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## Edu4ALL

# Disability as diversity: The inclusion of students with disabilities in higher education

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| <b>Deliverable D1.2.2</b> | <b>Current practices for learning delivery approaches and teaching methods of inclusive education for students with disabilities in EU and worldwide</b> |
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## **1. Introduction**

People with disabilities experience poorer health than their non-disabled peers and face widespread barriers in accessing services. In Member States of the WHO European Region, 6 to 10 out of every 100 people live with a disability. In total, an estimated 135 million people in the Region live with a disability. With population ageing and the rising prevalence of non-communicable conditions, including injuries, this number is set to increase in the future [1]. Students with disabilities are increasingly enrolling in colleges and universities. According to the United States National Center for Education Statistics, students with disabilities constituted in the 2015–2016 academic year, approximately 19% of all enrolled undergraduate students [2].

Similar trends have been reported in United Kingdom higher education in 2019/2020, that 332,300 students have disability of some kind; this was 17.3% of all students. The number of students with a known disability has increased by 106,000 or 47% since 2014/15 in UK education system [3].

In Germany, Consequently, there are striking differences between disabled and non-disabled students concerning the level of school leaving qualifications: 62.1 % (42.1%) of disabled (non-disabled) people have only the lowest German school leaving qualification ('Hauptschulabschluss'). Only 12% of the pupils with disabilities reach the qualification for entrance to higher education ('Hochschulreife'), whereas, in contrast, up to 25% of non-disabled pupils leave school with this qualification. While 10,8% of the non-disabled people aged 30-45 are able to get a university exam, only 3,2% of the disabled people are able to do the same [4].

However, many institutions are still unprepared to support them beyond the basic federal mandate of equal access and reasonable accommodations.

In higher education, students with disabilities play an active role in securing and utilizing academic accommodations. Numerous studies have explored different aspects of the needed process and have addressed various barriers found to prevent the full implementation of these accommodations for students with disabilities.

For students with disability participation in higher education is a matter of equal opportunities and empowerment. A demand for inclusion in higher education in equality with other students has served as a uniting force. Pressure from disabled people's

organizations students, the disabled themselves and civil society in general have made discussions about diversity and social inclusion of disabled students in higher education a topical subject [5].

Students with disability have the total right to reach the higher education and not making adequate provisions to facilitate their proper education would amount to “discrimination”. The law ensure Universities to ensure that, a student with disabilities or chronic illnesses are not disadvantaged in any way during his studies and that he can study as autonomously possible.

In this Report, we collected published paper in the last 5 years and presented the main findings in it. There were studies and reviews talked about the accommodations, difficulties, Equity, Accessibility, knowledge or awareness of campus resources and the campus office of disability. Others studies presented the needs, methods and tools to include students with disabilities in higher education [4][5].

According to UNESCO definition, inclusion precisely thus: “ as a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and form education. It involves change and modifications in content, approaches, structures and strategies, with a common vision which cover all children of the appropriate age rang and a conviction that is the responsibility of the regular system to educate all children”. Briefly, Inclusion refers to the process; it is the reconstruction of the educational process including its educational services, curriculum, and the rehabilitation of the staff's beliefs and roles in the educational field in order to meet the needs of special needs students.

Within higher education for students with disability, the research leads to those main issues: (a) the negative impact of limited representation, (b) critiquing and disrupting interchangeably, and (c) challenging old ideology and behavior, i.e., Behavior and Practices [6].

## **2. Challenges and Considerations for the Integration Approach**

Despite changes in many Western countries' legislation and the development of programs for students with disabilities, in recognition of the importance of higher education for individuals, families, and society at large, low enrolment and high first-year dropout have been found. Low enrolment and high dropout can be understood as the result of inadequate accessibility of higher education institutions, lack of support, adverse social attitudes and social isolation, as well as low financial capacity [7].

Among the supporting factors, studies have shown the importance of faculty's attitudes toward students with disabilities, their awareness of these students' needs, and their knowledge of the reasonable accommodations available. These attitudes influence success or failure of students with disabilities and affect inclusion in higher education. Negative attitudes of faculty and administrative staff may prevent students, especially students with invisible disabilities, from disclosing their disabilities and from requesting accommodations they are entitled to [4][5][8].

In a survey titled “The Survey of Faculty Attitudes Relative to Serving Students with Disabilities,” conducted in Auburn University in the US, 50% of students with disabilities



indicated that faculty members understood their needs, but only 25% of faculty members were willing to change the material covered in their courses to suit these students' learning needs. Most (82%) of the students indicated that faculty members needed to learn more about disabilities [9].

Regarding academic achievements, studies have shown conflicting results. Some found the average grades among students with disabilities significantly lower, the percentage of course drop-out and failures in courses higher, and the study period (number of semesters) longer, than those of students without disability. Students with disabilities reported a subjective feeling that they were failing like other students, as well as difficulty in coping with the required investment during the study period, and a sense of social isolation. Other studies, however, found no difference between students with and without disabilities in average grades. Several studies found average grades of the former higher than those of the latter [10].

### **3. Potential Integration Approaches and Consideration**

The importance of higher education in providing students with disabilities decent employment opportunities and social status is well documented. At a time of legislative endorsement of access to higher education, and of changes in attitudes resulting from the struggle for equal rights for people with disabilities, it is crucial to broaden knowledge and understanding of the broad perspective of achievements and experiences of this group of students in higher education, and to compare them with those of students without disabilities.

Disability is part of the human condition. To ensure inclusion in higher education, campus leaders (University Admins) must consider how to fully embrace all students, faculty, and staff with and without disabilities. When developing a culture of inclusion, colleges and universities have specific responsibilities to students with disabilities to ensure they can learn and achieve their goals.

#### **1. Main consideration is: Creating a culture of inclusion**

Disability is a campus-wide concern. Typically, campus leaders turn to the disability support services and counseling offices on campus to build a comprehensive approach to access and accommodations. While those offices have specific and critical responsibilities to support students, becoming an inclusive community takes work at all levels—from senior leadership, to faculty and staff, to students. Research indicates that if new students do not experience a sense of belonging within eight weeks of arriving at college, they will be at high risk of

dropping out. This is particularly true for first-time students with disabilities, with 25 percent dropping out by end of year 1 and 35 percent dropping out by end of year two. Thus, shaping the culture of higher education institutions is one of the most important steps to achieving the goal of disability-diversity and inclusion [11].

## **2. Define Strategies for full inclusion on campus**

Although no higher education institution has achieved full inclusion, many are striving to reach that goal. Drawing from a recent higher education inclusion guide on how to accommodate students while building a comprehensive culture of inclusion, we highlight specific action steps campus leaders can take and examples of institutions with supports in place for students with disabilities to achieve their highest potential.

- 1. Focus on campus design and planning.** What does it mean to create a campus that is welcoming and safe for all students? It includes attention to campus facilities and other physical space. The design and accessibility of a space communicates values and expectations. Inclusive spaces, or designing for inclusivity, takes into account the different ways in which we learn, work, and socialize. This implies that the design considers the sensory world where vision and touch are a primary means of spatial awareness and orientation. Primary concepts include sensory reach, space and proximity, mobility and proximity, light and color, and acoustics.
- 2. Reflect on how language is used.** How we refer to disability and people with disabilities can be limiting. One way to change detrimental attitudes or stigma toward disability is to intentionally use more inclusive language that dignifies people's images and expectations. Using positive images of students with disabilities from different backgrounds can also help to familiarize disability.

Talking about disability and using inclusive language starts with how we define socially constructed concepts such as disability, diversity, and inclusion. Are staff, students, or faculty nervous when talking about disability? Do members of your campus community either behave differently or feel they need to behave differently around students with a disability? How is disability portrayed on your campus or at your institution?

It is important to make awareness about "diversity" to include disability: "Diversity is the range of human differences, including but not limited to race, ethnicity, gender, gender identity, sexual orientation, age, social class, physical ability or attributes, religious or ethical values system, national origin, and political beliefs." Coupled with

the definition of inclusion: Inclusion is involvement and empowerment, where the inherent worth and dignity of all people are recognized. An inclusive e.g. university promotes and sustains a sense of belonging; it values and practices respect for the talents, beliefs, backgrounds, and ways of living of its members.

3. **Build faculty capacity.** Faculty may lack an understanding of inclusive pedagogy, so it is important to talk about disability bias and raise awareness about common disabilities. Faculty are likely to adopt inclusive teaching methods and materials if they are more knowledgeable about disability and understand that students with disabilities have limitations that arise from external barriers and not students' inherent abilities. Students with learning disabilities, for example, do not have a reduced intellectual capacity. Rather they may have processing disabilities that can be addressed by the format, in which information is conveyed, organizational mechanisms such as testing procedures and methods, and other tools. In addition, faculty can initiate conversations with students about supports they may need or encourage them to consider the ways they learn best.
4. Support the offers with either online or Face-to-face **accessibility training opportunities** for staff and faculty. While these resources are geared toward faculty creating accessible content for online classes, they are relevant for *any* form of instruction that uses multiple mediums (e.g., documents, audio, video). Included should be tutorials, accessibility guidelines, and syllabus templates.
5. **Ensure technology is accessible.** Institutions should have a clear standard for accessibility when it comes to technology. The recommended standard from the U.S. Access Board is the Web Content Accessibility Guidelines 2.0, Level AA, which, until 2017, surpassed the 508 compliance standards for federal agencies. These guidelines include making captioning a standard element of all videos used in classes and on campus, providing a budget for creating video captions, and requiring that all new content posted to a website meet the accessibility standard and establish accessibility checkpoints before content can be posted.
6. **Encourage responsibility and accountability.** Leaders at all levels should be engaged in leading, messaging, and measuring improvements in inclusion. All staff should clearly see their own role in, and contribution to, inclusiveness. On-the-ground action among faculty, staff, and students needs to happen in tandem with support at the level of the president, dean, chancellor, or provost who embrace disability-diversity consistently and publicly.

7. **Streamline the student accommodation process.** Common reasonable accommodations in higher education include changes to course formats and schedules, examination accommodations, housing changes (e.g., permitting emotional support animals in housing or offering separate housing for people with post-traumatic stress disorder or gender dysphoria), alternative methods of demonstrating or obtaining practical skills, and extra time to complete projects. Part of managing the student journey is ensuring that students and faculty understand the process for learning about, requesting, receiving, and modifying requests for accommodation. Effective, user-friendly solutions for students also create opportunity for the accommodation team, including faculty, to increase their level of service. Institutions need to understand how learning can be impaired by not tending to inclusive practice and accommodation for students with disabilities. Are your accommodations designed simply to pass the ‘reasonableness’ test or does your institutions strive to support learning for all through inclusion? Do you allow for increased flexibility in delivery? Is there variety in how learning is designed and delivered? Does increased interaction with faculty and staff meet the needs of students with disabilities when it needs to?

In summary, an inclusive culture is shaped by the attitudes of administration and faculty and the lens through which disability is viewed. Even when students do not experience outright hostility, stigma and generalizations are likely to be the most prevalent barriers in the path of students with disabilities. To counteract common biases against students with disabilities while creating an inclusive campus culture, leaders at all levels of the institution must get involved. Inclusion on campus helps everyone to understand the common interests, goals, and aspirations of people with and without disabilities. Students benefit from a diverse, inclusive campus culture, which helps prepare them for the world of work and civic and community engagement.

#### 4. Results and main observations in recent published papers

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|------|--|
| [25] | Lecturers' Teaching Experiences with Invisibly Disabled Students in Higher Education: Connecting and Aiming at Inclusion   |
|      | <p>This qualitative study is positioned in critical disability studies and explores lecturers' teaching experiences with invisibly disabled students. Five lecturers in the Norwegian higher education sector were interviewed.</p> <p><b>Results and Main Observations:</b></p> <ul style="list-style-type: none"> <li>• One striking observation is lecturers' un/awareness of the student diversity</li> <li>• Needed is: The use of life experiences to create an inclusive learning environment</li> <li>• The main findings of this study suggest that the participants had not necessarily been aware of student diversity and their responsibility to teach inclusively when they started their teaching practice.</li> <li>• Over time, their diversity awareness increased through experiences and interactions that gave them new insights. In response, they took individual initiatives to include invisible disabled students in learning situations.</li> <li>• Confusion, uncertainty, and lack of resources: the lack of pedagogical resources was a recurring topic of frustration.</li> </ul>   |
| [26] | Disability in higher education: do reasonable adjustments contribute to an inclusive curriculum?   |
|      | <p>This study about the difficulties that staff encounters in attempting to incorporate inclusive practices that benefit not only disabled students but all students.</p> <p><b>Results:</b></p> <ul style="list-style-type: none"> <li>• Most participants emphasized on their concerns about an inclusive curriculum and were doubtful about whether it would realistically be achievable.</li> <li>• Participants generally needed more training, although some confirmed that time and lack of resources was an ongoing issue.</li> <li>• Some participants were concerned about dealing with disabled students that had hidden disabilities due to lack of knowledge and/or insufficient training.</li> <li>• Occasionally, it is difficult for staff members to implement adjustments for students with disabilities, particularly those with a hidden disability as a result of the stigma that may be attached to their particular disability.</li> <li>• It has been suggested that an inclusive curriculum would mean ensuring the disabled person is treated equally.</li> <li>• One of the major highlighted hurdles is the university's structure; especially in trying to secure reasonable adjustments.</li> <li>• Many staff felt that the theoretical models used to explain disability assist staff in understanding disability.</li> <li>• Many staff have a lack of training and understanding of disability and the varied interpretation of what is reasonable.</li> </ul> |
| [27] | The Learning Experiences of Students with Dyslexia in a Greek Higher Education Institution   |

- The aim of this study is to give voice to the learning experiences of ten students with dyslexia in a Greek university.
- At the time of the study 37 students have been formally declared their dyslexia within the university.
- The total student population in the specific academic year was 2,787 students, so the estimated prevalence of dyslexia was 1.33%.

**Results:**

Five areas were identified as core concerns for participants:

- disclosure of dyslexia,
- access to information,
- implementation of the law,
- awareness of staff,
- and lack of inclusive instructional practices.

**Reported Difficulties at university:**

- The main difficulties that students report relate to note taking, spelling, structuring and writing assignments, work overload and passing the exams.
- Another obstacle mentioned by one student was the great audience (number of students) during the lecture.

**Staff's awareness** (in this case specifically about dyslexia):

- As per the students, staff are not well informed about dyslexia, although staff from education faculty seem to be more aware.
- Staff attitudes towards dyslexia: According to students' staff have neutral or negative attitude towards dyslexia.

**Disclosure of dyslexia at university:**

- A female student claimed that she would not expose herself, because it would not have any facilitating result, whereas another one said that she has thought about it but she is ashamed.
- Disclosure of dyslexia to students: All the participants said that they revealed their dyslexia to their fellow students.

**Supportive practices and types of accommodations:**

- The only accommodation offered is 'one to one support' at the workshops, which ensures personal contact with the tutor.

**Exam arrangements:**

- Another point made by all participants is that not all members of the staff are willing to apply the oral exam accommodation. Students experienced arbitrarily different departmental practices in relation to exam accommodation.

**Proposed practices and accommodations for improvement:**

- Students proposed dozens of practices to improve their educational experience. They suggested accommodations such as video recording of the lesson, having supplementary course material, good quality notes, using and updating e-class lessons, using a forum (where students can ask questions and lecturers should answer them), individualized tuition, oral examination, counseling services and raising staff awareness about dyslexia

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|      | <p><b>Personal strategies to cope with dyslexia:</b></p> <ul style="list-style-type: none"> <li>• All students have developed through years their own strategies to compensate for dyslexia.</li> <li>• Study groups and peer tutoring: All the participants think that study groups or peer tutoring are good ideas, but they find difficulties in practice. As a result, they have ended up preferring individual assignments and individual study.</li> </ul>  |
| [28] | <p><b>Inclusive pedagogy in Australian universities: A review of current policies and professional development activities</b></p>   |
|      | <p>This article reports on activities undertaken by Australian universities to support academic staff to provide inclusive teaching.</p> <p><b>Results:</b></p> <ul style="list-style-type: none"> <li>• Over a third (34.21%) of Australian universities referred to inclusive teaching or UDL in their policies and procedures.</li> <li>• For inclusive teaching: The most Universities organized workshops focusing on accommodating specific groups of students.</li> </ul>  |
| [29] | <p><b>Bringing everyone on the same journey': revisiting inclusion in higher education</b></p>  |
|      | <p>This article investigates inclusion in higher education, examining learning environments for students with physical disabilities and the challenges faced in promoting inclusive education in an Australian university. Number of participants in this study are 40.</p> <p><b>Four key challenges were investigated:</b></p> <ul style="list-style-type: none"> <li>• Staff perception about too many resources creating student dependencies. Staff training needs.</li> <li>• Low representation of students with visible disabilities.</li> <li>• Moving inclusion beyond education into employment.</li> <li>• The findings confirm the need to integrate employability and skills development in all tracks of teaching and learning while moving towards inclusive education, this should facilitate professional development to all students, and shall reinforce calls for an inclusive workplace that values and accepts students with physical disabilities.</li> </ul> |
| [30] | <p><b>Inclusive Teaching</b></p>  |
|      | <p>This article describes an online, evidence-based teaching guide (<a href="https://lse.ascb.org/evidence-based-teaching-guides/inclusive-teaching">https://lse.ascb.org/evidence-based-teaching-guides/inclusive-teaching</a>) intended to help fill this gap, serving as a resource for science faculty as they work to become more inclusive.</p> <p><b>Results: Towards developing a guide</b></p> <ul style="list-style-type: none"> <li>• The guide aims at describing the importance of developing self-awareness and empathy for students as a pre-requisite to considering classroom practices. It also explores the role of classroom climate before turning to pedagogical choices that can support students' sense of belonging, competence, and interest in the course.</li> </ul>  |

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|      | <ul style="list-style-type: none"> <li>• The guide sheds light on that true inclusivity is a community effort and that instructors should leverage local and national networks to maximize student learning and inclusion.</li> <li>• Each of the above listed essential points is supported by summaries of and links to articles that can inform these choices.</li> <li>• The guide also includes an instructor checklist that offers a concise summary of key points with actionable steps that can guide instructors as they work toward a more inclusive practice.</li> </ul>   |
| [31] | <p><b>Inclusive Education is a Multi-Faceted Concept Recommended Model</b></p> <p>The paper examines a model of inclusive education that, in addition to placement, embraces vision, curriculum, assessment, teaching, acceptance, access, support, resources and leadership. For each of these facets, criteria are specified and indicators are suggested.</p> <p><b>Results: Model of inclusive education</b><br/> <math>IE = V+P+5As+S+R+L</math>, where</p> <ul style="list-style-type: none"> <li>• V = Vision</li> <li>• P = Placement</li> <li>• A = Adapted Curriculum</li> <li>• A = Adapted Assessment</li> <li>• A = Adapted Teaching</li> <li>• A = Acceptance</li> <li>• A = Access</li> <li>• S = Support</li> <li>• R = Resources</li> <li>• L = Leadership</li> </ul> <p>The criteria and indicators presented in this article can be used as a basis for planning inclusive education and for evaluating its quality.</p>   |
| [32] | <p><b>Disability cultural centers: How colleges can move beyond access to inclusion</b></p> <p><b>Recommendation:</b></p> <ul style="list-style-type: none"> <li>• How colleges and Universities can go overcome just the access-question to inclusion:             <ul style="list-style-type: none"> <li>○ Inviting disability activists to speak on campus.</li> <li>○ Creating a free lending library.</li> <li>○ Scheduling low-cost events.</li> <li>○ Soliciting student volunteers: Regardless of whether the position is paid or volunteer, prioritizing the hiring of students with disabilities would also support the center’s mission.</li> <li>○ College campuses can serve a key function in contributing to paradigm shifts.</li> </ul> </li> <li>• <b>They can:</b> <ul style="list-style-type: none"> <li>○ Integrate a safe and welcoming space for students with disabilities and their allies</li> <li>○ Reinforce that disability is a natural and desirable aspect of human diversity</li> </ul> </li> </ul> |



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|      | <ul style="list-style-type: none"> <li>○ Educate the wider community about ableism, in both its overt and more subtle forms such as microaggressions</li> <li>○ Close the gaps between campus and local community through shared goals and programming</li> </ul>  |
| [33] | <b>Disability and eLearning: Opportunities and Barriers</b>  |
|      | <ul style="list-style-type: none"> <li>● This paper examines the actual rising rates of online learning in higher education. It examines how disability is activated differently online and the impact of this on learning and teaching through the internet and the accessibility of two of the most popular learning management systems, Blackboard and Moodle, and the different approaches, benefits and problems associated with each system.</li> <li>● The paper investigates the eLearning environment beyond the structure of a LMS to a broader digital campus that includes social networks, video hosting sites and micro blogging, where students and staff are increasingly expanding the learning and social environment in higher education.</li> <li>● It also challenges the legal and moral responsibilities of universities to make all their online activities accessible to all students, regardless of disability. The studies still point favorably to a future where eLearning is more an opportunity and less a barrier for people with disabilities.</li> </ul> |
| [34] | <b>AMAC Braille Library.<br/>Center for Inclusive Design and Innovation</b>  |
|      | <ul style="list-style-type: none"> <li>● The Center provide high-quality, accessible, and inclusive products such as braille to digital compliance, E-Text, E-Text Digital Library accessible PDF, DOC, EPUB, DAISY, HTML, PowerPoint, and Learning Ally Audiobook formats,</li> <li>● CIDI continues to advocate and innovate for people with disabilities. Our center understands that inclusivity is an ongoing process and is dedicated to the future of accessibility.</li> <li>● CIDI advocates for usability, inclusivity, and accessibility for all. The center collaborates with colleagues, friends, designers, and innovators to expand the awareness around the importance of incorporating accessibility into design. The goal is to impart the importance and value of a disability because accessibility affects all aspects of lives.</li> </ul> <p><b>Used technologies:</b></p> <ul style="list-style-type: none"> <li>● Braille</li> <li>● E-Text</li> </ul>  |
| [35] | <b>Deaf Students Higher Education System Using E-Learning</b>  |
|      | <p>The study is shows how deaf students used e-learning system in higher education institutions in and around Chennai.</p> <p><b>Results:</b></p> <ul style="list-style-type: none"> <li>● E-Learn is a critical enabler in higher education.</li> <li>● Most of the students easily learn and develop skill and knowledge in e-learning method. Now a day's e-learning tools are mostly used in learning method.</li> </ul>   |

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|  | <p><b>E-Learning Systems for the Deaf</b></p> <ul style="list-style-type: none"><li>• E-learn system is important to deaf people for gather knowledge. To implement e-learn the universities need the following<ul style="list-style-type: none"><li>○ Virtual classroom with all devices</li><li>○ Text and video materials</li><li>○ Dictionary for sign language</li><li>○ Computer and communication devices</li><li>○ Sign language interpreter</li><li>○ Hand sign images</li><li>○ Sign language educational content video</li><li>○ Sign language learning video</li></ul></li></ul> |
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## 5. Findings in Literature Review in recent years

| Author / s                                  | Target group  | Findings on barriers and facilitators  |
|---|---|--|
| Anastasia Vlachou & Ioanna Papananou (2018) | 32 students with disabilities                                       | Barriers: physical access and access to academic knowledge, quality of available support, interactions with tutors and fellow students<br>Facilitators: capable of asserting their needs, challenging institutional discrimination issues and proposing more inclusive alternatives. |
| Biggeri et al (2020)                        | 20 students with learning disabilities                              | Facilitators: support from family, friends, instructors, and/or academic support personnel; Importance of perseverance; academic accommodations  |
| Gibson (2012)                               | 5 students with disabilities  | Facilitators: Positive impact of friendships, peer support networks, significant education contacts and studying   |
| Hopkins (2011)                              | 6 students with disabilities  | Physical, attitudinal, social, cultural and political barriers   |
| Madriaga et al. (2010)                      | 172 students with disabilities<br>312 students without disabilities | Students with disabilities confront barriers of access in their learning and assessment, there are similar difficulties they share with non-disabled students  |
| Moriña (2015)                               | 44 students with disabilities                                       | Barriers: fear of disclosing the disability, doing twice as much to get half as far Facilitator: personal skills   |
| Moriña, López, and Molina (2015)            | 44 students with disabilities                                       | Barriers: Faculty and staff's negative attitude, inadequate use of PowerPoint, ruling on disability is not enforced, professor is not informed about or trained in disabilities  |
| Mullins and Preyde (2013)                   | 10 students with invisible disabilities                             | Barriers: negative social culture, negative attitudes; organisational aspects, desire to have a visible manifestation of their disability (reduce public questions about the validity of their disability)   |
| Prowse (2009)                               | 44 students with disabilities                                       | Higher education as an opportunity; need to replace labels   |
| Jacklin et al. (2007)                       | 192 students with disabilities                                      | Mostly positive experiences Negative experiences: lack of support  |
| Claiborne et al. (2010)                     | 4 students with disabilities; 7 faculty members                     | Barriers to access and resources; non-accessible technology, negative attitudes of the faculty   |
| Seale et al. (2015)                         | 175 students with disabilities                                      | Barriers: technological resources are not appropriate or effective Students have to manage both their disability and their studies   |
| Strnadová, Hájková, and Květoňová (2015)    | 34 students with disabilities                                       | Barriers: institutional, negative attitudinal, and disability-specific barriers Facilitators: family support, peer support, support provided by assistants, personal strategies (assertiveness, self-determination, etc.)  |
| Shevlin, Kenny, and Mcneela (2004)          | 32 students with disabilities                                       | Barriers: physical, negative attitudes, assessment not adapted Facilitator: disability support office  |
| Riddell, Tinklin, and Wilson (2004)         | 56 students with disabilities                                       | Barriers: teaching methodologies, assessment and professional development of the faculty   |

## 6. Conclusion

This report presents the most common findings in some published articles for inclusion of students with disability in Higher Education in the last few years.

The main results are:

1. There are significant challenges for the Inclusive Education in Higher Education. Some of these challenges are due to the awareness and/or the capacity in general. Namely they are University's policy, infrastructure in the buildings, Budget, Accessibility, and lack of training.
2. Among keys to learning for university students with disabilities are Motivation, emotion, and staff members-student relationships
3. The recommended model of inclusive education is constructed on the following pillars: Vision, Placement, Adapted Curriculum, Adapted Assessment, Adapted Teaching, Acceptance, Access, Support, Resources and Leadership.
4. To include students with disability in higher education, the recommended setup and approach would follow and include the below listed tracks:
  - Establishment of center for services for students with disabilities
  - University Accessibility (Access Building, Teaching Materials, Website, ... etc.
  - Library Accessibility: Improving the accessibility of library facilities
  - Involving students with disabilities in teaching activities
  - Monitoring and Communication with disabled students
  - Equipped the university with devices, tools, Hardware, Software and App which can help students with disabilities (Computer and communication devices)
5. It is highly recommended to use the new teaching methods and tools and make it accessible such as:
  - Learning Management Systems such as Blackboard and Moodle
  - Adaptive keyboards, mouse, screens, eye gaze-enabled tool with computer control,
  - Devices which produce three-dimensional models, 3D Printer, Text and video materials, Dictionary for sign language.

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## Appendix

### 1. Practices that Facilitate Disability Disclosure

|                                      |  |
|--------------------------------------|--|
| <p>Determination of Disability</p>   | <ul style="list-style-type: none"> <li>• Embrace disability as fluid rather than defined only by legal requirements</li> <li>• Recognize how the physical and mental labor associated with proving disability is in itself disabling</li> <li>• Communicate with non-disabled students to create an understanding mindset that support other students with disabilities through orientation and welcoming programs.</li> </ul>           |
| <p>Disability Services Practices</p> | <ul style="list-style-type: none"> <li>• Rely on students' narratives and the professionals' judgment to determine disability rather than a medical history documenting impairment</li> <li>• Provide flexible ways to engage with students, such as remote appointments, digital forms, and extended hours</li> <li>• Put the burden on the university rather than the student for multiple disclosures to faculty and staff</li> </ul> |
| <p>Campus Cultures</p>               | <ul style="list-style-type: none"> <li>• Value contributions disabled students make to campuses because of rather than in spite of their disabilities</li> <li>• Proactively design syllabi and programming that has flexible deadlines, paces, and expectations rather than relying only on accommodations</li> <li>• Stop perceiving disabled students as tragic burdens needing pity</li> </ul>                                       |