Specific Learning Disorders in Higher Education: The University of Arizona case study

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Abstract

Over the past decade the growing number of students with Attention and Learning Disorders in universities has been documented all over the world. Difficulties experienced by students during their academic career have led to an increase in the support services offered by Universities to meet their needs. This development has taken place as a result of changing attitudes and instructional practices across many countries. In this paper, we highlight an example from the Unites States where one university provides multiple services to increase optimal outcomes for this specific population.

Keywords: Specific Learning Disorders; University students; Inclusion in Higher Education

1. Introduction

Anthropological and socio-cultural models have transformed the conceptualization of disability in society across the globe. These models have in turn contributed to the implementation of inclusive practices in higher educational contexts. Underlying this paradigm shift there are several epistemological frameworks. The International Classification of Functioning Disability and Health (ICF) model, developed by the World Health Organization (WHO, 2001) provides a sharable language worldwide regarding inclusion of all people, and the

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UN Convention (2004) represents the internationally agreed upon regulatory framework about the inclusion of everyone.

The World Health Organization, through the ICF, aims to remove the emphasis of disabilities based on the causes or etiology, implementing a change from the biomedical to the biopsychosocial approach. From a biopsychosocial perspective, the functioning of the person is considered a complex interaction of multiple dynamics existing between biological, individual, and environmental factors (Ianes and Cramerotti, 2007; Lascioli and Pasqualotto, 2011; Chiappetta Cajola, 2019; Pinnelli and Fiorucci, 2021). The ICF provides opportunity to implement educational practices across the lifespan encouraging during the Quality of Life for everyone (Giaconi, 2015; Ianes, Cramerotti and Scapin, 2019).

The evolution of this perspective is also confirmed by the International Convention on the Rights of Persons with Disabilities (United Nations, 2004). The assumptions that were established within it bring out conceptual elements of high cultural and pedagogical depth with regard to disabilities, such as the participation and active citizenship of all, the inviolable rights of every man, and respect for the dignity and autonomy of all of all people. The Convention, while not adding new rights to the documents that preceded it, reaffirms them, with the aim of promptly responding to the needs and varied situations experienced by people with disabilities, thus introducing measures that require implementation (Terzi, 2013). Medeghini and collaborators (2015) in reiterating the crucial nature of the principles enshrined in the Convention argue that: «if a convention has been stipulated, it is because there is a violable and violated right that must be defended, also by building a common and shared language among nations» (Medeghini *et al.*, 2015, p. 108).

Considering the aforementioned principles, the educational contexts, including higher education, have oriented their practices towards the implementation of support methods capable of promoting the inclusion of all. Starting from these assumptions, this contribution takes shape with the aim to provide paths that can foster significant learning and educational successes even for students with Specific Learning Disorders (SpLDs).

Specifically, we are going to present how the University of Arizona, in Tucson Arizona has built support paths for all students, making it possible to achieve academic success for those who have SpLDs.

2. Students with Specific Learning Disorders attending University

The reference literature shows that University students with SpLDs are rising in number (Del Bianco, 2019; Rivera *et al.*, 2019; Jacques and Abel,

2020; Schwartz, Hopkins and Stiefel, 2021). Despite this trend, the difficulties that students with SpLDs encounter during their academic career, compromise their performance and their growth in terms of educational success: only 41% of students with SpLDs ultimately obtain a college degree as compared with 52% of those without Learning Disabilities (DuPaul *et al*., 2017). Given this difference, we focus our attention on the main reasons that contribute to the lack of academic success.

Features of SpLDs vary from person to person, with different characteristics related to the age of the person, the intensity and the nature of the Disorder. In general, Specific Learning Disorders are identified as «organic-based neurological disorders with an evolutionary trend» (Zappaterra, 2016, p. 121) and the most common types «are those that impact the areas of reading, math and written expression» (Cortiella and Horowitz, 2014, p. 3).

Specifically, Dyslexia is the term associated with specific learning disabilities in reading, and the profile of a person with this disorder can be characterized, for example, by difficulty with phonemic awareness, phonological processing, difficulties with word decoding, fluency, rate of reading, rhyming, spelling, vocabulary, comprehension, etc. (Cortiella and Horowitz, 2014; Giaconi and Capellini, 2015).

The Specific Learning Disorder in math is called Dyscalculia. Although features of this disorder vary from person to person, common characteristics could include: «difficulty with counting, learning number facts and doing math calculations; difficulty with measurement, telling time, counting money and estimating number quantities; trouble with mental math and problem-solving strategies» (Cortiella and Horowitz, 2014, p. 4).

Learning difficulties associated with writing are identified as Dysgraphia and Dysorthography (Capellini and Souza, 2008; Giaconi and Capellini, 2015). In short, Dysgraphia appears as sloppy or illegible handwriting, the inability to copy or to realize the sequence of the letters in common words (Capellini and Souza, 2008), while the Dysorthography concerns the component of writing linked to correctness in terms of spelling and syntactic rules (Giaconi and Capellini, 2015).

The characteristics described above increase the likelihood that college students with Specific Learning Disorders experience a range of challenges in their academic careers that affect their educational performance (Heiman, 2006; Parker and Boutelle, 2009; Heiman and Olenik-Shemesh, 2012; Giaconi *et al*., 2018; Rivera *et al*., 2019; Del Bianco, 2019).

The difficulties faced by this student population can be narrowed down to two main areas: one closely related to school performance, related to difficulties in coping with academic skills; and another concerning the

different aspects of the subject's emotional life, within the social and psychological domains.

Concerning academic performance, research (Heiman, 2006; Heiman and Olenik-Shemesh, 2012; Giaconi *et al.*, 2018) highlights how students with Specific Learning Disorders experience a broad range of learning challenges. In addition to the specific difficulties in the areas of reading, math, and written expression listed in the previous section, significant deficiencies in short or long range memory, spatial orientation, and time organization and management tasks are also observed. For this reason, students with SpLDs often need to develop a specific study method, as a first compensatory tool (Cornoldi, Tressoldi, Tretti and Vio, 2010; Friso Amadio, Paiano, Russo and Cornoldi, 2011; Giaconi and Capellini, 2015), which usually requires extra time and increases fatigue, as it is 'built' with reference to one's own personal learning process. As such, this population of students has to deal with their difficulties and/or with their ineffective learning strategies to adjust to heightened academic requirements in higher education (Wintre and Yaffe, 2000; Brinckerhoff, McGuire and Shaw, 2002; Heiman and Olenik-Shemesh, 2012).

With regard to the second macro area, the emotional sphere, studies (Cummings, Maddux and Casey, 2000; Hatcher *et al.*, 2002; Angelini, Ghidoni and Stella, 2011; Heiman and Olenik-Shemesh, 2012; Giaconi and Capellini, 2015) reveal that in students with SpLDs in university courses, there is the presence of low self-esteem and poor tolerance to frustration with the presence of problems related to school adaptation. In particular, these students are at increased risk of vulnerability and isolation, low self-esteem, and difficulty in responding to daily demands (Roer-Strier, 2002); they often exhibit anxious and depressive states (Mugnaini *et al.*, 2009); and they report higher levels of emotional distress and social concerns compared to non-SpLDs students (Heiman and Olenik-Shemesh, 2012). These difficulties are due to the inability to self-regulate and engage in independent, purposeful, self-serving behaviors affecting their learning (Rivera *et al.*, 2019).

As the research states (Cortiella and Horowitz, 2014; Zappaterra, 2016; D'Angelo and Del Bianco, 2019) SpLDs fuel difficulties in academic achievement and related areas of learning, and for these reasons «such issues become even more urgent in the university context» (Zappaterra, 2016, p. 122).

3. Supports and strategy: how the University of Arizona supports with students with SpLDs

In the academic contexts, there are several ways to prevent discrimination,

removing barriers and implementing adjustments that are aimed to support students with critical issues (Kirkland, 2009).

Focusing our attention in the U.S. context, two laws govern disability in Higher Education. Section 504 of the Rehabilitation Act of 1973 (504) applies to colleges and universities that received federal funding. This law prohibits discrimination and requires that colleges and universities provide reasonable accommodations to remove barriers to full participation for people with disabilities. The protections afforded by the Americans with Disabilites Act of 1990 and its 2008 amendment are similar. However, this law extends these protections to all educational institutions, including private colleges that do not receive federal funding.

Considering legislative pillars and taking into account difficulties experienced by students with SpLDs, we present how the University of Arizona in Tucson, Arizona, shares responsibility across several campus centers to support the inclusion of these students legally, culturally, and academically.

With regard to the legal and cultural aspects, the Disability Resource Center (DRC) provides accommodations to all students, employees, and visitors to campus who experience barriers to their full participation in campus activities. The DRC recognizes that 504 and ADA are reactive in nature rather than proactive. They are operationalized on an individual basis when a disabled person makes a request for accommodations, framing disability in the Individual/Medical Model (Linton, 1997). The legislation provides little in the way of guidance to make environments more inclusive and accessible. In response to this, the DRC proactively works with the campus community to shift the narrative around disability to a social justice perspective, encouraging the implementation of Universal Design (DO-IT, 2021) and Universal Design for Learning (CAST, 2018) principles in physical spaces, social programming, technology, and curricular matters (Disability Resource Center brochure). The Disability Cultural Center (DCC) provides a physical space for the disability community and organizes events and programs for students, faculty and staff where disability identity and culture are explored and celebrated, with a specific focus on the intersection of disability with other identities. From a broader perspective, Disability Cultural Centers advance inclusive practices and advocate that disability be included diversity initiatives (Elmore, Saia, and Thomson, 2018). One of just a few in the United States, the DCC serves as a hub for community, advocacy, and activism to promote positive disability identity and to develop a community rooted in pride and equity. In addition, the DCC coordinates educational programming for non-disabled people.

For students with learning disabilities, finding adequate learning support is important. The Strategic Alternative Learning Techniques (SALT) Center provides comprehensive services to support students' academic success. Students who enroll with the center can receive academic coaching, tutoring in their individual courses, educational technology support, and psychological services. In combination, these services provide robust assistance. The SALT Center utilizes a Learning Partnerships Model (Magolda and King, 2004) when working with students. This model validates students as knowers, situates learning in the student's experiences, and defines learning as a mutually constructed. As a result, the student and the educator share authority and work as a pair, putting the student at the center of the learning experience. Academic coaching is provided by Student Support Specialists in weekly meetings with students. Specialists assist with executive functioning, helping students develop strategies to plan, initiate, and complete academic tasks. They teach students learning strategies related to the different subject areas and help students navigate the physical and virtual spaces on campus. Specialists also assist students in refining their self-advocacy skills and choosing their area of study and possible careers. The learning partnership that is established between student and Specialist is instrumental in building students' self-confidence. Tutoring services utilize the frameworks of Self-Regulated Learning (SRL) (Boekaerts, 1999) and multi-modal learning. SRL encourages students to monitor their motivation, comprehension, and use of strategies. Students are encouraged to use tutoring as a form of co-regulation to initiate tasks and complete academic work. Tutors review course content with students while also demonstrating learning strategies they can use during independent study. These strategies are multi-modal, involving auditory, visual, and kinesthetic learning techniques, which have been shown to improve comprehension and memory (Clark and Paivio, 1991). Tutoring is available as one-on-one appointments for specific courses or drop-in support for writing and math support as needed. Lastly, the SALT Center promotes the use of educational technology and provides clinical psychology services. Students can meet with peer tutors to learn how to use various applications and computer programs for reading, writing, time management, and organization. These technologies can improve fluency, comprehension, and memory with learning tasks. Additionally, students with learning disabilities experience mental health issues at higher rates than the general population (Smiley, 2005). Psychological counseling is available to all students enrolled in the SALT Center as an additional layer of support beyond academics.

4. Conclusions

The organizational structures, theoretical frameworks, and student services implemented at the University of Arizona, outlined in this paper as an example of reference, allows us to reflect on some of the strategic actions capable of promoting greater accessibility and inclusion in University contexts.

Inclusive education requires more than a shared physical space It requires that communities share common values and institute policies and practices that are truly inclusive, affecting the day-to-day course of students' lives (Mogharreban and Bruns, 2009; Cologon, 2014; Bellacicco, 2018). Learning supports and structures must not be separate from, but embedded within, everyday educational activities and student experiences (Anderson and Boyle, 2015). For students with Learning Differences, it is essential that educators create supportive learning environments that serve as safe spaces where students feel welcomed and valued, and are comfortable sharing their thoughts and ideas (Mitchell, 2014). These environments must also focus on providing educational practices of the highest quality that lead to full educational participation (Ainscow, 2015; Messiou *et al*., 2016; Baumeister and Leary, 2017; Scorgie and Forlin, 2019). Consequently, one of the most important elements of support for students with SpLDs in the university context is emotional or psychological counselling to help lower the level of anxiety and stress. Students with SpLDs are not always at ease in new, different situations and far from their 'comfort zone'. This is especially important in the transition period between secondary and postsecondary educational settings, when greater demand for students' self-reliance is required (Mellard, 2005). A shift in responsibility from special educators and parents to the students themselves is required in the academic context, with regard to obtaining information and advocating for services.

For these reasons, in order to ensure quality University experiences, it becomes necessary to carry out actions that contribute to achieving greater autonomy and awareness of the personal aspirations for those who attend (Mura, 2011, 2018), ensuring active participation in the training path (Rainone *et al*., 2010). Emancipatory research could therefore represent an effective approach to detect the indicators that determine the quality of inclusion, highlighting, for example, the need to introduce any changes and measures to improve and optimize human, material, educational, and technological resources. By adopting the paradigm of inclusion, in the transformation of students with disabilities from passive users of services to protagonists, an improvement in the services themselves would be achieved (Giaconi *et al*., 2020). As already specified in other works (Giaconi *et al*.,

2018; D'Angelo *et al.*, 2020; Del Bianco *et al.*, 2020) success factors in promoting student participation and organizational development trajectories can be identified in the dimensions of self-determination (Del Bianco, 2019, 2019a) and self-representation (Del Bianco *et al.*, 2020) of the student population with SpLDs. Moments of co-planning can help to organize proposals that respond effectively to their needs, proceeding from the perspective of a collaborative design for all. In this direction, inclusive education can enhance the students' experiences, satisfaction, and even more, their Quality of Life (Mitchell, 2014; Giaconi, 2015; D'Angelo *et al.*, 2020; Del Bianco *et al.*, 2020).

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