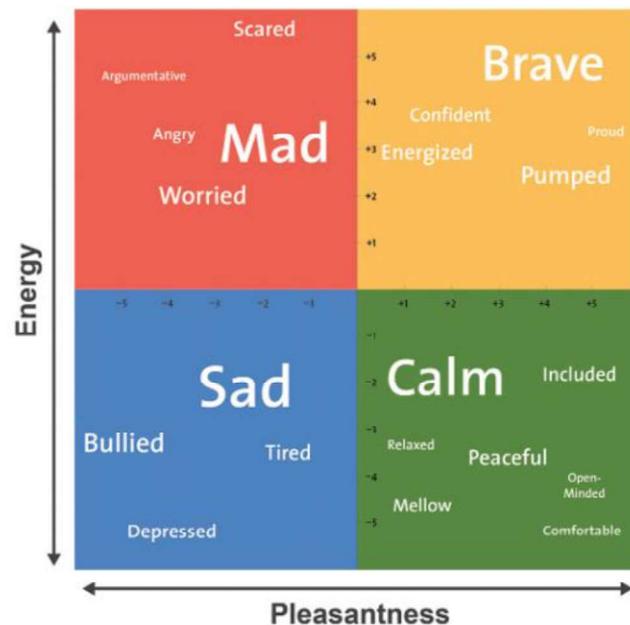
Supporting emotional intelligence and emotion-regulation strategies in students

It is not unimaginable that students with intellectual disabilities will experience a spectrum of emotions when attending university classes. These can fall within the range of fear of frustration, especially when the information given in class is unclear or they don't know what is expected from them.

Given the aforementioned fact that students with intellectual disabilities are less skilled in emotion regulation, the fact that they experience these kinds of emotions and that they are not (or not adequately) capable of identifying and recognising these emotions can lead to frustrations. It can even negatively impact the learning process. Normally, we would also expect students to regulate their own emotions, but students with intellectual disabilities have been proven to be less capable to self-regulate their emotions. Hence, they will need help from a teacher or maybe a peer to identify what is going on and how the problem can be solved or supported.

One way to support this process of self-regulation and recognising their own emotions exists in using the **'personal thermometer' or a mood thermometer (figure 1)**. This is a visual tool in which students have the chance to indicate how they are feeling to the teacher. Furthermore, the teacher can then support the student in regulating this emotion by providing the necessary prompts to the student. Different variants also exist, for example: an emotion wheel. Most importantly, do not exclusively focus on negative emotions, but also pay attention to positive emotions.

Depending on the age of children/students and the abilities, the mood thermometer can be used in different ways of complexity. You can only focus on the 4 emotions with corresponding colours, but as age and abilities increase, students can use the metric system, including more



vocabulary, to recognise and express their own emotions.

Figure 1: example of the mood thermometer. (from: <https://www.naeyc.org/resources/pubs/yc/mar2017/teaching-emotional-intelligence>).

It is important that the student with ID knows how to use this tool, but even more important: it has to be clear for the teacher what is expected of him or her when a student points out that he is feeling very frustrated, in order to react adequately. By using this tool, students get a better view on their own emotions, but also gain insight in which emotion regulation strategies they can use in which situations. This technique has been proven to be effective in classrooms (Elias, 2004).

Some basic aspects can be mentioned in how teachers can generally improve emotional intelligence of students by using their own behaviour as an example for the students (ISTE, n.d.) First of all, it is important to encourage students to make **eye contact** while having a conversation

with someone. This will help to connect and also makes people feel validated. Second, try to match emotion and behaviour and show this by means of your **facial expressions**. Facial expressions have proven to be a good indicator of emotions, that students and thus also students with ID can relate to. Third, pay attention to **posture** of students and let them relate to this. For example: if a student is sitting behind his or her desk, not sitting up straight, it is possible that something is bothering the student. Talk about what you notice and ask the student if something is wrong. This can help students to see the relationship between what is said and also what is not said (mimic and posture). Fourth, name the emotion you (think) you notice. Fifth, like mimic and posture, pay attention to **the tone of voice**, since this can also provide you information about the emotion someone is experiencing. If this helps, you can also practice this, or use simple examples to explain the importance of someone's tone of voice. Sixth, as a teacher it is important to **listen**. Don't listen in order to answer directly, but listen to understand. Seventh, don't always respond in order to provide people with advice or solutions, sometimes **people just want to be heard** and are not waiting for advices or possible solutions.

More general tips can be mentioned in order to be a role model as a teacher, but also how to enhance the emotional intelligence in students:

- **Talk about emotions and feelings** and make sure to visualise this with a tool that you agreed upon with the student. By providing opportunities to talk about emotions that a student (or even you as a teacher) possibly felt during a class or during a day, you express the importance of emotions and that it is okay to have them. In this way, students can get more opportunities to recognise and identify their emotions and by talking about it, they can gradually become better at identifying them.

- **Talking about emotions** does not necessarily mean that you have to accept a certain **behaviour**. When an event occurred in which the student posed difficult or 'unadapted' behaviour, it is necessary to talk about this and to highlight the difference between the emotion and the behaviour itself (i.e. the strategy to manage this emotion). In this way, students will gradually get more insight in how they managed their emotions and how (in)effective these strategies are.
- **Provide opportunities for self-reflection**. For example, let the student reflect after attending a class or after attending several classes. By asking questions, the students will have to think about past events, things that went well and things that were difficult, ...
- **Use a social story** to talk about a specific situation that was important for students. Social stories are stories in which a specific situation is described very thoroughly. You can use an everyday situation or a situation that turned out to be a very confusing one for the student with an intellectual disabilities. By telling the story, you can highlight social cues, reactions that may occur and actions/reactions that might occur and why. By telling social stories, you can help increase the situational understanding of a student, eventually leading to socially appropriate responses. If you want to create an even more thorough understanding, try to combine the story with some visual elements (photographs, drawings, symbols, videos,...) .

- Exercises to gain more insight in one's own emotions + those of students

Emotion diary

Purpose: make sure to monitor your own emotions per day and reflect on it. Paying attention to your own emotions will eventually lead to a better insight in your own emotions, reactions, i.e. leading to an increase in your emotional intelligence.

DAY 1		
Morning	Midday	Evening
DAY 2		
Morning	Midday	Evening
DAY		
Morning	Midday	Evening

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*this exercise can be used by teachers and students as well

*Print this out, as many times as you want and be sure to keep the date – feelings/emotions.

* a possible variant is to discuss what you collected with a student/ colleague /

Talking about emotions

With this assignment you practise paying attention to the feelings of the other person and you experience the effect this has on the communication in your own work situation.

Practice in a relaxed conversation

At the start of the day, choose one relaxed conversation with someone you know well to practice the next three steps:

Step 1: Observing changes in non-verbal behaviour

Pay attention to the non-verbal behaviour of the other person. In other words, do not pay attention to what he/she says in terms of content, but rather to how he/she says something:

- Facial expression
- Physical posture
- Gestures
- Voice

Pay particular attention to the changes you observe in this respect. You will notice that if you pay attention to this for a while, you will notice more and more details.

Step 2: Assessing feelings

On the basis of the above observations, estimate how the other person feels.

- Under which of the four (Angry, Scared, Happy, Sad) would you assign his/her feelings?
- If you had to give a grade from zero to ten for the intensity of his/her feelings, what grade would you give?
- Now look for a word that you think reflects the other person's feelings most clearly.

Step 3: Feeling reflections

Name the feeling of the other. Find a suitable moment for this, for example when the other person has finished (part of) his/her story or when - in proportion - the emotion becomes more intense.

Think about the points of attention for emotional reflections:

- Give as exact a summary as possible of the other person's feelings. Leave out the content.
- Check whether you have assessed the other person's feeling correctly.
- Give your emotional reflection without judgement.
- Be sincere.

Step 4: Evaluation

- At the end of the conversation, evaluate for yourself the effect of the emotional reflection.
- On the other
- On the course of the conversation
- On your own

*Use these assignments also as a coach



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You can also use the assignments during your teaching process with students.

References of the topic

- <https://www.aaid.org/intellectual-disability/definition>
- Bisquerra, R., & Alzina, R. B. (2004). *Metodología de la investigación educativa* (Vol. 1). Editorial La Muralla.
- Brackett, M. A., & Caruso, D. (2005). *The Emotionally Intelligent Teacher Workshop*. Ann Arbor, MI: Quest Education
- Brackett, M. A., & Katulak, N. A. (2006). Emotional intelligence in the classroom: Skill-based training for teachers and students. *Applying emotional intelligence: A practitioner's guide*, 1-27.
- Ciarrochi, J., Deane, F.P., & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and Individual Differences*, 32, 197-209.
- Cole, M. P., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child Development*, 75(2), 317–333.
- Crick N. R. & Dodge K. A. (1996) Social information processing mechanisms in reactive and proactive aggression. *Child Development* 67, 993-1002
- Douma, J. (2018) Jeugdigen en (jong) volwassenen met een licht verstandelijke beperking.
- Došen, A. (2005). Applying the developmental perspective in the psychiatric assessment and diagnosis of persons with intellectual disability. *Journal of Intellectual Disability Research*, 49, 1-8.
- Elias, M. J. (2004). The connection between social-emotional learning and learning disabilities: Implications for intervention. *Learning Disability Quarterly*, 27(1), 53-63.

- Eisenberg, N., & Spinrad, T. L. (2004). Emotion-related regulation: Sharpening the definition. *Child Development, 75*, 334–339.
- Ferrando, M., Prieto, M. D., Almeida, L. S., Ferrándiz, C., Bermejo, R., López-Pina, J. A., ... & Fernández, M. C. (2011). Trait emotional intelligence and academic performance: Controlling for the effects of IQ, personality, and self-concept. *Journal of Psychoeducational Assessment, 29*(2), 150-159.
- Freeman, S. F. N. (2000). Academic and social attainments of children with mental retardation in general education and special education settings. *Remedial and Special Education, 21*, 3-20
- Hen, M., & Sharabi-Nov, A. (2014). Teaching the teachers: Emotional intelligence training for teachers. *Teaching Education, 25*(4), 375–390. DOI: <https://doi.org/10.1080/10476210.2014.908838>
- Jawary, B. (2000). Teaching to diversity: A model for the inclusion of children with developmental disabilities in Jewish Day Schools. In Coalition for Advancement of Jewish Education, *Educating Jewish children with special needs* (pp. 22-27). New York: CAJE
- Jochemsen, T., & Berger, M. (2002). *Families First voor licht verstandelijk gehandicaptten: Richtlijnen en technieken voor het werken met gezinnen*. Utrecht: Nederlands Jeugdinstituut.
- Jongepier, N., Struijk., M. & Helm, P. van der (2010). Pedagogisch handelen in de residentiële jeugdzorg: De uitgangspunten voor een goed pedagogisch klimaat. *Jeugd en Co Kennis, 4*(1), 9-18.
- Kleinert, Harold & Jones, Melissa & Sheppard-Jones, Kathleen & Harp, Beverly & Harrison, Elizabeth. (2012). Students with Intellectual Disabilities Going to College? Absolutely!. *TEACHING Exceptional Children. 44*. 26-35. 10.1177/004005991204400503.

- Kothari, R., Skuse, D., Wakefield, J., & Micali, N. (2013). Gender differences in the relationship between social communication and emotion recognition. *Journal of the American Academy of Child & Adolescent Psychiatry, 52*(11), 1148-57.
- Morisse, F., De Neve, L., & Došen, A. Emotionele ontwikkeling en verstandelijke beperking vanuit ontwikkelingsdynamisch perspectief: state of the art1.
- Nieuwenhuijzen, M. van, Vriens, A., Scheepmaker, M., Smit, M., & Porton, E. (2011). The development of a diagnostic instrument to measure social information processing in children with mild to borderline intellectual disabilities. *Research in Developmental Disabilities, 32*, 358-370.
- Salovey, P., & Mayer, J.D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9*, 185-211.
- Sappok, T., Budczies, J., Dziobek, I., Bölte, S., Došen, A., & Diefenbacher, A. (2013). The missing link: Delayed Emotional development predicts challenging behavior in adults with intellectual disability. *Journal of Autism and Developmental Disorders, 44*(4), 786-800.
- Rajkumar, A. P., Yovan, S., Raveendran, A. L., & Russell, P. S. S. (2008). Can only intelligent children do mind reading: The relationship between intelligence and theory of mind in 8 to 11 years old. *Behavioral and Brain Functions, 4*(1), 51.
- Salovey, P. (2001). Applied emotional intelligence: Regulating emotions to become healthy, wealthy, and wise. In J. Ciarrochi, J.P. Forgas, & J.D. Mayer (Eds.), *Emotional intelligence in everyday life: A scientific inquiry* (pp. 168-184).
- Swanepoel, S., & Britz, L. (2017). Emotional Intelligence and Academic Performance. *Alternation Journal, (20)*, 171-188.



- van Heck, G. L., & Brenda, L. (2010). Emotionele intelligentie en de relatie met stress, gezondheid en welzijn. *Psychologie & gezondheid*, 38(5), 209-223.
- Van Nieuwenhuijzen, M., Orobio de Castro, B., & Matthys, W. (2006) Problematiek en behandeling van LVB jeugdigen. Een literatuurreview. *Nederlands Tijdschrift voor de Zorg aan mensen met verstandelijke beperkingen*, 32, 211-228.
- Vermeer, A., Lijnse, M., & Lindhout, M. (2004). Measuring perceived competence and social acceptance in individuals with intellectual disabilities. *European Journal of Special Needs Education*, 19, 283-300.
- Wood, P. M., & Stenfert Kroese, B. (2007). Enhancing the emotion recognition skills of individuals with learning disabilities: A review of the literature. *Journal of Applied Research in Intellectual Disabilities*, 20, 576-579.
- Zijlmans, L. J. M., Embregts, P. J. C. M., Gerits, L., Bosman, A. M. T., & Derksen, J. J. L. (2011). Training emotional intelligence related to treatment skills of staff working with clients with intellectual disabilities and challenging behaviour. *Journal of Intellectual Disability Research*, 55(2), 219-230.

Glossary

Inclusive education: Education for all children and students. All children and students can attend the same schools and no exceptions are made based on any challenges students may have.

Reasonable accommodations: Assistance or adaptations in order to make sure a student can participate to the fullest, despite having a disability.

Self-image: The image one has about oneself, how you picture yourself in your head. Students with intellectual disabilities are at an increased risk to have a more negative self-image. This often results from a mismatch between their skills and the tasks/requirements they are given.

Teaching strategies: Instructional strategies, specific methods that are being used to teach course material to students.



Resources

- A short and easy video about the concept of EI □ this can be used by both teachers to increase their knowledge, but they can also use this video with the students themselves to teach something about emotional intelligence: <https://www.youtube.com/watch?v=n9h8fG1DKhA>
- So both the questionnaire and video can be used first by the teacher alone (to gain more insight) and secondly, it can be used by a teacher who uses this to teach a student about his/her own emotional intelligence

- Bierman, K. L., Cole, J. D., Dodge, K. A., Greenberg, M. T., Lochman, J. E., McMahon, R. J., & Pinderhughes, E. (2010). The effects of a multiyear universal social–emotional learning program: The role of student and school characteristics. *Journal of Consulting and Clinical Psychology, 78*, 156-168
- Brackett, M.A., S.E. Rivers, & P. Salovey. 2011. “Emotional Intelligence: Implications for Personal, Social, Academic, and Workplace Success.” *Social and Personality Psychology Compass 5* (1): 88–103.
- Eggum, N.D., N. Eisenberg, K. Kao, T.L. Spinrad, R. Bolnick, C. Hofer, A.S. Kupfer, & W.V. Fabricius. 2011. “Emotion Understanding, Theory of Mind, and Prosocial Orientation: Relations Over Time in Early Childhood.” *The Journal of Positive Psychology 6* (1): 4–16.
- Salovey, P., & J.D. Mayer. 1990. “Emotional Intelligence.” *Imagination, Cognition, and Personality 9* (3): 185–211



Tools

Start the module with a **short questionnaire** to gain more insight in one's own EI: https://www.mindtools.com/pages/article/ei-quiz.htm?utm_source=youtube&utm_medium=video&utm_campaign=emotionalintelligence&utm_content=description

This is a questionnaire that can also be used with students together.

Also a useful questionnaire to gain insight in one's own EI- strengths.

https://www.drugsandalcohol.ie/26776/1/Emotional_intelligence_questionnaire-LAL1.pdf

Tips

With regard to teaching to students (or children) with intellectual disabilities, some accommodations can be made to enhance the learning process. These accommodations can be made in 5 areas:

1. scheduling (e.g., giving the student extra time to complete an assignment or test)
2. setting (e.g., having the student work in a small group or with a partner)
3. materials (e.g., providing the student with teacher notes or taped lectures)
4. instruction (e.g., breaking a lesson up into smaller parts, having the student work with a tutor)
5. student response (e.g., allowing the student to respond orally or on a computer)

When teaching students with intellectual disabilities, it is important to keep the following in mind:

- Try to avoid an overload of information: make sure to focus on one specific topic or activity at a time.
- If possible, try to support the student one-on-one or make sure the student is accompanied by a familiar person (e.g., buddy system). Students with intellectual disabilities tend to learn better in a smaller group, with fewer external stimulations.
- Make sure to support memorization by focussing on elaborative rehearsal. After that, you can try to use some 'tips and tricks' to further enhance the learning for example: use chunking, mnemonics, clustering, to make sure that what is learned is also being remembered.



- When learning new information or acquiring a new skill, make sure to practice this not only within the educational context, but also in other settings, situations, ...
- Make sure to provide enough positive reinforcement.

However, even though these are five general domains in which you can make accommodations, the most important of all is: **make sure you focus on the needs of the individual student!** Even though students with intellectual disabilities often share the same challenges, that does not mean we do not have to pay attention to the unique abilities of an individual. Take time to get to know the student, get to know his/hers strengths, his weaknesses, find out what he/she likes and try to match their interests and skills as closely as possible.



Important texts, events or cites to include as curiosity.

- *“It is very important to understand that emotional intelligence is not the opposite of intelligence, it is not the triumph of heart over head — it is the unique intersection of both.” — David Caruso*
- *“In a study of skills that distinguish star performers in every field from entry-level jobs to executive positions, the single most important factor was not IQ, advanced degrees, or technical experience, it was EQ. Of the competencies required for excellent in performance in the job studies, 67% were emotional competencies.” — Daniel Goleman*
- *“When you listen with empathy to another person, you give that person psychological air.” — Stephen R. Covey*
- *“If we lack emotional intelligence whenever stress rises, the human brain switches to autopilot and has an inherent tendency to do more of the same, only harder. Which, more often than not, is precisely the wrong approach in today's world. “ — Robert K. Cooper*



Links

https://www.mindtools.com/pages/article/newCDV_59.htm

https://www.youtube.com/watch?v=D6_J7FfgWVc&feature=emb_logo

<https://positivepsychology.com/emotional-intelligence-exercises/>

<http://www.academicstar.us/UploadFile/Picture/2014-3/2014319223522925.pdf>

<https://strongkidsresources.com/research/social>

<https://www.understood.org/en/friends-feelings/empowering-your-child/building-on-strengths/the-importance-of-emotional-intelligence-for-kids-with-learning-and-thinking-differences>

<https://www.brighthubeducation.com/special-ed-learning-disorders/104639-modifications-for-students-with-intellectual-disabilities/>

https://www.gulfbend.org/poc/view_doc.php?type=doc&id=10365&cn=208

https://do2learn.com/disabilities/CharacteristicsAndStrategies/IntellectualDisability_Strategies.html

Introduction

When students start their higher education career, a lot of information will come to them. They have classes and practical sessions to attend, but it does not stop there. Next to attending classes and contact moments, students have to be able to process the given information independently.

Processing these large amounts of new information can be a challenge for students and many first-year students indicate that they have to look for ways to process information efficiently. Distinguishing between main points and side issues often poses a challenge. Whereas students were previously (in high school) able to succeed by memorizing all the information, it is important in higher education to be able to make a distinction between main points and side points. Research shows that students' lack of basic foundational academic skills (e.g., mathematics, writing, reading comprehension) causes an inability to manage their academic workload and maintain effective study habits. This, together with the inability to meet deadlines, was cited as the primary reasons that students dropped out (Qian, Clary, Johnson, Echternacht, 2018).

We also note that students with a learning disability are increasingly finding their way to higher education (Cnockaert et al., 2010; Watts & Van Esbroek, 2000). These students will need extra support in various areas, also in processing this great amount of information to pass the exams. Both students with and without learning disabilities can struggle with this, so we can assume that this will also be a challenge for students with intellectual disabilities. After all, studies have shown that the information processing in people with intellectual disabilities is done in a different way than by persons without intellectual disabilities. In addition, it also requires a lot of effort to study regularly and it requires a lot of planning, a skill that is often less developed in people with ID (Van der Molen et al., 2007).

Finally, studies have also shown that not only personal characteristics have an effect on students' learning strategies, but teaching strategies also play a major role. (Donche, De Maeyer, Coertjens, Van Daal and van Petegem, 2013) This makes it important to critically examine one's own teaching strategies.

Last but not least, the choice to also include a topic about study strategies can be motivated simply by the fact that a study strategy is something that can be modified and adjusted by the students themselves.

In this topic, we will briefly consider the process of information processing and the executive functions of people with intellectual disabilities. The specific challenges for people with intellectual disabilities will be discussed. Next, different kinds of study strategies will be discussed, and finally, the translation to specific needs of persons with intellectual disabilities will be made.

After going through this chapter, you will:

1. have an insight into and have knowledge about the process of information processing and executive functioning in people with intellectual disabilities;
2. have knowledge of a number of study tips and strategies, according to the specific needs of people with intellectual disabilities;
3. be able to coach these students with study tips and strategies. The use of measures to support learning and inclusion, such as the following, can help in this process:
 - the non-significant curricular adaptations;
 - psychopedagogic support;
 - the anticipation and reinforcement of learning;
 - tutorial support;
 - the frequency of the school year by subjects;



- significant curricular adaptations;
- individual transition plan;
- development of structured teaching methodologies and strategies;
- development of personal and social autonomy competences.

Background of the topic

Inclusive education has its basis in article 24 of the UN declaration on the rights of disabled persons (DRDP, 2006) stating that education should be accessible to all students and that disabilities should in no way form a barrier to participation in education. This article refers to every level of education, also implying that higher education needs to pay more attention to the educational needs of all students.

This increasing focus on inclusive higher education is reflected in the increasing number of students in higher education, and more specifically those with disabilities (Wats & Van Esbroeck, 2000). As a consequence, the student population in higher education is becoming more diverse and higher education institutions must pay attention to this diversity, by offering adequate support when needed. However, together with the increasing student numbers, another trend became evident: the increasing trend of drop-out rates from first-year students (Wats & Van Esbroeck, 2000 ; Emmers et al., 2019). As student bodies become more diverse, student needs are also becoming more and more diverse.

There was a clear need to support students in their transition from secondary to higher education. As a consequence, a European trend emerged where guidance and counselling services in higher education institutes rose. In their framework, Wats & Van Esbroeck (2000) mention four kinds of support types: support pre-entry, during entry, during courses and exit support. In light of this specific course and module, the guidance and counselling support '*during courses*' is the most relevant one, because this type of support focusses on problems students can encounter due to learning disabilities or personal problems. In these initiatives, a lot of attention is being paid towards the student's choice of study, the student's motivation as well as the way in which the student studies and processes information. The choice for these topics is not

arbitrary, because research has shown that they have a strong correlation with study success (Richardson, Abraham & Bond, 2012). For example, students can get help with learning how to plan their study time or they can get more information on how to study effectively.

Indeed, studies and research have shown that first-year university students often struggle with the amount of information and the most effective way to process this. In this light, studies about study-strategies and learning strategies are highly relevant, because a clear link has been shown with academic success. Students who struggle academically often have poor study skills. In addition, research has shown a clear link between students with learning disabilities and poorer study skills (Proctor et al., 2006).

The focus on study skills and the choice to build support around it, can be motivated by the fact that this is in fact something students are able to change. With adequate support, instruction and enough motivation, students can discover and learn new study strategies that provide them with better information processing abilities and thus a chance of higher academic performance (Richardson et al., 2012). Subsequently, Gall (1990) pointed out that teachers still have a limited share in the study process of students. Although teachers can contribute to the study process by creating ideal conditions and providing the necessary tools, the study process itself is still inherent to the student. As Vermunt stated: *“Teaching does not lead to learning automatically. Therefore teaching should be directed at encouraging students to use high-quality learning activities.”* (1996, p 25)

Universal Design for Learning (UDL) is an approach to educational design that promotes the idea of producing physical environments and tools in the school system in order to improve the experience of each and every student, including students with ID. This idea is based on the

assumption that the neuropsychological model has implications in teaching practice (CAST, 2018).

The identification of the three brain networks (Affective Networks, Recognition Networks and Strategic Networks) and the recognition of the specificity of their functioning, is the foundation of the principles and guidelines of UDL for the creation of an accessible, inclusive, flexible, and equative curricula.

The UDL's three main assumptions consist of:

- Provide multiple means of Engagement (Affective Networks - the "WHY" of learning);
- Provide multiple means of Representation (Recognition Networks - the "WHAT" of learning);
- Provide multiple means of Action & Expression (Strategic Networks - The "HOW" of learning).

The integration between the UDL framework and teaching strategies, such as measures to support learning and inclusion; functional behaviour analysis; anticipation and reinforcement of learning; teacher-made interventions, class-wide peer tutoring and curriculum modifications, can promote universal design for learning and inclusive teaching for all students, even with different levels of ID (CAST, 2018).

These guidelines offer a set of concrete suggestions that can be applied to any discipline or domain to ensure that all learners can access and participate in meaningful, challenging learning opportunities.



Specific concepts

In order to have a clear understanding of what follows, it is needed to define and explain some specific concepts, related to strategies for studying.

- **Executive functions:** executive functions can be best compared with the control processes of our human behaviour. Without executive functions, we would not be capable of controlling our own behaviour. Three important executive functions were identified by Miyake et al. (2000): *updating*, i.e. keeping information up to date, *shifting* i.e. the possibility to shift your attention to another task or subject and *inhibition*, i.e. the capability of not showing a certain behaviour even though you would automatically show that behaviour. These executive functions emerge early on in childhood and become more stable during the lifespan (Zhan et al., 2011). Executive functions are of particular interest when it comes to academic success, because many researchers believe them to be linked to the general level of intelligence. Research, however, has also shown that rather than being linked directly to the intelligence of people, executive functions are more closely related to a person's ability to learn (Maehler and Schuchardt (2009).

- **Motivation / self-determination:** a well-known framework about motivation is the self-determination theory from Deci & Ryan (2000). According to Deci & Ryan, people have three basic needs, more specifically the need for *autonomy* (=possibility to make their own choices), the need for *competence* (=possibility to do what you like and what you are good at, using your own talents) and the need to *belong* (=establishing positive relationships with other people, the feeling that you matter and are important to

someone). Only when these needs are fulfilled, people will be able to function adequately, and can be seen as truly motivated, leading to positive outcomes (Deci & Ryan, 2000, Van den Broeck, Ferris, Chang & Rosen, 2016). More specifically, multiple studies have shown an existing relationship between self-determination and positive academic outcomes, for example lower drop-out rates (Hardre & Reeve, 2003) and better performance (Vanthournout, Gijbels, Coertjens, Donche & Van Petegem, 2012). Self-determination skills are also defined as social, communication and decision-making skills; essential for navigating in higher education environments and often poorly developed in students with ID (Qian, et al., 2018).

- **Learning styles:** when it comes to learning and different kinds of learning styles, the framework as proposed by Vermunt is widely known. In an attempt to get a clear understanding and definition of learning, Vermunt (1996) stated that, in a learning process, four elements must be present: cognitive processing strategies, regulation strategies, conceptions of learning and orientations to learning. The processing strategies are those processes that help students in processing the presented information, for example: thinking about connections, thinking about main and side points, thinking about practical applications and examples about this information. The regulation strategies refer to activities and processes students use to make sure they start studying, for example: preparing to perform a certain task or planning study time. Vermunt differentiates between four different kinds of learning styles, ranging from undirected (problems to process all the information in an adequate manner) to meaning-directed learning styles (wanting to know what is meant with the information and further implications) and also ranging from a reproduction-

directed (focussing on reproducing the information) versus an application-directed style (trying to apply what is learnt in different situations). In a study about effectiveness of different kinds of study strategies, Dunlosky, Rawson, Marsh, Nathan & Willingham (2013) identified some techniques as moderately to highly effective. Moderately effective study strategies are elaborative interrogation, self-explanation, and interleaved practice, while practice testing and distributed practice received high utility assessments.

All these concepts are important when it comes to studying. Imagine the following situation: a student who attends his or her classes, will receive a lot of information and input. During this class, he or she will listen and be attentive to what is being said (attention). Passive listening, however, is not enough: the student will also have to actively process this information, for example by taking notes (information processing). Eventually the student will also have to study this information in order to pass an exam, which indicates that he or she will have to take the necessary time to focus and concentrate on this information (shifting). At some point, the student will have to choose between studying or doing something else, maybe even more fun (inhibition), whereas studying will be the only choice that will help him to achieve his goal. This example clearly shows that all the explained concepts are all related and linked to study strategies. It is not only important to explain these topics but it is even more important to look at the way in which these functions are developed in individuals with intellectual disabilities.

Special needs for people with ID about the topic

Intelligence, executive functions, attention and study skills are important concepts, but it is more important to have a closer look at how these skills develop in individuals with intellectual disabilities. By looking at this, we can also get a clear view on the specific needs of these students with intellectual disabilities, related to the study process.

Not all individuals with intellectual disabilities will struggle with the same issues or in the same way. Each individual is different and thus it is of high importance to always get a clear view of the skills and capabilities of the student in front of you.

As the diagnosis clearly states, students with intellectual disabilities show a lower *level of intelligence*. To be more concrete, they often struggle with abstract thinking and reasoning, problem and acquiring a deeper understanding of things. As a consequence, students with intellectual disabilities will be more likely to think in a really concrete manner and they will often think in “the here and now” (Derks, Bernard, Petry, Haveman & van Laake, 1994). Seeing connections between cause and effect can also be more difficult to them (Didden, Collin, & Curfs, 2008).

These specific characteristics have an impact on the way students with intellectual disabilities *process information*. Studies have shown that the processing of information is slower for people with intellectual disabilities compared to people without intellectual disabilities. In addition, the thinking processes will also tend to be slower compared to people without intellectual disabilities which, in combination with a slower information processing, is of high importance in an educational context. This implies that students with an intellectual disability will need more time to process information, acquire skills and knowledge and thus achieving predetermined goals.

A difference also exists between processing verbal or visual information. Research has shown that people with intellectual disabilities tend to have more difficulties with processing verbal information compared to visual information (Van der Molen, Luit, Jonmans & Molen, 2007). Another difficulty students with intellectual disabilities encounter, is the inability to distinguish between main topics and side issues (Kleinert et al., 2009) This implies that the information provided should also be supported visually, for example by the use of images, graphics, or even pictograms. By using different fonts and by underlining, students can get a visual cue about what is really important and what is less important.

When it comes to processing and retaining information, two important systems are also involved: the working memory and the long-term memory. The way these systems work is also influenced by an intellectual disability. The working load of the *working memory* – needed to process and manipulate information before storing it in the long-term memory – has proven to be smaller in people with intellectual disabilities. (Van der Molen, 2009; Schuchardt, Gebhardt & Maehler, 2010) People with intellectual disabilities experience more difficulties retaining information in the long-term memory, compared to people without intellectual disabilities. (Van der Molen et al., 2007) This implies that it is important not to overload students with intellectual disabilities with a large amount of information, but that we should divide the information into smaller and more manageable quantities.

With regard to the *executive functions*, students with intellectual disabilities will also experience some difficulties compared to their peers without intellectual disabilities. As mentioned above, the executive functions are of high importance when it comes to planning, focussing and organising.

First of all, the *attention span* of people with intellectual disabilities tends to be shorter compared to people without intellectual disabilities.

People with intellectual disabilities are much more sensitive towards present stimuli, making it more difficult for them to focus their attention. In addition, students with intellectual disabilities experience difficulties inhibiting the dominant response of focussing their attention to the distracting stimuli. They are less capable of filtering out irrelevant stimuli and thus are more prone to being distracted. (Van der Molen, 2009)

Focussing their attention is one difficulty, but also shifting the attention has been proven to be more difficult to people with intellectual disabilities. Additionally, it is much more difficult for people with intellectual disabilities to selectively focus their attention (Ponsioen, 2001).

Another difficulty lies in *organising tasks*. People with intellectual difficulties tend to show more difficulties in organising their tasks. It is possible that this can be explained by the fact that they have difficulties prioritising and identifying what is really important and what is not. This implies that it is important that students with intellectual disabilities need an environment not too rich in different stimuli and where they can work calmly without being disturbed too much. In addition, they will also need help with 'getting back on track' after a while and they will need someone to check if they are still doing what they wanted or needed to do. One way to support this can be, for example, the use of roadmaps where every necessary step is explained.

After learning a new skill or processing new information, people with intellectual disabilities experience more difficulties generalising this new skill. They tend to learn in a situation-based manner and it is difficult for them to show the newly acquired skills in situations other than the situation they learned in (Kleinert et al., 2009). This implies that the

students will need a lot of repetition, but it is also important that they also learn to apply what they have learned in other situations.

In terms of *motivation*, the self-determination theory was explained above. In order to become a self-determined and motivated person, one should fulfil the basic needs of autonomy, competence and belonging. Self-determination is an important predictor of academic success in people with intellectual disabilities: a positive relationship exists between self-determination and being more productive, having better organisation and a better quality of life (Erickson, Noonan, Zheng, & Brussow, 2015).

Being a self-determined person is not as straightforward as it may seem for people with intellectual disabilities and a negative relationship exists between the level of intelligence and the level of self-determination, which implies that people with (severe) intellectual disabilities have a lower level of self-determination (Nota, Ferrari, Soresi, & Wehmeyer, 2007). The transition from secondary schools to a higher education environment implies a big appeal upon these self-determination skills: students are expected to set their own goals, self-regulate, solve problems, take responsibility for their own success. Moreover, for students with ID, the transition to higher education often means a shift from an environment in which services and supports are organised and managed by schools to an environment in which students must assume the responsibility for their success by seeking out the services and supports they need on their own (Qian et al, 2018). Qian et al. show the importance of individual coaching for these students in higher education to facilitate the development of self-determination and self-advocacy skills.

It is known that once people with intellectual disabilities are provided with the right support, their self-determination can grow (Wehmeyer

Abery, Mithaug & Stancliffe 2003). This implies that teacher practices should focus on supporting these self-determination skills.

With regard to *studying and learning styles*, a clear link has been shown between intellectual abilities and the use of an undirected learning style (Busato et al., 1995). Subsequently, the use of an undirected learning style was linked to poorer academic performance. People with intellectual disabilities will make use of a more undirected learning style, placing them at higher risk of poor academic achievements. Students with intellectual disabilities who participate at university level, will therefore need adequate support to make sure that they are studying with a clear goal.

Methodological proposals

Although we focus on teaching students with intellectual disabilities, it should be noted that the following methodological tips and tricks can be applied to all students with different kinds of needs. After all, inclusive education is not about education for a specific group of students with specific needs, it is simply aimed at education for *all students* (De Vroey & Mortier, 2002), which is in line with the principles of universal design for learning. The Universal Design for Learning places emphasis on 3 premises:

1. Provide multiple means of representation
2. Provide multiple means of action and expression
3. Provide multiple means of engagement

In line with what has been explained above regarding the specific needs of students with intellectual disabilities, some general tips will be mentioned.

- Make sure **communication** is clear and unambiguous.
- Make sure to **minimise the amount of information**. People with intellectual disabilities need more time to process information and they will possibly be distracted by a large amount of information, increasing the risk of an undirected approach of processing this information.
- Make sure **to formulate goals per lesson and per chapter/topic**. In this way, a more directed learning style can be used to process the information that was presented. Also, make sure to insert a checkbox by which students can check to see if they obtained the proposed goals.
- In case students need to prepare tasks and assignments, make sure that these assignments can also be **divided into smaller subtasks** that are clear and manageable for the student and you can intervene if necessary.

- Include a **table of content**, containing the main topics. This can help students structure the information and it also provides them with a good overview of the main topics.
- Make sure to always provide **visual support** for the most important information (for example PowerPoint). It can be a good idea to provide students with the necessary PowerPoints and information beforehand. This way students can have a look at it and repetition can take place.
- Provide the students with **regular feedback** on how they are doing in class and ask them about their experiences. Feedback can be content-related but this doesn't always have to be the case, sometimes feedback can also exist out of some questions about the general and emotional wellbeing of the student in class.
- In order to **overcome memory problems**, repetition is key. When applying new learning material, make sure to refer to earlier contents and provide course content in a structured manner. Students with ID should be provided with different tools to support memorization, such as glossaries, formularies, curriculum overviews, stitch cards, summaries, schemes, mind maps, ...
- **Attention problems** can be minimalised by shortening instruction time. Make sure to vary in working forms and frequently and actively involve your students during instruction: ask them if everything is clear, let them rephrase subjects to check comprehension, make use of group assignments or peer tutoring to involve them actively. Limit external stimuli during instruction time to avoid distraction.
- It is important for students with ID to **support generalisation** of new learned materials. As a teacher, you can explicitly link different topics in your course to support transfer: refer to subject matter that was treated in an earlier class and make course content relevant and functional. Students should be given

opportunities to put what has been learned into practice in different situations and contexts and link them to their own daily living environment. It can be helpful to use concrete and relevant examples to support comprehension of links between content.

- While **motivation and self-determination** are important predictors for academic success, as a teacher you can meet the basic needs of autonomy, competence and connectedness in following ways:

- Focus on possibilities and strengths
- Believe in the learning potential of your students
- Ask students about their motivation, interests and perspective to make them owner of their own learning process
- Address students personally and show appreciation for their input
- Develop a positive, open and encouraging relationship with students
- Give students possibility to ask questions (explain when questions can be asked)
- Invest in a safe and open classroom climate
- Create a warm and positive atmosphere

Apart from these general tips, it is worthwhile to provide coaching sessions to support study strategies and skills of students with ID. Research shows that setting up an individual coaching or mentoring program can improve academic performance of students with ID (Quian et al). These individual coaching sessions can focus on supporting self-determination skills, study and test-taking strategies, planning and organisation, ...

Group sessions can be organised to improve students' basic foundational academic skills and general study skills, for example:



- Academic language
- Writing and note-taking skills
- Basic mathematics
- Effective and healthy study habits
- Planning and organisation skills : use of academic course schedule, to-do lists, study planners, prioritising and goal setting, use of different communication tools and learning platforms

In this process, it will be decisive that the teacher evaluates his or her practices, within the framework of the UAD. Here is a checklist for teachers.

“I create a learning environment in which”:

- Ideas and information are represented in a variety of ways
 - You clearly describe the content of your lessons and your expectations of students.
 - You present information in a variety of formats (e.g. lecture, text, graphics, audio, video, practical exercises).
 - You start each lesson with an outline or overview of what will be covered.
 - You summarise key points throughout the lesson and links these to general knowledge and specific concepts.
 - You provide online information equivalent to documents distributed on paper and provide reading content in different formats, such as audio and video.
 - You use technologies that enhance learning.



- Students can express their understanding of the content in a variety of ways
 - You encourage students to demonstrate knowledge and skills in ways other than traditional tests and examinations (e.g., written essays, projects, portfolios, journals).
 - Your assessments measure student success on learning objectives.
 - You incorporate technologies that facilitate student communication and participation.
 - You allow students to submit their work electronically.
 -
- Students have multiple opportunities to engage
 - You expresses enthusiasm for each topic you teach and explain real world significance.
 - You challenge students with meaningful activities.
 - You create a classroom climate in which student diversity is respected.
 - You provide immediate and instructive feedback on activities.
 - You complement lecture and reading activities with visual aids (e.g., photographs, videos, diagrams and interactive simulations).

If you answered “YES” to most or all of these items, congratulations! You are reaching more learners through the principles of Universal Design for Learning.

References of the topic

-Busato, V. V., Prins, F. J., Hamaker, C., & Visser, K. H. (1995). Leerstijlenonderzoek gerepliceerd; de samenhang tussen intelligentie en leerstijlen. [Research on learning styles replicated; the relation between intelligence and learning styles]. *Tijdschrift voor Onderwijsresearch*, 20(4), 332±340.

-CAST. Retrieved from <https://www.cast.org/publications/2005/future-in-margins-role-technology-disability-educational-reform-rose-meyer>

-Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268.

-Derks, W. A. M., Bernard, S., Petry, D., Haveman, M. J., & Laake, M. J. L. L. van (1994). Onbegrepen vragen: Over het interviewen van licht verstandelijk gehandicapten. *Maandblad Geestelijke Volksgezondheid*, 49, 54-58

-Didden, R., Collin, Ph., & Curfs, L. (2008). Psychopathologie bij mensen met een verstandelijke beperking. In W. Vandereycken, C. A. L. Hoogduin & P. M. G. Emmelkamp (Red.), *Handboek psychopathologie: Deel 1 Basisbegrippen* (pp. 613-637). Houten: Bohn Stafleu van Loghum.

- Donche, V., De Maeyer, S., Coertjens, L., Van Daal, T., & Van Petegem, P. (2013). Differential use of learning strategies in first-year higher education: The impact of personality, academic motivation, and teaching strategies. *British Journal of Educational Psychology*, 83(2), 238-251.

Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques:



Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, 14(1), 4-58.

-Emmers, E., Baeyens, D., & Petry, K. (2019). Attitudes and self-efficacy of teachers towards inclusion in higher education. *European Journal of Special Needs Education*, 1–15.

-Erickson, A. S. G., Noonan, P. M., Zheng, C., & Brussow, J. A. (2015). The relationship between self-determination and academic achievement for adolescents with intellectual disabilities. *Research in Developmental Disabilities*, 36, 45-54.

-Gall, M. D. (1990). *Tools for Learning: A Guide to Teaching Study Skills*. Association for Supervision and Curriculum Development, Alexandria, VA

- Hardre, P. L., & Reeve, J. (2003). A motivational model of rural students' intentions to persist in, versus drop out of, high school. *Journal of educational psychology*, 95(2), 347.

-Kleinert, H. L., Browder, M. D., & Towles-Reeves, E. A. (2009). Models of cognition for students with significant cognitive disabilities: Implications for assessment. *Review of Educational Research*, 79, 301-326

-Maehler, C., & Schuchardt, K. (2009). Working memory functioning in children with learning disabilities: Does intelligence make a difference? *Journal of Intellectual Disability Research*, 53, 3–10.

-Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., Howerter, A., & Wager, T. D. (2000). The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology*, 41, 49–100.

-Molen, M. van der (2009). Het werkgeheugen van kinderen en jongeren met een licht verstandelijke beperking: inzicht en handelen. In R. Didden & X. Moonen (Red.), *Met het oog op behandeling 2*:

Effectieve behandeling van gedragsstoornissen bij mensen met een lichte verstandelijke beperking

(pp. 15-21). Utrecht: LKC LVG / Expertisecentrum De Borg.

-Molen, M. J. van der, Luit, J. E. H. van, Jongmans, M. J., & Molen, M. W. van der (2007). Verbal working memory in children with mild intellectual disabilities. *Kind en Adolescent*, 28, 135-148.

-Nota, L., Ferrari, L., Soresi, S., & Wehmeyer, M. (2007). Self-determination, social abilities and the quality of life of people with intellectual disability. *Journal of Intellectual Disability Research*, 51(11), 850-865.

-Ponsioen, A. J. G. B. (2001). *Cognitieve vaardigheden van licht verstandelijk gehandicapte kinderen en jongeren* (Doctoral dissertation, Universiteit van Amsterdam [Host]).

-Proctor, B. E., Prevatt, F. F., Adams, K. S., Reaser, A., & Petscher, Y. (2006). Study skills profiles of normal-achieving and academically-struggling college students. *Journal of College Student Development*, 47(1), 37-51.

-Qian, X., Clary, E., Johnson, D. R., & Echternacht, J. K. (2018). The Use of a Coaching Model to Support the Academic Success and Social Inclusion of Students with Intellectual Disabilities in Community and Technical College Settings. *Journal of Postsecondary Education and Disability*, 31(3), 193-208.

-Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: a systematic review and meta-analysis. *Psychological bulletin*, 138(2), 353.



- Schuchardt, K., Gebhardt, M., & Mäehler, C. (2010). Working memory functions in children with different degrees of intellectual disability. *Journal of intellectual disability research*, 54(4), 346-353.
- Universal Design for Learning in action. Retrieved from: <https://products.brookespublishing.com/Universal-Design-for-Learning-in-Action-P758.aspx>
- Van den Broeck, A., Ferris, D. L., Chang, C. H., & Rosen, C. C. (2016). Review of Self-Determination Theory's Basic Psychological Needs at Work. *Journal of Management*, 42(5), 1195-1229. <http://doi.org/10.1177/0149206316632058>.
- Vanthournout, G., Gijbels, D., Coertjens, L., Donche, V., & Van Petegem, P. (2012). Students' persistence and academic success in a first-year professional bachelor program: The influence of students' learning strategies and academic motivation. *Education Research International*, 2012.
- Verenigde Naties (2006). *Verdrag inzake de rechten van personen met een handicap*. Verkregen op 12 mei, 2020 via <https://www.vaph.be/sites/default/files/documents/vn-conventie/vn-conventie.pdf>
- Vermunt, J. D. (1996). Metacognitive, cognitive and affective aspects of learning styles and strategies: a phenomenographic analysis. *Higher Education*, 31, 25±50.
- Watts, A. G., & Van Esbroeck, R. (2000). New skills for new futures: a comparative review of higher education guidance and counselling services in the European Union. *International Journal for the Advancement of Counselling*, 22(3), 173-187.



-Wehmeyer M. L., Abery B., Mithaug D. E. & Stancliffe R. J. (2003) *Theory in Self-Determination: Foundations for Educational Practice*. Charles C. Thomas Publisher, LTD, Springfield

-Zhan, J. Y., Wilding, J., Cornish, K., Shao, J., Xie, C. H., Wang, Y. X., et al. (2011). Charting the developmental trajectories of attention and executive function in Chinese school-aged children. *Child Neuropsychology*, 17(1), 82–95.

Glossary

Executive functions: Executive functions can be best compared with the control processes of our human behaviour. Without executive functions, we would not be capable of controlling our own behaviour.

Learning styles: When it comes to learning and different kinds of learning styles, the framework as proposed by Vermunt is widely known. In an attempt to get a clear understanding and definition of learning, Vermunt (1996) stated that, in a learning process, four elements must be present: cognitive processing strategies, regulation strategies, conceptions of learning and orientations to learning.

Motivation / self-determination: A well-known framework about motivation is the self-determination theory from Deci & Ryan (2000). According to Deci & Ryan, people have three basic needs, more specifically the need for autonomy (=possibility to make their own choices), the need for competence (=possibility to do what you like and what you are good at, using their own talents) and the need to belong (=establishing positive relationships with other people the feeling that you matter and are important to someone).



Resources

Individuals with intellectual disabilities (ID, formerly mental retardation) benefit from the same teaching strategies used to teach people with other learning challenges. This includes learning disabilities, attention deficit/hyperactivity disorder, and autism. Here are some strategies listed: <https://www.mentalhelp.net/intellectual-disabilities/effective-teaching-methods/>



Tools

Transition planning. It is extremely important for families and schools to begin planning early for the student's transition into the world of adulthood. Because intellectual disability affects how quickly and how well an individual learns new information and skills, the sooner transition planning begins, the more can be accomplished before the student leaves secondary school. So you can use **study planner app** to control and schedule your time when you are studying and when you are relaxing.

Online learning resources. We are Teachers' sites has listed learning resources for children in elementary, middle, and high school. Remote learning and virtual classroom are also available.

<https://www.weareteachers.com/free-online-learning-resources/>



Tips

Useful strategies for teaching students with intellectual disabilities include, but are not limited to, the following techniques:

- Teach one concept or activity component at a time
- Teach one step at a time to help support memorization and sequencing
- Teach students in small groups, or one-on-one, if possible
- Always provide multiple opportunities to practice skills in a number of different settings
- Use physical and verbal prompting to guide correct responses, and provide specific verbal praise to reinforce these responses



Important texts, events or cites to include as curiosity.

Interesting site to see the definition of intellectual disability:

- <https://www.aaid.org/intellectual-disability/definition>

Other links

- <https://www.kennedy-center.org/education/vsa/>
- <http://www.projectidealonline.org/v/intellectual-disabilities/>



Links

American Association on Intellectual and Developmental Disabilities:

<https://www.aaid.org/>

<http://universaldesign.ie/What-is-Universal-Design/The-7-Principles/>

<http://www.projectidealonline.org/v/intellectual-disabilities/>

<https://therapytravelers.com/strategies-teaching-students-intellectual-disabilities/>

<https://www.mentalhelp.net/intellectual-disabilities/effective-teaching-methods/>

Introduction

Currently, it is indisputable that everyone has the right to work. Indeed everyone, whether or not they have disabilities, wants and needs to find work. One of the biggest personal achievements is to secure a stable job which leads to economic independence and personal satisfaction (Alomar and Cabré, 2005). According to Ali, Schur and Blank (2011), employment has become a decisive element in the process of social integration and community participation.

According to Vidriales, Hernández and Plaza (2018), work is "a key means of social inclusion, essential to face adult life with autonomy and independence, and which is essential for the effective enjoyment of human rights and fundamental freedoms" (p.7).

However, people with intellectual disabilities (hereinafter ID) encounter greater difficulty in further education after completing their compulsory education, which hampers their access to work in proper working conditions. Poor grades and dropping out of school are one of the most problematic situations for young people in facing their future and making decisions consistent with their needs, interests, characteristics and expectations (Alvarez Lopez, Franchy, González and Pérez, 2013). According to Mercado, Aizpurúa and Garcia (2013), people with disabilities experience significant inequality in the workplace due to multiple personal and working-environment-related factors.

In Spain, the figures provided by the European Parliament (2020) show that 30% of people with ID were actively employed in 2017 and 2018. This low percentage may be due to the numerous social and educational barriers and the lack of opportunities to find and keep a job (Giné, 2004; Schalock and Verdugo, 2007). These barriers include a tendency in society to disregard their preferences and interests and to doubt their ability to make decisions due to their disability (Cowenhoven, 2002). Ferreras et al . (2013) state that lack of work

experience, ignorance of one's skills, lack of knowledge about the labour market and an inadequate conception of self may prevent integration into the labour market.

Even so, it is important to clarify that the fact that persons with ID are deemed less employable than their non-disabled peers or than those with less restrictive disabilities cannot be justified by their disabilities per se: there is scientific evidence of other factors that may influence this difference.

Some authors state that the dependence of this group imposed by society (perhaps well-meaningly, but resulting in a degree of overprotection) and the influence that society has on them causes people with disabilities to present an external locus of control, low self-esteem, poor ability to plan and set goals and/or unrealistic perceptions of their own abilities and limitations (Field et al., 1998 ; Field and Hoffman, 2002; Robertson et al., 2001). In fact, the main difficulties that this group find in holding down a job are not due to their being unable to carry out the tasks assigned to them but rather to the difficulty of having adaptive behaviour in accordance with the demands of the work environment . For example they may have problems interacting with peers, accepting authority, difficulty in seeking help, maintaining schedules, etc.

These difficulties may be due to a lack of adequate job guidance that would enable them to acquire a realistic, coherent awareness of their aspirations, possibilities and limitations in a given work context. The result is an attitude of personal undervaluation and unrealistic conceptions.

According to Lee (2009), overprotective parenting, low expectations as to their own abilities and a lack of specialist support and guidance all hamper their independent living and employability; or conversely, social integration with individualised support promotes efficiency and minimises beliefs and attitudes of learned helplessness (Lucas et to the.,

2012). It is therefore essential that this group receive the support needed to choose and access the jobs that best meet their expectations, needs and interests (Lerman, Grob, Villante, Langlinais (2018), Sescovich, 2009) .

The difficulties posed by disability require changes in the families, companies and social environments affected. If the results of a work placement programme are assessed in strictly quantitative and financial cost-benefit terms, this leads to an overly simplistic and reductionist view of things which fails to take into account other variables such as the “social wealth of work ” generated by being included in a work environment, “improvement in quality of life” and “social well-being” that placement generates, etc. (de la Fuente, 2006).

In this context, vocational guidance plays a fundamental role in enabling people to visualise what they want in their lives (Llinás, 2009). Gavilán and Castignani (2013) state that good vocational guidance increases the opportunities of people in the search for a suitable occupation. In the same way, people who have had appropriate guidance are more successful in the workplace.

In short, work activity has become one of the main goals of people's social inclusion (Lucas et al ., 2012). Indeed, as one of the essential concerns of employment policies, it affects the universal right to have a job, as denoted by the high unemployment figures among this group and the need for further progress in their social integration (Adroher, 2004; Casado and Cifuentes, 2003; Salinas and Sanz, 2003). The main objectives of the socio-occupational integration of people with ID are the following (Lucas et al., 2012, p. 398):

1. To foster adequate knowledge of themselves in relation to the social and work environment, assessing attitudes that prevent or hinder responsible, autonomous choice and modifying inaccurate beliefs on their lack of effectiveness in putting into practice the decisions that they make.



2. To provide knowledge of the social and work environment and of the steps to be taken and the techniques to be used for finding work.
3. To develop the attitudes and skills needed for those targeted by this guidance process to operate autonomously in society.
4. To reflect on the cultural and social values needed for their inclusion in society and in work.

Background of the topic

According to Commonw of Learning (2020), vocational guidance is a resource that awakens the vocational inclinations or preferences of people, adapted to the demands of the level of competitiveness and the requirements of the workplace. Vocational guidance is a psycho-educational intervention to identify needs and possible vocations of students which generates a choice for their future in response to different needs such as self-realisation (Grañeras et al., 2008). To choose that future, students need to know and identify potential successes that can be achieved through their choice (Romero, 1999).

According to Resolutions of the European Council and of the Representatives of the Governments of the Member States (EC 2004 and 2008), guidance is defined as a continuous process that enables people to identify their capabilities, their competences and their interests, to make decisions regarding education, training and employment and to manage the path of their personal lives in regard to education and work.

In this way, vocational guidance seeks to discover students' work interests, their vocational expectations, their level of knowledge and their real motivations towards a profession, and to adjust those interests to the job competence of each person and to the needs of each job (Ferrerias et al., 2013). Specialists must provide the support required to create a realistic interest that fits the capabilities of each individual, to ensure that the person attains the target set.

The person guided must reach their vocational maturity. This involves a personal learning process built on constant, reciprocal interaction between social, cultural and economic factors, where people with ID play a relevant role (Lucas et al., 2012). Lucas (2002) defines vocational maturity as "the degree to which a person, in comparison with his peers, adopts a planned attitude before the vocational decision to be made,

an attitude based on relevant knowledge of the different training-professional alternatives, prior analysis of their values-goals, interests, abilities, personal and social determining factors” (p.65). In general, people with ID have delayed vocational development, so chronological age should not be the criterion for determining what stage of development they are at.

2.1. Components of vocational guidance

According to the International Labour Organization (ILO) (2016), vocational guidance is geared to work from five perspectives: academic, family, social, personal, labour and entrepreneurship needs.

- Academic component. This refers to the factors that favour or hinder the development of teaching and learning in students. Information is obtained on their strengths and weaknesses, their capacities in the verbal, numerical and spatial areas; and on their interests, what courses they prefer and which they do not and what they want to do in the near future.

- Family-social component. This covers the family environment. Information is collected on the family lifestyle, the parents' workplace and their education level, on how many members there are in the family unit, the place of the individual among their siblings and whether they study or work. In addition, socio-educational aspects such as the type of communication between the individual and their family, whether the family is aware of their interests, what social activities they like, what they like and dislike and what their goals are in life.

- Personal component. This involves aspects of each person such as their personality, likes, interests and preferences, personal goals, future projects, etc.

- Labour needs component. What needs must be met to obtain a job? Guidance on doing well at job interviews, on joining the world of work and on properly managing income.
- Entrepreneurship component. This entails reinforcing personal qualities, improve communication and negotiation skills.

2.2. Guiding principles of career guidance programmes

Lucas et al. (2012) set out five guiding principles of career guidance programmes that lead to attaining the goals set:

1. Inclusion

People have the right to actively participate in social life and specialists must provide the supports needed to make such participation possible.

2. Person-centred Planning

Person-centred planning is a process based on the preferences, choices, capabilities and desires of each person, taking into account their possibilities of participating in the community environment, taking into account needs related to development in daily life and the development of work skills. The importance of the day-to-day activities is based on the fact that they enable a person to manage independently in the home and thus make them more autonomous in the community. This intervention enables individuals:

- To make choices about their own lives.
- To control their own lives.
- To achieve significant, positive changes in lifestyle.
- To make friends and have interpersonal relationships.
- To work in environments chosen by themselves.
- To choose where and with whom to live.

- To participate in leisure and free time activities.
- To participate in the community.
- To be and feel respected.
- To have a sense of belonging.
- To improve their self-image.

3. Self-determination

The self-guidance process seeks to use programmes adapted to the needs of each person in order to give them a realistic, positive knowledge of themselves in relation to their values/goals, interests and abilities, and to perceive their own possibilities of preparation and social and work inclusion. Communication skills and self-determination are closely related, so improving communication skills in turn facilitates choices and self-determination.

4. Assessment of capabilities and support needs

Adequate assessment of the person's needs and strengths in interaction with their environment is important.

5. Applied behavioural analysis

Another key element in determining these needs is the use of behavioural analysis, followed by strategies derived from positive behavioural support to carry out interventions. Applied behavioural analysis has proved effective in reducing deficits due to learning problems, in modifying inappropriate behaviours, in training problem-solving skills and social perception and in improving employability and academic skills, among other things (Jerano and Rodríguez, 2004).

2.3. Guidance actions aimed at integration into society and work

Lucas, Arias and Ovejero (2005) state that all guidance actions are understood as activities aimed at promoting full integration into society and work. It is possible to differentiate them into three groups of actions with distinct objectives but with the same purpose of developing the vocational maturity of recipients:

□□ Acquiring a realistic, positive knowledge of themselves and their possibilities, of their goals/values, their vocational interests, their abilities and their competences.

□□ Fostering knowledge of the training and work environment means combining and organising information previously prepared using criteria that guide students in clarifying the problems on which they must decide, focusing attention on relevant information.

□□ Promoting skills training for obtaining and maintaining a job

Several phases can be distinguished in the preparation of a student with ID in the transition from education to the workplace (Lucas et al. , 2012):

□□ Clarifying values/goals, interests and abilities in the target group.

□□ Facilitating training and employment opportunities, e.g. providing work experience, developing continuous relationships with employers in the community, achieving suitable matches between jobs and people with disabilities, offering support at work.

□□ Helping students assess, implement and develop an action plan.

□□ Creating opportunities to live autonomously, which means providing prior experience in real environments and offering support in the home.

This is therefore a systematised job that requires an active search for support networks to offer possibilities to people and at the same time develop their skills.

10 key learnings for the future employment of young people with ID can be pointed out:

1. Communication skills.
2. School knowledge: instrumental skills, culture, a taste for learning, curiosity.
3. Information management and digital competence.
4. Ability to self-direct: to plan, reflect, assess consequences, make decisions.
5. Personal care capacity: health, safety, hygiene.
6. Social skills: basic social skills, responsibility, asking for help, following rules.
7. Emotional competences: control of emotions, empathy, self-knowledge, self-esteem, motivation.
8. Autonomy in the home.
9. Autonomy for community life: use of transport, money management, use of community resources.
10. Basic social and work skills: punctuality, sustained effort, interest in a job well done, revision of tasks and detection of errors.

In order for young people to acquire such learning, it is important that specialists and family members provide different options from which they can choose, seeking to respond to different vocations or interests and training in specific skills for various professional settings. There is a need to promote study plans with a competency-based approach in which practical work experience is guaranteed; to practice emotional, social and work skills, knowledge, autonomy, self-direction, self-care , etc.; to promote social relations and integration into environments with other young people without disabilities; to hold individuals accountable for their actions; to respect their privacy; to support their choices, even if they are not believed to be correct, to allow them to make mistakes and to experience the consequences of their own decisions.

2.4. Vocational guidance process

The vocational guidance process begins with a detailed study of the person and the environment in which they operate (See Figure 1).

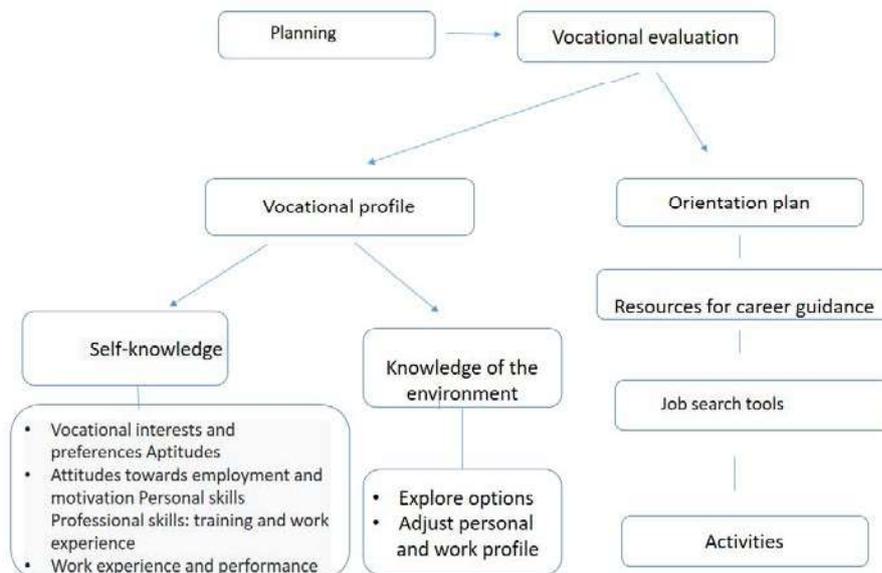


Figure 1 . Vocational guidance process (adapted from Arsuaga and Santiso, 2018).

The study of the person does not mean just that the specialist must know them but that the persons must know themselves. Self-knowledge involves knowing one's own skills and expectations so the vocational guidance process can be properly adjusted. In this way, the person knows what they want and need in life and, in turn, can design their vocational profile.

The vocational profile is defined as a set of traits and capacities made up of elements such as personality, vocational interests, aptitudes or abilities, attitudes, competencies and performance (Díaz, Morales and Amador, 2009; Lucas, 2006) :

- Vocational interests and preferences: A set of goals desired by persons in the different areas of their development: personal, academic, vocational or occupational. In general, interests vary throughout life.

- Aptitudes: This means the ability of a person to develop certain behaviours. Psychological skills and pragmatic skills are differentiated, with the latter referring to the abilities and skills to perform a certain job effectively.
- Attitudes towards employment and motivation: Attitude towards work means the value assigned to it, the realistic, positive opinion of each individual, their interest in learning, relevant knowledge of the different training/occupational options and how to access them, planning, an autonomous and entrepreneurial attitude in decision making, among others. It is important to highlight studies such as those by Boerlust (1998) or Luzo, Funk and Strang (1996), the results of which confirm that attitude towards decision-making is the factor that most strongly predicts vocational maturity skills.
- Competences: This term refers to problem solving, decision making, information management skills, oral and writing communication, teamwork, interpersonal relationship skills, critical reasoning, ethical commitment, organisation and planning skills, autonomous learning , leadership, creativity, initiative and entrepreneurial spirit and motivation.
- Professional competence: This is acquired through training and work experience. A paradoxical situation in which many people find themselves is that if they leave their training to take a job, they will find themselves with very low levels of training in a very competitive labour market that demands ever higher levels of qualification and knowledge. Precisely, the options of people with ID in both training adapted to their needs and searching for a paid job are much smaller (Lucas et al ., 2012, p.397).
- Job expectations and performance: The effort that a person puts into effectively performing the tasks set.

“Knowledge of the environment” means collecting information on possible physical and attitudinal barriers that may prevent the socio-

occupational integration of persons with ID and identifying possible work options. In the following section, three work options normally considered to deal with the integration into society and into work of this group are discussed.

2.5. Job type

There are three employment options that seek to meet the needs of this group (Lucas, 2006):

- Occupational Centres. Since they have been officially regulated these centres are a preliminary step towards joining the labour market where persons acquire work skills, based always on their potential as a bridge towards employment. People who meet the following requirements may join these centres: individuals of working age who have been assessed by psycho-pedagogical teams and have a motivated resolution from the multi-professional team supporting their need to join an occupational centre as they cannot be catered for by a company or special employment centre because of severe temporary or permanent disability.
- Sheltered employment at special centres (CCE). This refers to a small number of companies at which at least 70% of workers have a recognised disability level of 33% or more.
- Supported employment. This is employment at ordinary companies with individualised support in tackling possible difficulties in performing work tasks. This type of employment promotes social inclusion and incorporation into the community and improves the quality of life, independence and autonomy of the people involved (Becerra, Montanero and Lucero, 2012). The European Union of Supported Employment (EUSE) defines supported employment as “the provision of support to people with disabilities and other disadvantaged groups to secure and maintain paid employment in the open labour market” (EUSE, 2005, p.14).

Specific concepts

Attitude

It is the way a person acts, the behavior that an individual has to do things.

Fitness

It is the quality that people have to carry out certain specific activities with some ease and efficiency. It is also defined as any natural or acquired disposition of a physical or psychic nature that is capable of acting and being measured.

Career

Development of the orientation that a worker chooses for his professional life, a permanent and systematic process, by means of which a person establishes his objectives and recognizes what resources he has and which he must achieve to fulfill them.

Instrumental skills

Skills that allow us to adapt to the environment. Within the instrumental competences, a distinction is made between cognitive abilities, methodological abilities, technological abilities and linguistic abilities.

Capacity

It is the aptitude, talent, ability or innate capacity that a person has to carry out, and of course successfully carry out, a certain activity, job or trade.

Interest

It is the inclination or preference that a person shows for something specific.

Professional interests

They are the preference towards certain activities; the motivation that makes you have an inclination to certain types of actions without the need to be forced to perform them, rather, their performance produces satisfaction and joy.

Motivation

It is made up of all the factors capable of provoking, maintaining and guiding behavior towards a goal. Motivation is also considered as the impulse that leads a person to choose and perform an action among those alternatives that are presented in a certain situation.

Vocational orientation

Vocational guidance is a psychological and pedagogical process that seeks to help in the choice of a certain profession, according to the motivations, aptitudes and attitudes of the student. This process is based on the premise of improving the student's knowledge of all the possibilities available to them to be able to evaluate what the ideals are through the student's own critical spirit.

This process is not only aimed at the inclusion of the student in the world of work, but the real objective is to recognize the real interest of the student and facilitate their learning about the work environment.

Personality

It is the set of physical, genetic and social characteristics that an individual gathers and that make it different and unique from other individuals.

Profession

It is the job or jobs that someone does and is paid for.



Vocation

It is the inclination to any state, career or profession.

Special needs for people with ID about the topic

Focusing in those which might be presented in the classrooms. Extension:

- Module 1: 1-1,5 pages
- Module 2: 1,5-2,5 pages
- Module 3: 2-3 pages

The characteristics of the person with ID make labor inclusion processes difficult, justifying the need to adapt the training processes and contemplate specific support to facilitate access to the world of work. To access a job in the ordinary labor market, adequate preparation and training is necessary to enable workers with disabilities to acquire the strategies, skills and personal and professional competencies necessary to respond to this new environment.

PROCESSES RELATED TO LEARNING	LEARNING NEEDS	INTERVENTION PROPOSALS
PERCEPTION	- Lack of coherence in reactions to stimulation: hypersensitivity or hyposensitivity.	- Pay attention to possible causes, monitor the environment, encourage increased tolerance level (desensitization) and / or ensure that the person controls the level of stimulation.



		<ul style="list-style-type: none">- Detect environmental factors that must be adjusted, to favor the labor participation of the person with disabilities- Offer means to communicate their discomfort.- Take advantage of the most effective form of perception
ATTENTION	<ul style="list-style-type: none">- Hyperselectivity of stimuli.	<ul style="list-style-type: none">- Work on joint care, gradually expanding the care parameters for each person.- Control stimulation.- Start with what interests you.- Expand hyperselective attention.- Use visual aids.- Offer frequent breaks.- Adjust the duration of tasks.- Vary physical proximity.



<p>MEMORY</p>	<p>- Dificultades para contar o memorizar una historia.</p>	<p>Proporcionar materiales visuales. Agrupar elementos para hacerlos significativos. Usaro de estrategias sensoriomotoras / cinestésicas, que facilitan faciliten la adquisición de aprendizajes Trabajar en secuencias de escenas o símbolos.</p>
<p>MOTIVATION</p>	<p>- Lack of sense of activity, perception of success and negative repercussion of failure.</p>	<p>Consolidate the lessons learned, fostering flexibility and tolerance to changes. - Actively encourage the exploration of new situations through tangible rewards. - Introduce self-reward systems prioritizing preferred activities. - Identify reinforcements individually. - Consider the duration of the tasks.</p>



		<ul style="list-style-type: none">- Interleave favorite activities with less desired ones.- Take into account a possible low social motivation.
PLANNING	<ul style="list-style-type: none">- Difficulties to establish objectives and the steps to achieve them.	<ul style="list-style-type: none">- Generalize the learning and the responses acquired, to different contexts and activities.- Reflect on new sequences in a meaningful context.- Predict the elements of a sequence.
SOCIAL INTERACTION	<ul style="list-style-type: none">- Difficulties to empathize.- Imagination difficulties.	<ul style="list-style-type: none">- Use explicit language.- Simulate situations, "put yourself in the place of ..."
GENERALIZATION	<ul style="list-style-type: none">- Difficulty in putting what they have learned into practice.- Difficulty to generalize learning in new situations.	<ul style="list-style-type: none">- Teaching Teaching in natural environments.- Active learning.- Work with different people in different places.



		<ul style="list-style-type: none">- Work with useful skills, to be used- Checking Skill Transfer Check
SOCIAL INTERACTION	<ul style="list-style-type: none">- Intolerance to group work and adult orientation	<ul style="list-style-type: none">- Offer tasks that you can solve yourself.
COMMUNICATION	<ul style="list-style-type: none">- Difficulties related to communication and the ability to express, needs, physical or emotional states and desires.	<ul style="list-style-type: none">- Use peer-supported learning

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[https://autismocastillayleon.com/wp-](https://autismocastillayleon.com/wp-content/uploads/2016/06/guia_para_profesores_y_educadores_de_alumnos_con_autismo4.pdf)

[content/uploads/2016/06/guia_para_profesores_y_educadores_de_alumnos_con_autismo4.pdf](https://autismocastillayleon.com/wp-content/uploads/2016/06/guia_para_profesores_y_educadores_de_alumnos_con_autismo4.pdf)

Methodological proposals

4.1. Curriculum vitae

The Curriculum Vitae (CV) is a brief, orderly, written presentation of your background details, academic training and work experience. The CV and the cover letter are the tools used to introduce yourself to companies where you wish to work. The information included must be brief, specific and structured.

Before writing a CV, you must know what job you are looking for whether you fit the relevant profile. You must also reflect on what you are willing to do to fit into a certain profile, e.g. taking prior job training courses. In addition, you must know what companies you can use to present the CV.

Here are some tips for making a good CV.

- Be clear. The person who is going to read it does not have much time, so they will do a quick read from which it must be clear who you are.
- Write the information in a brief, clear, schematic way with no detours.
- Present the information in an organised, structured way in sections : personal details, academic record, work experience and other data of interest.
- Add a recent photo.
- Highlight in bold what the employer most wants to know about you. Highlight the requirements for the job.
- Check spelling and writing.
- Write on a computer (unless otherwise indicated) .
- Respect margins and blank spaces.
- Highlight the main points in bold, capital or underlined.
- Do not write more than 2 sheets (on one side) .

- Write the information in reverse chronological order (i.e. current achievements first).
- Indicate your motivations and interests.
- Communicate your achievements and qualities, convey that you are the ideal candidate.
- Be honest.

In searching for a company or workplace that suits your interests and preferences, you can differentiate between the public and private sectors. Here are some places to look for a job:

Public employment:

- Employment in the European Union (community information offices).
- Employment in the national administration (Official Gazette, guide for candidates to public-employment examinations, government regional offices, employment offices) .
- Employment in regional administrations (councils, regional publications) .
- Local employment (municipal bulletin boards, youth councils, local newspapers) .

Private employment:

- INEM (Spanish National Employment Service).
- Headhunting companies.
- Temporary employment agencies
- Professional associations.
- Press announcements.
- Trade Unions,
- Academies.
- Youth associations.

- Town councils.
- The Internet.

You can also access employment portals via the Internet. First of all, you will need to register with an email address and post your CV on the website. Some examples of job portals are as follows:

- Job-Hunt <https://www.job-hunt.org/>
- Job Accommodation Network (JAN) <https://askjan.org/about-us/index.cfm>
- Pathways to Employment <http://www.pathways.dshs.wa.gov>
- Getting Hired.com <http://www.gettinghired.com>
- ABILITY Jobs and Job Access <http://www.jobaccess.org/>
- American Association for People with Disabilities Employment <https://www.aapd.com/advocacy/employment/>
- Infoempleo <http://www.infoempleo.com/>
- Infojobs <http://www.infojobs.net/>
- Inforienta <http://www.inforienta.es>
- Jobpilot <http://www.jobpilot.com>
- Jobs www.jobs.ac.uk
- Jobtel <http://www.jobtel.it>
- Laboris <http://www.laboris.net/>
- LinkedIn <http://es.linkedin.com/>
- Mercadis <https://www.mercadis.com>
- Labour market <http://www.mercadodetrabajo.com.uy/>
- A thousand jobs <http://www.miltrabajos.com/>
- Opcionempleo <http://www.opcionempleo.com/>
- First Job <http://www.primerempleo.com/>
- Publiempleo.com <http://www1.publiempleo.com/>
- All work <http://www.todotrabajo.com>
- Topjobs <http://www.topjobs.co.uk>
- Easy work <http://www.trabajofacil.com/>
- Trabajo.org <http://www.trabajo.org/>

- Trabajos.com <http://www.trabajos.com/>
- Trabajoset <http://www.trabajosett.es/listado-de-ett>
- Your work <http://www.tutrabajo.org/>

4.2. Cover letter

This is a short letter, also written on a computer, you send when you respond to a job advertisement or go to a company spontaneously. You should always send it with your CV .

In it you should explain the reasons that led you to contact the recipient. Do not just repeat the information in your CV, but rather highlight one or two major pointers from it. The letter should usually be no longer than a single side.

The cover letter seeks to spark interest in the person who receives your application and highlight points that you have to offer which are not included in your CV but may be important in getting them to hire you.

Here are some tips for writing a good cover letter:

- Write the information in a short and concise way, using short sentences which are easy to read and well organised.
- Design the letter in a structured way, in sections. Keep the margins and spaces between the paragraphs clear.
- Check spelling, grammar and punctuation.
- Avoid long paragraphs and complex expressions.
- Do not staple the cover letter to the CV: they are presented as separate documents.
- Make an original letter: do not make copies of other letters.
- Be cordial but respectful to the person you are addressing.
- Indicate what you can and know how to do and how you can be useful to the company.
- Do not mention any negative points about yourself. Highlight your capabilities.

In deciding what structure your cover letter should have, take into account that there are two different types of letter: a letter responding to a specific advertisement and a letter sent unsolicited to a company in which you are interested.

- Response letter to an ad

Once you have found a job offer in the newspaper that interests you, you should send the company your CV and a cover letter, which must contain:

- The reference number or code of the advertisement (usually a set of numbers, letters or a word, e.g. Ref.45.444).
- An indication of the purpose of the letter, mentioning the ad, offer or call to which you are responding.
- A few lines on those aspects of your CV most suited to the job in question.
- A request for an interview or to take part in selection tests.

- Cover letters for unsolicited approaches

If you decide to offer your services to a company, you can send them a cover letter. Always write to the person in charge of the area where you intend to present your application. The structure should be as follows:

- Introduce yourself in the opening paragraph.
- In the second paragraph explain why you are interested in working at the company and highlighting your background and work-related experience.
- In the last paragraph make yourself available to the recipient for a personal interview.

A sample letter is shown below:



.....
.....
.....
.....

I look forward to hearing from you and remain

Yours sincerely,

Signature

Full name

4.3. Job interview

Once you have sent the CV and the cover letter, the company may be interested in you and want you to come for a job interview. The person who best suits the profile of the job you are looking for is finally chosen after the job interview process, so you should use it to stand out and differentiate yourself from other candidates.

It is important to realise that even if you do not get the job, having an interview is a positive experience that can provide confidence for future face-to-face interviews. Your first interview may be more complicated than the rest because you have no previous experience.

Here are some tips on handling an interview positively:

- Be informed about the job, the company and the job in question.

- Identify personal and work strengths and weaknesses, and emphasise your strengths.
- Show enthusiasm and pay close attention.
- Prepare and carry the necessary documentation set out cleanly and tidily.
- Be punctual.
- Take care to present a good image in terms of personal hygiene and manners.
- Be optimistic and trust in yourself.

Most interviews follow the same basic outline, for which you can prepare:

- Wait for the interviewer to speak to you first. Greet them in a cordial and friendly manner.
- Talk about issues related to the company, the job, the tasks and the functions to be performed. Also talk about yourself as a candidate, what you have studied and where, what career experience you have, what motivates you to work at this company and whether you are available to travel or move outside your city. This is the time to demonstrate that your profile fits what the company is looking for. It is important to take non-verbal communication into account too.
- Ask any questions you have about working conditions or the selection process. Demonstrating interest in company-specific or job-specific issues often makes a good impression.
- Always say goodbye politely and cordially, trying to establish further contact for a future time.

It is important to inform the interviewer about your disability: explain what it is and what your potential limitations are, but focus on your capabilities and strengths. You can also take the opportunity to



mention the Social Security aids and bonuses that the company can receive for hiring a person with a disability.

Bibliography

Adroher, S. (2004). *Discapacidad e integración: Familia, trabajo y sociedad*. Madrid, España: Universidad de Comillas.

Ali, M., Schur, L., & Blank, P. (2011). What types of jobs do people with disabilities want? *Journal of Occupational Rehabilitation*, 21 (2), 199-210.

Alomar, E., & Cabré, M. (2005). El trabajo de jóvenes con discapacidad intelectual en entornos normalizados. *Revista Síndrome de Down*, 22, 118-124.

Álvarez, P. R., López, D., Franchy, R., González, A. I., & Pérez, D. (2013). La orientación vocacional al alumno de bachillerato en transición a la universidad. En M. C. Cardona-Moltó, E. Chiner, A. Giner-Gomis (Coord.), *Investigación e Innovación Educativa al Servicio de Instituciones y Comunidades Globales, Plurales y Diversas* (pp. 446-452). Alicante, España: AIDIPE.

Arsuaga, A., & Santiso, V. (2018). Buenas prácticas en la orientación vocacional para personas con TEA. En *Guía de orientación vocacional para personas con Trastorno del Espectro del Autismo*. España: Confederación Autismo España.

Becerra, M. T., Montanero, M., & Lucero, M. (2012). *Empleo normalizado con apoyo. Investigación en diferentes recursos de apoyo natural a trabajadores con discapacidad intelectual en tareas laborales que requieren autorregulación*. Badajoz, España: Observatorio Estatal de la Discapacidad.

Boerlust, J. G. (1998). Career Development and Career Guidance. In P. J. D. Drenth, H. Thierry & C. J. de Wolff (Eds.), *Handbook of Work and Organizational Psychology* (273-296). East Sussex, UK: Psychology Press.

Casado, R., & Cifuentes, A. (2003). *El acceso al empleo de personas con discapacidad, barreras y alternativas*. Burgos, España: Servicio de publicaciones de la Universidad de Burgos.

De la Fuente Anuncibay, R (2006). *Hacia la integración laboral de las personas con discapacidad. Un estudio longitudinal*. Burgos, España: Servicio de publicaciones de la Universidad de Burgos.

Díaz, D., Morales, M., & Amador, L. O. (2009). Perfil vocacional y rendimiento escolar en universitarios. *Revista Mexicana de Orientación Educativa*, 6(16), 20-23.

Escala de Intereses Vocacionales Kuder. Recuperado de <https://psicologoscordoba.org/test-de-kuder/>
https://psychology.wikia.org/wiki/Kuder_Occupational_Interest_Survey
(English version)

European Union of Supported Employment (EUSE) (2005). *Folleto informativo y modelo de calidad*. Belfast: EUSE.

Gavilán, M. and Castignani L. (2013). Vocational guidance in people with special educational needs as the result of visual impairment during the transition stage from high school to advanced education. Recovered from https://www.memoria.fahce.unlp.edu.ar/art_revistas/pr.5161/pr.5161.pdf

Field, S., & Hoffman, A. (2002). Preparing youth to exercise self-determination: quality indicators of school environments that promote the acquisition of knowledge, skills and beliefs related to self-determination. *Journal of Disability Policy Studies*, 13(2), 114-119. doi: 10.1177/10442073020130020701

Field, S., Martín, J. E., Miller, R., Ward, M., & Wehmeyer, M. L. (1998). Self-determination for persons with disabilities: a position statement of the

division on career development and transition. *Career Development for Exceptional Individuals*, 21(2), 113-128. doi: 10.1177/088572889802100202

Commonw of Learning (2020), Career and vocational guidance. Recovered from http://oasis.col.org/bitstream/handle/11599/395/CFC_Unit_8.pdf?sequence=11&isAllowed=y

Giné, C. (2004). Servicios y calidad de vida para las personas con discapacidad intelectual. *Siglo Cero*, 35(2), 210.

Grañeras, M., Parras, A., Madrigal, A. M., Redondo, S., Vale, P., & Navarro, E. (2008). *Orientación educativa: fundamentos teóricos, modelos institucionales y nuevas perspectivas*. Madrid, España: Ministerio de Educación, Política Social y Deporte.

Lerman, D.; Grob, C., Villante, N., Langlinais, Ch. (2018). Assessing and Teaching Job-Related Social Skills to Adults with Autism Spectrum Disorder. Recovered from <https://autism.unt.edu/sites/default/files/Vocational%20UNT%207.27.17.pdf>

European Parliament (2020) Employment and disability in the European Union Recovered from [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/651932/EP_RS_BRI\(2020\)651932_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/651932/EP_RS_BRI(2020)651932_EN.pdf)

Jerano, C., & Rodríguez, P. (2004). *Habilidades manipulativas y laborales en centros residenciales: Concepto, evaluación y recursos*. Valladolid, España: Junta de Castilla y León, Consejería de Sanidad y Bienestar Social.

Jobpics. Cuestionario gráfico de intereses basado en el sistema RIASEC. Association of Vocational Rehabilitation Enterprises. Recuperado de: <https://studylib.es/doc/4563358/cuestionario-gr%C3%A1fico-de-intereses-basado-en-el>

<https://www.apa.org/pi/disability/resources/assessment-disabilities>

Kuder, F. (s.f.). *Inventario de Intereses Vocacionales*. Chile: CEPECH Preuniversitario.

Lee, S. H. (2009). Perceptions of special education teachers and parents on self-determination of students with disabilities and instructional practices. *The Journal of Special Education: Theory and Practice*, 10(2), 195–229.

Llinás, E. V. (2009). *La orientación académica desde el bienestar universitario*. Bogotá, Colombia: Ediciones Uninorte.

Lucas, S. (2002). *Construyendo la decisión vocacional*. Valladolid, España: Servicio de Publicaciones de la Universidad de Valladolid.

Lucas, S. (2006). *Inserción sociolaboral de las personas pertenecientes a grupos de exclusión y a otros colectivos*. Curso de Doctorado de la Universidad de Valladolid (inédito).

Lucas, S., Arias, B., & Ovejero, A. (2005). Orientación profesional e inserción sociolaboral de personas con discapacidad intelectual. Valladolid, España: Universidad de Valladolid. Recuperado de <https://uvadoc.uva.es/bitstream/handle/10324/11321/?sequence=1>

Similar document in English
http://oasis.col.org/bitstream/handle/11599/395/CFC_Unit_8.pdf?sequence=11&isAllowed=y

Lucas, S., Arias, B., Ovejero, A., Cruz, F., Retortillo, A., & Rodríguez, H. (2012). Orientación Profesional e Inserción sociolaboral de personas con discapacidad Intelectual. *Revista Universitaria de Ciencias del Trabajo*, 6, 394-413.

Luzo, D. A., Funk, D. P., & Strang, J. (1996). Attributional retraining increases career decision-making self-efficacy. *The Career*

Development Quarterly, 44(4), 378-386. doi: 10.1002/j.2161-0045.1996.tb00453.x

Mercado, E., Aizpurúa, E., García, L. M. (2013). Avanzando hacia la igualdad de oportunidades en la inclusión socio-laboral de las personas con discapacidad. *Cuadernos de Trabajo Social*, 26(1), 95-104. doi: 10.5209/revCUTS.2013.v26.n1.39571

Organización Internacional del Trabajo (OIT) (2016). *Manual de servicios de orientación vocacional*. Ginebra, Suiza.

Proyecto de Resolución del Consejo y de los Representantes de los Gobiernos de los Estados miembros, reunidos en Consejo, de 21 de noviembre de 2008, titulada «Incluir mejor la orientación permanente en las estrategias permanentes de educación y formación permanente»

<https://eur-lex.europa.eu/legal->

[content/ES/TXT/PDF/?uri=CELEX:42008X1213\(02\)&from=ES](https://eur-lex.europa.eu/legal-content/ES/TXT/PDF/?uri=CELEX:42008X1213(02)&from=ES)

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Roberton, J., Emerson, E., Hatton, C., Gregory, N., Kessissoglou, S., Hallam, A., & Walsh, P. N. (2001). Environmental opportunities and supports for exercising self-determination in community-based residential settings. *Research in Developmental Disabilities*, 22(6), 487-502. doi: 10.1016/S0891-4222(01)00085-3

Romero, S. (1999). *Orientación para la transición de la escuela a la vida activa*. Barcelona, España: Laertes Psicopedagogía.

Salinas, F., & Sanz, J. (2003). *La economía social y la integración socio-laboral de las personas en riesgo de exclusión*. Salamanca, España: Servicio de publicaciones de la Universidad Católica de Ávila.

Schalock, R. L., & Verdugo, M. A. (2007). El concepto de calidad de vida en los servicios y apoyos para personas con discapacidad intelectual. *Siglo Cero*, 38(4), 21-36.

Sescovich, S. V. (2009). *La gestión de personas: Un instrumento para humanizar el trabajo*. Mexico: Libros en red.

Vidriales, R., Hernández, C., & Plaza, M. (2018). *Empleo y Trastorno del Espectro del Autismo. "Un potencial por descubrir"*. Madrid, España: Confederación Autismo España.

Glossary

Academic Competences: (Capacities-Competences-Skills are terms that are often used interchangeably). Ability to perform the different tasks necessary to cover the demands of study at the university.

Adaptation Capacity: Capacity of the educational system. It is the willingness to actively deal with new work situations resulting from technological and/or organisational changes or transformations. It also involves valuing and understanding the meaning and function of other people's work in relation to one's own skills. It also includes the willingness to actively face the first real work situation, i.e. professional insertion, taking into account the competences that students can exercise and the responsibilities they have to assume.

Certificate of Professionality: Document issued by the Labour Administration that accredits the "professional competences" acquired through training activities within the scope of said administration.

Choice: Means to recognise oneself as different, separate, with an identity that is never definitely secure, that can always be questioned again. It means making a choice and having a certain autonomy/responsibility to accept the consequences of that choice.

Employability: Professional competence, acquired after a succession of apprenticeships, identified by the company, defined by pre-determined performance criteria and recognised as such by a given occupation.

Employment: Can be used in two ways: a. Any work, regular or intermittent, paid and carried out by an employee (employment); b. A set of functions and attitudes, related to a job, performed by a person in the production of goods and services (a job).

Enterprise

All enterprises in the public or private sector, regardless of their size, legal status or the economic sector in which they operate, as well as all types of economic activity, including the social economy.

Formal Learning: This is what takes place in education and training centres and leads to the awarding of diplomas and recognised qualifications.

Guidance for Personal Development: When the guidance process is established as a goal to enhance the student's training in the cultural, social, family, relational and ethical spheres.

Guidance for Professional Development: When the guidance process is established as a main objective, it facilitates students' academic and professional decision-making, as well as their transition to the world of work.

Informal Learning: It is a natural complement to everyday life. Unlike formal and non-formal learning, informal learning is not necessarily intentional and therefore may not be recognised by stakeholders as positive for their knowledge and skills.

Job Analysis: This consists of providing a description of the differences between jobs in terms of the demands, activities and knowledge required to carry them out.

Job Position: Set of tasks, duties and responsibilities that, within the framework of the working conditions of a given entity, constitute the usual work activity of a person.

Job Profile: The set of job characteristics of a job that determine the requirements to be met by the worker who occupies it.

Job Qualification: Set of competent skills to fully develop a productive function.

Learning: Understood as a continuous process that takes place throughout the life of a subject. It implies an appropriation of reality in order to transform it. It is intimately linked to human "non-fulfilment", the search for ever-moving and changing objects, which makes possible an infinite possibility of new learning.

Objective: That an objective is the result that the learner is expected to achieve at the end of a given learning process.

Orientation: Educational process whose aim is to favour the integral development (academic, personal and professional) of the student.

Problem-Solving ability: Key ability detected in the professional profile. It is the willingness and ability to face and respond to a given situation through the organisation and/or application of a strategy or operational sequence (identify, diagnose, formulate solutions, etc.).

Productive Activity: This is each of the groups into which companies can be divided according to the different products and/or services they mainly produce (this concept is reflected in the Sectorial Studies Methodology).

Profession: Set of jobs with similar or closely related tasks that require qualitatively similar qualities, knowledge or skills to be performed.

Professional Category: Recognition within the framework of the labour relations of the company and/or sector of the worker's abilities and skills to carry out a specific work activity within the professional group. Term used by the former Labour Regulations and in the Workers' Statute, equivalent to the professional levels and functional areas of activity of the professional groups. The Collective Bargaining Agreement sets the

objective of replacing the current professional categories with professional groups.

Professional Competences: Ability to respond to the demands of the profession and to perform specific professional actions.

Professional Function: Globally, the function refers to the set of activities of the same nature that allow the fulfilment of the objectives of an organisation (e.g. commercial function, production function...). In a defined structure, the function represents a grouping of jobs with similar activities (e.g.: agency manager function in bank X).

Professional Profile: We understand by profile the set of professional competences that characterise each qualification and is the reference of the productive system to define the training that accredits this vocational training qualification. The professional profile includes professional skills and achievements grouped by units of competence. The achievements are the expected behaviour of the graduate in certain work situations. The skills are the aptitudes that the professional has to demonstrate when developing the achievements and achieving the qualification of the degree.

Professional Qualification: Qualification constituted by a potential of knowledge, skills and competences, which allows understanding and mastering a specific professional situation, reproducing it in an environment and in the whole productive process, transferable to other work situations within the same company or in different companies.

Self Concept: What you think of yourself.

Self-Training: Specific learning times in a training plan when the learner works alone or in a small group with appropriate resources (multimedia learning material and trainer present or at a distance). Includes (self-) assessment and progress monitoring times. Can take place in various

locations: home, company, training centre, resource centre (other than self-study).

Skill: Ability or disposition to perform a certain task or type of activity, either by natural endowment or inheritance, or as a result of learning and experience. A mastery or high level of performance that is maintained in stable patterns of behaviour that the person executes with skill. Six main groups of basic skills can be distinguished: sensory, motor, perceptual, communicative and social. The learning of each of these types of skills requires differential techniques and practices that take into account the adequate perception of external stimuli, the precision and speed of the response and the reflection on how the subject performs the action. The concept of skill is often differentiated from the concept of ability (although they are sometimes used as synonyms). Skill is more specific and instrumental in nature, referring to one mode of action (physical or mental). However, a skill may require several skills in combination.

Test of Aptitudes: Examination of the applicant's professional knowledge, which will assess his or her aptitude for the exercise of the profession in Spain. It will cover subjects whose knowledge is essential for the practice of the profession in Spain and which are not covered by the qualification provided by the applicant. This test may include knowledge of the professional ethics applicable in Spain to the profession concerned.

Training: Specific aptitude or preparation for the performance of a given activity or task.

Training Needs: Difference in knowledge or skills between the required occupational profile and the actual occupational profile.

Training Pathway: The set of modules corresponding to an occupation which, sequenced and ordered pedagogically, make it possible to carry out the occupation.

Training Plan: Integrated and ordered set of training actions necessary to solve the competence problems existing in the company and to satisfy its training needs.

Vocational Training: Vocational Training in Spain is characterised by the fact that it is organised into three subsystems that operate quite independently of each other: Regulated Vocational Training (RVT), Initial Vocational Training (IVT) or Continuing Vocational Training (CVT).

Work Process: Succession of actions, activities or phases required to obtain a product/service and which is framed within a phase of the production process.

Workplace: The place where you work, the climate in which you work, the people with whom you interact in different ways to carry out your work. The environment in which you work and interact with the other people who work with you. Activities, good relationships, motivations, communication, organisation, administration, management, safety, opportunities, techniques, empathy, teamwork, tools, equipment, training, assessment, responsibilities, duties, rights, values, leadership, productivity.

Workplace Analysis Questionnaire: A method of analysing workplaces that takes into account personal characteristics as well as technological and other factors specific to the task at hand.

Resources

3.1. Jobpics

Vocational counselling methods include different techniques such as questionnaires, interviewing, direct observation, group dynamics, etc. The tools most frequently used by most professionals are questionnaires or inventories, which enable different aspects to be explored, such as interests, motivation and preferences (Ferrerias et al., 2013)

However, Ferreras et al. (2013) state that the advantages of conventional questionnaires or inventories (such as repeatability, information processing, validity, etc.) become disadvantages when the counsellor works with people who are not comfortable with the questionnaires, do not understand them or do not take advantage of them properly, e.g. people with intellectual disabilities, with difficulties in reading and writing, foreign nationals, etc. In such cases, conventional questionnaires are not useful and may need to be supplemented by other tools or techniques.

Ferrerias et al. (2013) present an alternative to conventional questionnaires: the Jobpics tool, originally developed by psychologist Arne Svendsrud of the Norwegian Association of Vocational Rehabilitation Enterprises (AVRE) . The Spanish version was produced by the Institute of Biomechanics through Jobpics-Europe, a project financed by the European Commission's Leonardo da Vinci programme, presented by the national agency SIU (Norwegian Centre for International Cooperation in Education). The purpose of this project is to make versions of Jobpics in different languages and adapt the method to different national circumstances.

Jobpics is a tool for image-based vocational counselling. The use of Jobpics alone or in combination with other techniques enables specialists to work on the person's vocational interest profile. It is a very

open tool, so specialists can use it in different contexts with forms of advice adapted to the needs of each individual user.

Jobpics is based on the RIASEC theory, drawn up by John Holland, which allows characterizing the professions according to interest categories (Realistic, Investigative, Artistic, Social, Enterprising and Conventional). People can also be classified into 6 vocational personality types, based on their patterns of interests, personality, abilities, values and motivation. Vocational guidance from this perspective tries to make an adjustment between the person and their vocation. The goal is for individuals to make vocational choices consistent with their profiles.

Jobpics consists of 183 cards with images of occupations. On the front of each card is a main image of the occupation, a code that classifies it according to the RIASEC system and the level of training required. On the back of each card there are two more photographs and related occupations that can be used to extend the advice.

It is an image-based tool aimed at people who are not comfortable with or are unable to take conventional pencil and paper based tests. Jobpics may be appropriate for groups that have literacy problems, limited language skills or attention deficit disorder. Furthermore, images generate many more ideas and are more informative than texts. The images are highly descriptive and allow for richer and more varied advice, in which specialists can design different types of sessions and strategies adapted to people's needs.

The guided process with Jobpics allows various possibilities for the specialist and for the user:

- For the specialist it involves the systematic collection and classification of valuable information on the vocational interests of the user.

- For the user, it provides the possibility of reflecting on their interests, preferences and abilities and thus identifying, enhancing and defending their strengths.

It can be applied individually, within a process of personalised advice or in a group, in a process of raising, stimulation, etc . Jobpics is used for several purposes:

- Advising on the process of choosing studies or occupational training.
- Facilitating the job search process based on interests and abilities.
- Delineating the personal profile of the user, so as to facilitate the design of vocational itineraries (training, work, rehabilitation, etc.).
- Helping the user to “discover themselves” as a form of support in decision-making moments.
- Enhancing the interests, preferences and abilities of the user (e.g. in preparing CVs & job interviews, etc.).
- Facilitating the process of occupational and educational rehabilitation.
- Using activities and games related to vocational guidance and the discovery of the world of work.
- School orientation during the process by which the student is helped in their studies and in the period of adaptation to school.
- Supplementing the conducting of psychological tests and standard vocational guidance.
- Supplementing the conducting of psychological and personality tests in job selection processes.

In short, this tool is a novel instrument for facilitating vocational counselling for specialists working in this field. Its features make it especially interesting for working with users with job placement

problems, although it can also be useful in areas such as education or business (Ferrerias et al ., 2013).

3.2. Kuder's vocational preferences.

This is an inventory of vocational interests created by Frederic Kuder in 1993. It consists of a total of 104 questions, in which the person must mark two of the three answer options: the one they like the most and the one they dislike the most. Kuder explains that interests motivate behaviour and are expressed in preferences for certain activities rather than others. He describes ten types of interest:

Type of interest	characteristics
Outdoor interests.	These are manifested through an interest in engaging in activities outdoors interacting with nature.
Mechanical interests.	These are manifested through an interest in doing work involving tools, machinery and mechanical devices.
Interest in numbers and calculations.	This is manifested through an interest in activities that involve the use of mathematical symbols and the study of numerical elements.
Scientific interests.	This is manifested through an interest in biological, chemical and physical processes and events.

Table 1. Interest rates from the Kuder Vocational Preferences Inventory.

Tools

Add ideas of tools for the VLE to enhance the topic.

European Association for Diversity of Supported Employment Toolkit.
European Supported Employment Toolkit.

This toolkit consists of a variety of position papers and how-to guides and is designed to increase the knowledge and skills of professionals responsible for providing Supported Employment services.

[Http://www.empleoconapoyo.org/aese
/Caja%20de%20Herramientas%20para%20la%20diversidad.pdf](http://www.empleoconapoyo.org/aese/Caja%20de%20Herramientas%20para%20la%20diversidad.pdf)

(Spanish)

[http://www.euse.org/content/supported-employment-toolkit/EUSE-
Toolkit-2010.pdf](http://www.euse.org/content/supported-employment-toolkit/EUSE-Toolkit-2010.pdf) (English)

Tips

Add advice to work with people with intellectual disabilities. It can be related to the topic, module or whole course.

1. Adopt a natural and simple way of speaking. Avoid technical and complex language and use direct and well-constructed sentences. Avoid circumlocution.
2. Don't underestimate the talents of people with intellectual disabilities. Often times, we don't include them in everyday or work conversations because we think they won't measure up.
3. Respond Answer their questions making sure they understand us. Be patient, your reactions may be slow and it may take time to understand what you are saying.
4. Except for intellectual problems, treat them according to their age.
5. Facilitate your relationship with others. Form teams in this regard.
6. Avoid overprotection. We must let them do or try to do all they can by themselves. Help them only when necessary.
7. They want to live in standardized situations and be valued for what they do and not for being people with intellectual disabilities.
8. Try Try to be attentive to their responses, so that you can adapt the communication if necessary.
9. Talk Talk directly to the person with an intellectual disability, not to the person accompanying them if they have it.



Emphasize skills, not limitations	Person using a wheelchair	Person confined to a wheelchair, person in a wheelchair
Don't use language that suggests the lack of something.	Person using a voice device Person with Disability Small person Person with cerebral palsy Person with epilepsy or seizure disorder Person with multiple sclerosis	I can't speak, mute Disabled, handicapped Dwarf Victim of cerebral palsy Epilepsy Suffering from multiple sclerosis
Emphasize the need for accessibility, not disability.	Accessible parking or restrooms Person with physical disability Person with an intellectual, cognitive or developmental disability	Disabled parking or toilets Crippled, lame, paralyzed, deformed, invalid, spastic Slow, dumb, dumb, flawed, troubled, special



Don't use offensive language	Person with an emotional or behavioral disability, person with a mental health impairment or psychiatric disability Non-disabled person	Crazy, crazy, psychotic, maniac, crazy Normal person, healthy person.
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Source: Centers for Disease Control and Prevention (CDC).

<https://www.cdc.gov/ncbddd/disabilityandhealth/disability-strategies.html>

Curiosities

WHAT IS THE CORRECT TERM FOR SOMEONE WITH A DISABILITY?

This is perhaps the most common doubt and where the vast majority of people end up making mistakes. In some cases, people try to be 'politically correct' and end up using euphemisms, which only makes the situation worse. The correct and internationally accepted term is 'person with a disability', or "person with functional diversity." Any term outside of this would be wrong or could even create some discomfort for the person.

The term "person with disabilities" has been in force since 2006, with the United Nations Convention on the Rights of Persons with Disabilities.

WHAT SHOULD I SAY WHEN I AM INTRODUCED TO A PERSON WITH A DISABILITY?

How about starting with a "hello, okay" and asking her name? Saying something like "it's nice to meet you" is always nice. Remember: you are in front of a person, flesh and blood. With dreams, vision of the world, fears, expectations, abilities ... Like you. So treat her normally like everyone else. Easy, isn't it?

DO ALL PEOPLE WITH THE SAME DISABILITY KNOW THEMSELVES?

No, the universe of people with disabilities is not as small as it seems. Worldwide, 10% of the population has at least one disability, be it mild or severe.

INTELLECTUAL DISABILITY AND MENTAL ILLNESS: ARE THEY THE SAME?

No! They are totally different things. Intellectual disability (and not "mental", as some say) may be the result of a disease, but this is not a disease; it is a "condition", a certain limitation. In addition to disease, it can be caused by accidents, unfavorable socioeconomic conditions

that lead to deprivation of stimuli, malnutrition, organic, hereditary and genetic factors.

It should be noted that, as it is not a disease, it is not contagious.

ARE PEOPLE WITH INTELLECTUAL DISABILITIES MORE LOVING?

People with intellectual disabilities are generally affectionate, like to communicate and have a good sense of humor. But there is no such thing as "more" or "less". If the person is gentle and kind, it is because it has a lot to do with his personality, his education, her values. That is, in the same way that it works with anyone. Whether or not you have a disability is not a determining factor.

Links

- How to perform well in a job interview

<https://www.youtube.com/watch?v=7D1RcWS0ce0> (English version)

https://www.youtube.com/watch?v=WdBFaJ2C_4E (Spanish version)

- Have a job interview - Fundación Vodafone España

<https://www.indeed.com/career-advice/interviewing/job-interview-tips-how-to-make-a-great-impression> (English version)

<https://www.youtube.com/watch?v=gtCP8Jh8JGk> (Spanish version)

- Experience intellectual disability and employment

<https://www.youtube.com/watch?v=vAtnp1UDfMc> (English version)

<https://youtu.be/ICnT0ydzJNM> (Spanish version)

- Supported employment

<https://youtu.be/VRH5nizxicl> (English version)

<https://www.youtube.com/watch?v=hJEMpLajlh8> (Spanish version)

- Find a job with a disability

https://www.youtube.com/watch?v=ojBDvEfzR_E (English version)

https://www.youtube.com/watch?v=TFEAAw_sSec (Spanish version)

- Tips for handling a job interview

<https://youtu.be/J2GNRzcykIk> (English version)

<https://www.youtube.com/watch?v=yDdG0fjM44w> (Spanish version)

- Body language in a job interview

<https://youtu.be/ZwX9L2NC4iY> (English version)

<https://www.youtube.com/watch?v=yQ5Il-7IGSg> (Spanish version)

- Successes and mistakes in a job interview

<https://www.cnn.com/video/2017/01/09/the-first-moments-of-a-job-interview-matter-the-most.html> (English version)

<https://www.youtube.com/watch?v=WLyg864p5XE> (Spanish version)

- CV and cover letter workshop

<https://www.youtube.com/watch?v=M9BvJhy5Vbo> (English version)

https://www.lanbide.euskadi.eus/contenidos/informacion/videos_orientacion/es_def/adjuntos/materiales%20de%20consulta/MANUAL%20COMPLETO%20TALLER%20CV.pdf (Spanish version)

-- Employment guidance material for people with disabilities

https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_106577.pdf (English version)

http://www.lantegibatuak.eus/wp-content/uploads/2019/11/Manual-lantegi-batuak-Orientacion_personas_con_discapacidad.pdf (Spanish version)

- Guide to job search skills and techniques

<https://resumegenius.com/blog/career-advice/job-hunting-tips> (English version)

- Youth Job Search Tools

<https://www.collegexpress.com/articles-and-advice/career-search/blog/best-job-apps-teens-and-new-grads/>

<https://community.lincs.ed.gov/group/28/bulletin/tools-help-youth-find-jobs>

Introduction

Close interpersonal relationships are a prerequisite for the sense of belonging and togetherness, and for social support. The prerequisites for success in social relations are age-appropriate social skills, fast interpretation of social information, and the capacity to choose the best strategies. Well-developed social skills are associated with higher academic achievement, psychological adjustment, coping skills, and employment.

In most people, peer relationships develop spontaneously without special facilitation. However, people with intellectual disabilities often need help to improve social participation and interaction with peers. Additional support from people close to them is an important factor for the development of social interactions. Social support, good models and social skills training are of great importance. In the educational context, the role of teachers is especially emphasised, as well as the role of peers of people with intellectual disabilities.

A person with an intellectual disability should feel welcome in the group and accepted by teachers and peers. They should be introduced to ways to support social communication and social relations of peers with intellectual disabilities. Likewise, the environment should be arranged in such a way as to encourage interaction between peers and a person with an intellectual disability. It happens that peers have a desire to help people with disabilities, but they do not have the opportunity or are not provided with appropriate structures (e.g. cooperative learning, the role of peer tutors...).

Owing to cognitive traits, people with intellectual disabilities have less developed social skills. Deficits in knowledge and reasoning affect social development through delays in the development of positive social skills, which lead to withdrawal and poorer relationships with peers.



People with intellectual disabilities have difficulties in processing information, which limit their understanding of the information needed to adequately manage social interactions. The skills for initiating quality social interactions are not sufficiently developed in these people, and thus difficulties in communicating with peers occur and the risk of social exclusion increases. However, it should be kept in mind that limitations in these individuals often coexist with strengths, and that their level of functioning can be improved if these individuals are provided with personalised support over an extended period of time.

Most people with intellectual disabilities have problems with verbal communication. They use a specific vocabulary, do not adapt answers to their interlocutor, do not react completely adequately and leave the impression of being inattentive. In addition to problems in verbal communication, people with an intellectual disability can also have difficulties in nonverbal communication (body language, facial expression, intonation), and due to cognitive processing deficits, they often reach wrong conclusions, react inappropriately or do not respect the interpersonal space of their interlocutors.

It is harder for people with an intellectual disability to learn the formal and informal rules which govern social interactions. The process of learning and internalising these rules to some extent depends on the capacity to recognise and regulate both one's own and other people's emotions and respond to them. This ability is reduced in people with an intellectual disability. Simultaneously focusing on a plurality of social signals, as well as choice of the appropriate social strategy, are also possible problems that can hinder the social interactions of these individuals.

Some people with an intellectual disability may have high social motivation. They can be very sociable, behave well in social situations,



and be active in a peer group. However, difficulties in some key social domains remain.

Owing to numerous frustrations, people with intellectual disabilities can lose their self-confidence and withdraw from social interactions.

Growing up and maturing bring changes in relationships with peers: belonging to a group becomes more significant, and interactions more complex. The difficulties that people with an intellectual disability experience in facing these new challenges may affect attitudes toward them as well as their social acceptance. In addition, higher levels of education and participation in a regular educational environment open up new opportunities, but also place greater demands on these people, which further complicate the situation.

Background of the topic

Conceptualisation of basic definitions of social behaviour

Social skills are learned, they consist of specific behaviours, include initiations and responses, and are socially supported, interactive and situation-specific, and can be identified as the goal of an intervention (Merrell & Gimpel, 1998). This definition views social skills as adaptive behaviours, while failure to use them is usually described as a *social skills deficit*.

Social competence is the term related to successful exercise of social skills. Social skills are the specific behaviours required to competently perform a task, while social competence is a more general and evaluative term. Social competence extends beyond essential, age-appropriate social skills. It includes knowledge of how to behave and respond in an acceptable way in different social contexts. A socially competent person behaves appropriately in different social circumstances because he knows which social "rule" applies in a particular context.

Gresham (1986) identifies three types of definitions related to social behaviour: peer acceptance, behavioural and social validity.

In definitions which emphasise *peer acceptance*, a person is viewed as socially skilled if they are ranked as popular or accepted by peers. This type of definition allows predicting which children will be assessed as competent, but does not determine which social behaviours lead to peer acceptance, which limits their usability for treatment purposes.

The second type of definition describes social skills in *behavioural terms*. Here, social skills are viewed as situation-specific behaviours which are more often supported and less often punished. Behavioural definitions have an advantage over those related to peer acceptance, because specific behavioural precursors and consequences can be defined and,

based on them, treatment goals can be determined. However, these definitions are also limited, as there is no mechanism which provides assurance that the social skills selected are indeed socially significant or related to socially significant outcomes.

The third approach relies on *social validity*. Within this approach, social skills are defined as specific behaviours which predict significant social outcomes in certain situations. Significant social outcomes may include acceptance by others (e.g., peers, parents, teachers), school adjustment, and psychological adjustment. This approach makes an explicit link between social skills and social competence. A potential weakness of this approach is that behaviours which are seen as socially valid may be influenced by cultural or other prejudices.

Classification and domains of social skills

Gresham (1998; 2002) describes three types of social skills deficits: acquisition, performance, and fluency deficits. *Acquisition deficit* indicates a lack of the knowledge needed to perform a certain social skill, even under optimal conditions, or a failure to distinguish which social behaviour is appropriate in a given situation. Intervention involves teaching a person with an intellectual disability a certain social skill, i.e. adding the skill to the existing behavioural repertoire. *Performance deficit* implies the existence of a certain social skill in the behavioural repertoire, but also a failure to apply this knowledge at the appropriate level in a given situation. The appropriate intervention goal is to encourage and support appropriate use of this particular behaviour. We talk about *fluency deficit* when a person has the necessary knowledge and wants to apply it, but their social skill performance is awkward and inept. Fluency deficit is related to a lack of exposure to appropriate models of social behaviour, difficulty in recalling information, lack of practice, or the rarity or inconsistency of any encouragement to perform a particular skill. Intervention involves providing more opportunities for a

person with an intellectual disability to practice a skill and acquire fluency. The advantage of this classification is that it provides a clear link between assessment and treatment, which is based on the type of deficit (Gresham & Elliott, 1989; Gresham, 2002).

By studying the work of other researchers, Caldarella & Merrell (1997) identified five dimensions of social skills: (a) *peer relations* (e.g. giving praise, offering help, involving peers in play), (b) *self-management* (e.g. controlling mood, obeying rules, making compromises in conflict situations), (c) *academic skills* (e.g. completing tasks on their own, listening to teacher instructions, providing work of an acceptable quality), (d) *compliance* (e.g. following instructions, obeying rules, using free time appropriately) and (e) *assertion* (e.g. initiating conversation, accepting praise, making friends).

Specific concepts

Direct Observations – using an observational data coding system which defines categories of behaviour, the observer can record a person's behaviour over a period of time.

Self-reports – these provide information about the subjective perception of one's own social competence.

Cognitive-behavioural approach – aimed at changing the way of thinking in order to influence behaviour.

Contextual approach to the assessment of social skills – considers not only the goals and motivation of social behaviour from a person's perspective, but also the responses of other people from the environment who may support or discourage social behaviour.

Molecular approaches to social skills interventions – social behaviours are taught to be a response to socially discriminatory/discriminatory social stimuli and their linking into “behavioural chains”. Intervention models within this approach are aimed at increasing specific behaviours which will be supported in the natural environment.

Multicomponent training of cognitive behavioural skills – this is focused on the moods and psychological responses associated with anger or anxiety. Common components added to these intervention programmes include identifying the psychological factors which cause anger or anxiety and applying behavioural techniques such as relaxation.

Operant techniques – these involve the use of positive reinforcement strategies, such as token economy, food and social reinforcement.

Process approaches to social skills interventions – these focus on self-guided processes which could help generalise skills. Some examples are social problem-solving, self-monitoring and self-reinforcement. Interventions within this approach focus on teaching children general cognitive strategies to be applied in specific situations.

Social skills assessment scales – these require teachers, parents or peers to assess a person according to a number of specific criteria.

Social competence – an evaluative term that implies knowledge of how to behave and respond in an acceptable way in different social contexts.

Social performance – the extent to which social responses meet socially valid criteria or adequacy of behaviour in a particular and relevant social situation.

Social validity – a multidimensional construct which includes three levels: social significance, social importance, and social acceptability.

Social adjustment – the achievement of significant developmental goals, such as peer status and family cohesion.

Traditional social skills assessment – this focuses on identifying a child's social deficits and evaluating the outcome of the intervention.

Social skills training – this assumes that the child has a lack of social skills and involves the use of various teaching techniques to reduce these deficits. Common steps in teaching social skills are: defining, modelling the skill, imitating and repeating, giving feedback, providing an opportunity to use the skill, occasional reinforcement.

Special needs for people with ID about the topic

With regard to the high frequency of difficulties with social skills, it is often recommended that work be done on their improvement, as a significant tool in increasing acceptance and successful inclusion. Social skills training is believed to have a positive effect, especially for people with mild social difficulties, if:

- a) it is precisely focused on the skills and knowledge that the individual lacks
- b) if it is intense and long-lasting
- c) if the programme is implemented in a way which ensures maintaining, generalising and transferring new skills outside the context in which the training was performed, i.e. in the individual's daily life as well.

These are the characteristics of quality interventions and related teaching strategies aimed at developing social skills:

They focus on social and emotional learning strategies which encourage reflexivity and self-awareness.

- They encourage the understanding that individual actions and words have consequences.
- They develop the ability to observe a situation from different perspectives.
- They teach a person to think about situations and challenges by considering different outcomes.

They provide opportunities to practice successful social skills through individual and group work.

- They model social skills which are important for success at home or at work by using praise, positive reinforcement, correction, and redirection of inappropriate behaviours.
- They talk about successful interactions, paying special attention to the steps that need to be followed. For example,

they discuss the process of conversation, and show how listening carefully is an important part of interaction.

- They use role-play in developing social skills.

They adjust strategies according to the type of social deficit.

- They successfully manage the physical environment.
- They set clear goals and behavioural expectations in each lesson. They simulate "real life" challenges that a person may encounter at work, at home and in the community, in order to place social skills in a practical context.

They design the intervention according to the individual needs of a person.

- They consider the results of diagnostics and assessment when making decisions regarding the intervention.
- They examine which strategies are appropriate for certain social skills deficits.
- They match treatment intensity and duration to the person's needs.

The aim of these programmes is acquiring and performing social skills. In some people, undesirable behaviours interfere with the acquisition of new behaviours. For example, snatching an object, instead of asking for it appropriately, can in some situations be perceived as more successful in performing the function of acquiring tangible things. In these cases, learning new behaviours must be paired with strategies which reduce undesirable behaviours.

Social skills programmes need to be proactive. This attitude expresses the effort to give a person the opportunity to be accepted, develop friendships and live a healthier and happier life. Improving social adequacy reduces the possibility of a person being socially rejected, having a poor self-concept, exhibiting undesirable behaviour, or leading a life of low quality. Proactive teaching is opposed to the adoption of

reactive approaches to social deficits. When social skills are learned in a proactive way, a person learns in a positive environment before any negative consequences of social rejection can occur. On the other hand, with a reactive approach, the solution of problems comes after a person has experienced them.

When a new behaviour is introduced, it needs to be practiced in the person's usual environment to ensure its generalisation. In short, the training should teach a person the necessary social skills, but also ensure their generalisation and successful use in everyday life. Some of the generalisation strategies are: supporting spontaneous performance of social skills in the natural environment, training with more people in different environments, providing natural reinforcements for social skills, practicing skills in the natural environment, and gradually reducing incentives as far as possible.

It is recommended that social skills learning programmes encourage active engagement and structured learning activities, rather than the acquisition of skills through tangentially related experiences. Approaches which use selected and direct activities, selected content organised around questions which motivate and occupy attention, are considered successful. Furthermore, learning is most successful in sequences that include: demonstration, encouragement, and practice. While practicing, a person has to be highly successful in order to maintain motivation to learn, and giving feedback on the expressed skill is also a significant factor. Support (verbal cues, modeling and encouragement), systematic feedback and repeated corrected practice give the best results.

Teaching social skills should be in accordance with the cognitive abilities of a person with an intellectual disability, and also with their chronological age.

When working with people with intellectual disabilities, one should be aware of certain characteristics of their communication. People with an intellectual disability have difficulties in formulating a statement with a clear message to the listener, and they formulate requests much more easily than comments. Even when adapting their use of language to a social situation, these people are not completely successful and may seem rude or socially inept. People with an intellectual disability are able to expand a topic actively, but are often limited in the types of topics they can start a conversation with. Furthermore, they experience problems in assessing which topic is appropriate for a certain situation. They also have difficulties in producing statements on a particular topic initiated by other participants in a particular communicative situation.

Although motivated to clarify unclear statements, people with intellectual disabilities often fail to provide meaningful information, but focus on irrelevant elements of the statement. On the other hand, they rarely ask for clarification of ambiguities in a speaker's messages. Instead, they prefer to guess what the speaker meant. Taking turns in conversation in most cases is not a source of significant problems for people with milder forms of intellectual disability, although they may have problems in a conversation involving several interlocutors.

These people often interpret statements literally, find it difficult to understand jokes, react inappropriately to the jokes of others, and express social inexperience. They have difficulty understanding idioms, while they often interpret ironic jokes as lies.

Despite these traits, there is general agreement that these individuals are relatively skilled communication partners in common situations which do not place significant cognitive and social demands on them. People with intellectual disabilities are successful in short greetings and answers to simple questions. However, problems arise in longer conversations and expanding the topic.

In communication with a person with an intellectual disability, a teacher should adhere to the following recommendations:

- before conveying a message, say the person's name and wait for them to look at you;
- speak slowly, clearly and loudly enough – use gestures if possible;
- keep instructions short – it is better to give several short instructions than one long “list”;
- emphasise important words;
- do not use adverbs and adjectives if you are not sure that the person knows their meaning;
- keep the ideas in messages simple – use one sentence for one idea;
- if you want to give complex instructions, use visual reminders (e.g. use pictures, symbols or written words to describe each part of the instruction);
- if you want to give "if-then" instructions, emphasise what you expect the person to do FIRST (e.g. "We will go to the cafeteria *after you finish the task.*");
- if the person does not react, wait for at least 10 seconds, attract their attention, repeat the message using fewer words and emphasising the important ones;
- if the person does not respond adequately, attract their attention and repeat the message using other words;
- remember – stay calm, because the message that you are angry is sometimes only too easily conveyed.

Methodological proposals

Assessment

The development of social skills programmes requires careful planning. With each participant in the programme, it is necessary to get a picture of the development level of their social skills and define their areas of relative strengths and weaknesses. Apart from the people at whom the intervention is directed, those who know them well in different settings (such as parents, peers or teachers) are in the best position to provide the necessary information. The aim is to define the areas of social and interpersonal skills which are not fully developed. This will help determine the skills that the programme will be aimed at, as well as the methods that will be used. For the purpose of assessment, the following may be used:

1. role play
2. direct observation of behaviour
3. checklists and assessment scales
4. interviews
5. sociometric questionnaires
6. self-reporting

Treatment

Many social skills training programmes include both a cognitive and a behavioural component. The behavioural approach is considered appropriate for learning discrete aspects of social behaviour, such as appropriate ways to approach peers and to give and receive compliments. In order for social skills to be successfully applied, deeper cognitive processes are required, such as problem-solving and decision-making - which is the area of cognitive approach.



Operant approach

This approach analyses how events which occur before or after a verbal or physical act affect further manifestation of that behaviour. It is most important to control precursors and reinforcements. Techniques such as different types of reinforcement, incentives, modeling, repeated attempts/training, etc. are used.

An example of such an approach to intervention is discrete trial training. In pre-arranged sessions, a person and a therapist sit at a table, face to face, in an environment where distractors are kept to a minimum. The therapist chooses specific behaviours (e.g. eye contact, saying thank you) as activities that the person does not yet perform spontaneously, regardless of the person's interests. Behaviour is divided into sequences (steps) and is learned through multiple, successive attempts. The therapist directs a person to a specific ("separate") task or behaviour that has a clear discriminatory stimulus and a clear discriminatory consequence. The therapist re-initiates the attempts until the person satisfies a predetermined achievement criterion. Attempts are usually numerous in order for the skill to be acquired quickly. Each activity is learned individually, in blocks of attempts; however, several different activities can be learned in different blocks within a single session. Once the activity is learned, a random rotation of several mastered activities in the same set of attempts is applied. Behaviour is encouraged and modeled, with the use of tangible reinforcements, often food, a desired object or activity, to increase the frequency of the desired response.

Although operant techniques are often successful in changing social behaviour, their benefits are often lost when the reinforcement is no longer present. The main limitation of this approach is the lack of generalisation, i.e. a highly structured environment does not provide enough variability to generalise learned behaviours to other, less structured environments. Therefore, generalisation of skills learned with

this approach must be specially planned. Due to limitations in isolated use, operant techniques are most often paired with other strategies.

Social skills training

This model of intervention assumes that a person has a lack of social skills and involves the use of various different teaching techniques to reduce these deficits. Most social skills training programmes are based on a combination of direct teaching, modelling, role-playing, repetition, feedback, and counselling. Videos are also used to show examples of the social behaviours being discussed, or as feedback given to students on their performance or role play.

The first step is to determine which social skills or behaviours are a priority for a particular person. The selected skills should have immediate functional value for the person in their social environment (so that they can be applied immediately). Relying on intervention within the environment is not always enough for people who are extremely withdrawn or rejected. Sometimes it is necessary for a person to be removed from a group to undergo intensive training in a certain social skill before the skill can be successfully applied in an environment that includes a peer group.

Typical steps in teaching social skills include:

- *Defining*: The skill which will be learned is described. It is discussed why the skill is important and how its use helps social interactions. The skill can be illustrated by videos, pictures or drawings, or by pointing to activities that take place within a peer group. The teacher can say: "Look how these two girls are putting the puzzle together. Tell me what they could be saying to each other."
- *Skill modelling*: The skill is divided into components demonstrated by a teacher, or a person the teacher chooses.

- *Imitation and repetition*: The person tries to perform the selected skill in a structured situation. In order to successfully perform the skill, the person must be motivated, approach skill performance carefully, and remember what has been demonstrated.
- *Feedback*: The positive and negative aspects of the person's social performance skills should be pointed out to the person. "You haven't quite figured it out yet. You need to look at her while talking to her. Try again." "That's better! You're looking and smiling at her. Excellent." Video feedback can be appropriate in some situations.
- *Providing an opportunity to use the skill*: Depending on the skill which is being taught, working in small groups or working in pairs is used to enable the skill to be applied and generalised in a group or in a natural environment.
- *Occasional reinforcement*: The teacher monitors situations in which the person applies the skill without encouragement, during that day, or later in the week. The teacher offers praise and gives awards. The goal is for the acquired skill to be maintained. Once established, the behaviour should in most cases continue to be maintained, on account of its natural consequences (e.g. greater satisfaction in interacting with peers).

Cognitive approach

While the primary focus of social skills training is modelling and learning specific social skills, the cognitive approach is more focused on changing the ways of thinking in order to influence behaviour. It focuses on improving cognitive and social problem-solving skills, assuming that the development of these skills will be accompanied by behavioural changes. The typical cognitive skills which are developed within a cognitive approach generate alternative behavioural responses, as well as improving perceptions of the social perspectives of others.

Cognitive strategies include coaching, self-control techniques and problem-solving.

Coaching primarily depends on how much a person understands the language and verbal concepts. Ideas related to appropriate social behaviour are explained verbally, and how to transform the mentioned ideas into behavioural sequences is discussed. It consists of three components: presentation of behavioural rules and standards, behaviour practice, and feedback with discussion on the demonstrated behaviour.

The focus of self-control techniques is on teaching people methods of changing their own behaviour. Thus, self-instruction relies on teaching people with intellectual disabilities how to develop behavioural control with the help of inner speech. The following training sequences are described:

1. the therapist models the solution to the problem and loudly verbalises it, while the person observes,
2. the person performs the task, while the therapist gives instructions aloud,
3. the person performs the task on the basis of instructions they give to themselves aloud,
4. the person performs the task on the basis of instructions that they whisper to themselves,
5. the person performs the task on the basis of instructions given to themselves by inner speech.

The second line of these techniques relies on self-monitoring, self-recording, self-evaluation, and self-reinforcement.

Problem-solving approaches improve skills such as problem identification, setting goals, generating alternative solutions, and considering possible consequences. In short, this type of programme is usually based on the following questions:



- What is the problem?
- What can I do about it?
- Is it working?
- How did I do?

Social skills development programmes often rely on the belief that a person is aware of social norms, which can be used as a starting point in identifying a problem or a situation. However, some people with intellectual disability do not have this frame of reference, and therefore have difficulties with the first step of a problem-solving approach – problem identification. In such situations, a step back must be taken – the person must first develop a frame of reference for social norms.

University teachers will usually not apply the approaches mentioned systematically, but they can use their various elements in their daily work. For example, the teacher will praise the student for exhibiting desirable social behaviour. On the other hand, he will ignore undesirable low-intensity behaviours, so as not to support them with either positive or negative attention. As soon as the student exhibits acceptable behaviour, the teacher should praise her or him, and meet their demands.

Likewise, by exhibiting appropriate behaviours and approving of the same behaviours in other students, the teacher will offer the student positive models. By explaining and giving feedback, individually or in a group, about behaviour in a particular environment (e.g., auditorium, lab, or library), he will use elements of coaching. The teacher can also help the student by reminding him to use techniques, strategies or scenarios (in written, pictorial or auditory format) in the university environment, which he has studied in a more structured environment.

It is also the responsibility of the teacher to organise the teaching in a way that will enable the student who has an intellectual disability to

learn, apply and practice the learned skills in the educational environment. Cooperative group work is a good example of such activities. In addition to enabling group members to get to know each other better, and to communicate and develop collaboration skills, it gives the teacher the opportunity to adapt academic content to each group member, through assignment of roles. It is important to talk openly with the group about ways to make group work more successful, as well as the skills needed to work productively with others. The environment should be arranged in such a way as to enable the students with intellectual disability maximum social inclusion in groups or activities in pairs, both during academic work in the classroom and during breaks, meals and other activities.

Sometimes it is necessary for the teacher to help the student to join a group activity or to work with a carefully selected partner. The teacher must praise and encourage both the student with intellectual disability and the members of the peer group, when they show cooperative, friendly and behaviour that is aimed at helping others.

Probably the most important factor in learning social skills is that they must be learned in an environment that accepts and supports the person. To foster an atmosphere of acceptance, the teacher can set topics for discussion (e.g. "What can we do to make a new colleague feel welcome in our group?"), or use videos as a basis for discussing acceptance of diversity. Likewise, peer group members may be encouraged to establish and maintain social interactions with a colleague who has an intellectual disability. Sometimes it can be helpful to identify a peer tutor or other peer support structure.



Glossary

Coping skills (also called coping strategies or coping mechanisms):

Tools and techniques you can use to help handle difficult emotions, decrease stress, and establish or maintain a sense of internal order.

Modelling: Widely used instructional technique for teaching social skills, based on the principles of observational learning.

Positive reinforcement: Addition of a reinforcing stimulus following a behaviour, which makes it more likely that behaviour will occur again in the future.

Positive social skills: Skills recognised as critical for healthy social development (e.g. effective communication, conflict resolution, active listening, sharing, cooperating, etc.). Social acceptance – the signal from other people that they wish to include you in their groups and relationships (Leary, 2010).

Social acceptance: The signal from other people that they wish to include you in their groups and relationships (Leary, 2010).

Resources

Avramidis, E., Strogilos, V., Aroni, K., & Kantaraki, C. T. (2017). Using sociometric techniques to assess the social impacts of inclusion: Some methodological considerations. *Educational Research Review*, 20, 68-80.

<https://155.69.97.37/bitstream/10497/18617/3/ERR-20-68.pdf>

Frederickson, N. (1994). *An investigation of the social status of integrated children with moderate learning difficulties* (Doctoral dissertation, University College London).

<https://discovery.ucl.ac.uk/id/eprint/10099780/1/out.pdf>

Han, H. S., & Kemple, K. M. (2006). Components of social competence and strategies of support: Considering what to teach and how. *Early Childhood Education Journal*, 34(3), 241-246.

<https://link.springer.com/content/pdf/10.1007/s10643-006-0139-2.pdf>

Laci Watkins, L., Kuhn, M., O'Reilly, M.F., Lang, R., Sigafoos, Jeff & Lancioni, G.E. (2016). Social Skills. In N.N. Sigafoos (Ed.), *Handbook of Evidence-Based Practices in Intellectual and Developmental Disabilities*, 493-510.

Merrill, K. L., Smith, S. W., Cumming, M. M., & Daunic, A. P. (2017). A review of social problem-solving interventions: Past findings, current status, and future directions. *Review of Educational Research*, 87(1), 71-102.



Sigafoos, J., Lancioni, G.E., Singh, N.N, M.F., & O'Reilly (2017). Intellectual Disability and Social Skills. In J. L. Matson (Ed.), *Handbook of Social Behaviour and Skills in Children*, 249-273. Springer.



Tools

This site offers ideas and materials for work on improvement of socio-behavioural and communication skills:

<https://do2learn.com/SocialSkills/overview.htm>

This site offers ideas for making visual materials while working on improving social skills:

<https://www.pinterest.com/pin/123778689733753363/>



Tips

Six questions can help in deciding whether it is appropriate to learn a particular social skill at a certain point:

1. Is the skill deficient or inadequate?
2. Does the person have the cognitive abilities needed to learn that skill?
3. Will the person have the opportunity to practice that skill?
4. Would a behaviour change be important for their significant others?
5. Is the skill needed in the person's present or future life?
6. Is the skill acquisition essential for staying in the existing environment?

Affirmative answers to these questions indicate that learning the skill should begin immediately.

Important texts, events or cites to include as curiosity.

Cornish, U., & Ross, F. (2004). *Social skills training for adolescents with general moderate learning difficulties*. Jessica Kingsley Publishers.

Hupp, S. D., LeBlanc, M., Jewell, J. D., & Warnes, E. (2009). History and overview. In J. L. Matson (Ed.), *Social behaviour and skills in children*, 1–21. Springer.

Leffert, J. S., Brady, M. E., & Siperstein, G. N. (2009). A "Tools for Teachers" approach for infusing social skills instruction into daily teaching activities. *Teaching Exceptional Children Plus*, 6(2), 1-25.
<https://files.eric.ed.gov/fulltext/EJ875428.pdf>

Merrell, K. W. (2001). Assessment of children's social skills: Recent developments, best practices, and new directions. *Exceptionality*, 9 (1-2), 3-18.

Sukhodolsky, D. G., Butter E. M. (2007). Social skills training for children with intellectual disabilities. In: J. W., Jacobson, J. A. Mulick, J. Rojahn, (Eds.), *Handbook of intellectual and developmental disabilities*, 601–618. Springer Science+Business Media, LLC.

Whitcomb, S. A. (2018). *Behavioural, social, and emotional assessment of children and adolescents* (5th ed.). Routledge.

Links

A useful summary of strategies for working with people with intellectual disabilities in the areas of learning, socialisation, communication, daily living and behaviour:

<https://do2learn.com/SocialSkills/SocialBehaviour/index.htm>

A popularly written, informative article on social skills learning for people with disabilities:

<http://www.ldonline.org/article/21025/>

Dr. Gilson, assistant professor of special education, talks about the importance of social skills for finding and keeping a job when it comes to students with intellectual disabilities:

<https://education.tamu.edu/putting-social-skills-to-work/>

Basics of assessment and treatment of social skills for children with autism spectrum disorder. Most of the presented methods are also used in working with people with intellectual disabilities:

<https://pecsusa.com/download/Teaching%20Social%20Skills-Chapter%203.pdf>

A touching and informative presentation about Williams Syndrome, with the emphasis being on its behavioural phenotype:

<https://www.youtube.com/watch?v=lvkNdCzyClo>