Being a student with Specific Learning Disorder at university: some results of an exploratory survey within the University of Bologna

Essere uno studente con Disturbo Specifico dell'Apprendimento all'università: alcuni risultati di un sondaggio esplorativo all'interno dell'Università di Bologna

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ABSTRACT

The research aims to explore the state of the art of educational inclusion for Specific Learning Disorders (SLDs) at the University of Bologna from the point of view of some students with SLDs, exploring their perceptions of and experiences with equal opportunity support practices to access content and accessible educational materials and environments. An analysis of the most recent scientific literature, and of the main surveys carried out at a national level in Italy, shows that, especially since the new millennium, the number of students with disabilities and SLDs is constantly increasing in Italian universities. Consequently, over the last 15 years, some reference frameworks have been promoted at an institutional level to support the design of accessible educational environments and resources. Moreover, considering the widespread nature of new digital technologies, the availability of services to support inclusion is broader than ever. It is in this landscape, still full of challenges and questions, that the following investigation comes to fruition.

La ricerca si propone di esplorare, attraverso la prospettiva degli studenti con Disturbo Specifico dell'Apprendimento (DSA), lo stato dell'arte dell'inclusione didattica dei DSA nell'Ateneo Bolognese. Nel presente lavoro sono considerate le percezioni di questi studenti in merito alle pratiche di pari opportunità di accesso ai contenuti e alla predisposizione di materiali e ambienti didattici accessibili. Da un'analisi della più recente letteratura scientifica e delle principali indagini condotte a livello nazionale, si denota come, soprattutto a partire dal nuovo millennio, il numero di studenti con disabilità e DSA sia in continuo aumento nelle università italiane. Di conseguenza, nel corso degli ultimi 15 anni, sono stati promossi a livello istituzionale alcuni framework di riferimento per sostenere la progettualità di ambienti e risorse didattiche accessibili. Inoltre, considerando l'ampia diffusione delle nuove

tecnologie digitali, la disponibilità dei servizi a sostegno dell'inclusione si allarga ulteriormente. È in questo panorama, ancora ricco di sfide e interrogativi, che si colloca questo contributo.

1. Theoretical Framework of Reference[1]

The term "inclusion" has become increasingly widespread since 1994 thanks to the Salamanca Statement (UNESCO; 1994), both from an educational perspective and, more generally, within the governmental and institutional macro-context, both in Europe and further afield. Following this declaration, a gradual and substantial change began which redefined the concept of diversity itself as connected to the intrinsic potential of the person; a potential which must represent the centre of pedagogic design and a didactic action able to create equal opportunities for development, realisation, access and participation in the school and university contexts, as well as more generally in the social sphere for all parties, independently of their type of special education needs (hereinafter SENs) or disability (Ianes, Cramerotti; 2016). In this sense, the education and training systems are called on to deconstruct the most widespread paradigms and approaches to disabilities and learning disorders, creating a new educational design which opens itself up to the "possible" (Bertolini, 1999) by supporting people in difficult situations to find their own path, free from preconceptions or sterile classifications, stereotypes and prejudices. It is therefore desirable to avoid any potential form of levelling of the complexities (Morin; 2000), also and specifically in the area of special education in order to avoid the temptation to "format" individuals (Pavone, 2017) by observing them solely through the perspective of medicine, composed of a classification of symptoms and syndromes which does not go beyond simply identifying the clinical disturbances present. Moving in the pedagogical direction outlined above, opening ourselves up to the possible and full individual realisation, means putting the implementation of educability at the centre of didactic design and actions; in other words, it means promoting an education which supports people in reaching their own goals and paths, giving them freedom of choice and decision-making throughout the educational process and, more generally, within their personal life project (Caldin, 2001).

The cultural panorama introduced above could be interpreted as an important reference through which to orient the planning of all players involved in educational contexts, from researchers to lecturers, right through to the institutional field and political decision makers. Over the years, indeed, in the wake of wider

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1 This paper is the result of a joint work of both authors. Specifically, Valeria Friso has drawn-up paragraphs 2 and 6; Marco Nenzioni wrote paragraphs 1, 3, 4 and 5.

international references, many laws have been passed in Italy promoting and "strengthening" an inclusive culture in the field of education and training, in specific terms imposing a school and university system which is ever-more oriented towards the participation and development of all (Friso, 2017).

In the research presented here, the reference target is composed of students with certified SLDs enrolled in the university, from freshmen to final-year students. After defining the theoretical background of reference, the regulatory procedure for SLDs is covered briefly, before an overview of the number of students with SLDs in the academic field and within the University of Bologna.

While the concept of Learning Disabilities has been found in the international scientific literature for many decades – encompassing different types of disorders and syndromes, depending on the applicable references in the various countries (Courtard, Bakken, 2011) – the topic of SLDs is relatively recent. An initial classification of disorders affecting mathematical, reading and writing abilities appeared in the WHO document (1990) *International Classification of Diseases* (ICD)[2]. The ICD defines learning disabilities as

> "[…] Disorders in which the normal patterns of skill acquisition are disturbed from the early stages of development. This is not simply a consequence of a lack of opportunity to learn, it is not solely a result of mental retardation, and it is not due to any form of acquired brain trauma or disease. Rather, it is believed that these disorders derive from anomalies in cognitive processing linked predominantly to some kinds of biological dysfunction. As with most other developmental disorders, these conditions are markedly more frequent in males" (WHO, 1990).

In the Italian context, despite key legislation for the protection of persons with disabilities being in place since the[3] 1970s, talk of students with SLDs began at an institutional level only thanks to Italian Law 170 of October 2010, "New regulations regarding specific learning disorders in the scholastic environment". (Cajola, Traversetti, 2017). This law finally recognised and protected persons with SLDs both in the school and university environments. The CNUDD (National University Conference of Disability Delegates) also provided a significant contribution in the field of SLDs following this law. In 2014 it updated its guidelines[4] by adding a section on students with SLDs in which the general references for inclusive practices were redefined (CNUDD, 2014, pp.12-14). Italian Law 170/2010 does not completely revolutionise the services that universities must guarantee to students with SLDs; they are equivalent to those defined in the previous laws for persons with disabilities such as, for example: orientation at the beginning and end of the academic pathway, peer tutoring, free loan of technological equipment etc. In other words,

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2   These disorders fall under sections F-80 and F-81 of the ICD. These references relate to the tenth edition of this document, ICD-10.

3   The main laws throughout Italian history to protect people with disabilities – as well as promoting inclusive education – which are worth remembering are as follows: Italian Law 517/77, which set forth the right to attend school for all disabled people; Italian Law 104/1992, a framework law for the support, social integration and rights of people with disabilities; Italian Law 17/99 (amending the prior one), which introduced the requirement for Italian universities to nominate a "Dean's Disability Representative", as well as providing financial subsidies and services to persons with certified invalidities; Italian Law 170/2010 "New regulations regarding specific learning disorders in the scholastic environment"; Italian Legislative Decree 66/2017 "Regulations for the promotion of scholastic inclusion of students with disabilities".

4   For further information: https://www.crui.it/documenti-pubblici.html (last viewed: September 2019)

it implements an obligation to provide various forms of compensatory tools (additional time in exams, alternative texts and so on), also during exams, both final and entrance.

Some recent statistical surveys have provided us with numbers and data to help us better understand the trends regarding students with SLDs within Italian universities. According to the CENSIS report "51st Report on the Social Situation of the Country" (CENSIS, 2017), the number of students with SLDs is growing rapidly, both in schools and universities[5]. In academic year 2012/2013, enrolees with certified SLDs numbered 1,439; in academic year 2014/2015, on the other hand, this had grown to 2,996.

2. Quality of life and inclusion issue: which reference models?

Positioning itself as a distinctive element of a self-determined adult person, the inclusive processes of each person in social life are reinforced by the *Quality of Life Theory* (QoL) which highlights the essential elements for a person to be able to satisfy what is personally significant. In the case of a student with SLDs, satisfaction and achievement of qualitative levels of life require the examination of the person's profile but, even more than in other situations, the examination of the supports and barriers present in the context of life. In this article, we focus our attention in the university context (Cottini, Fedeli e Zorzi, 2016, p. 29). All this is as true as it is impossible to consider quality of life as a one-dimensional concept; for this reason, it is necessary and effective to resort to multiple models, capable of integrating multiple dimensions and components (*ibid.*, 2016, p. 97).

The models used in the research presented here are those of Schalock, Verdugo-Alonso and Brown. According to Schalock, Verdugo, et al. (2010), *Quality of Life* is a multidimensional phenomenon, consisting of central domains that are strongly affected by the intertwining of personal characteristics and environmental factors. These essential domains for each human being are the same for all individuals, but the value and relevance that is attributed to them can vary individually. Schalock identifies eight (renowned) domains through which to evaluate and enhance the QoL (Cottini, Fedeli e Zorzi, 2016, p. 32); we can summarize them as follows:

- physical well-being: the set of actions performed in favour of human health;
- material well-being: the set of actions aimed at ensuring and improving the material living conditions of the person;
- emotional well-being: concerns the possibility of experiencing positive emotions about oneself (being happy and satisfied with oneself); to enjoy non-stressful life contexts (predictability, constancy, etc.); to be able to participate in rewarding activities in which the person can see himself recognized in his value and in which he can express good performances; to communicate (verbally or in other ways) affection and trust towards people present in the context of life;
- interpersonal relationships: the set of relationships that the person has with family, friends, acquaintances, and other significant figures;

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5   The CENSIS data was gathered from 40 universities throughout Italy, representing 65% of Italian universities.

- social inclusion: the degree of participation in the typical activities of the territory to which it belongs, the commitments made within the territory, the help received by the people of its territory;
- personal development: concerns the acquisition of skills that increase an adaptation to the different contexts of life attended (therefore it implies a specific tension in the teaching / learning of skills); the opportunities to exercise and show the skills possessed/increased; the possibility of facilitating access to the desired information by the person;
- self-determination: it concerns being able to be the causal agent of one's choices;
- rights: all the requests made by the person corresponding to the living standards of the culture they belong.

Brown's model integrates this approach (Brown e Brown, 2005) which reinterprets the areas of operation (emotional, relational, etc.) in order to improve (or not) three key elements of the QoL, experimented subjectively:

- being, about the sense of individual identity, awareness of self, of one's limitations or difficulties and its strengths;
- belonging, pertaining to the sense of belonging to a community and to take advantage of social relationships (of different dimensions: intimacy, friendships, etc.);
- becoming, which concerns the meaning of a life project, which implies choices, decisions, preferences, etc. in short, self-determination and autonomy.

The Quality of Life domains in the model proposed by Brown are: to be physical; to belong to the community; to be psychological; to be practical; to be spiritual; to be engaged in leisure time; to belong physical; to be engaged in growth; to belong social. Starting from these models, it should not be forgotten that the people who work in the educational field should «practice an integrative, critical-interpretative and application-corrective attitude towards the models […] on the basis of an in-depth analysis of the coverage value of the various theories and indications inferable from adequate knowledge of one's professional situation» (Maccario, 2005, p. 57).

In any case, the QoL, actually, represents the paradigm through which it's possible to reconsider the services and program the existence, in order to change the point of view and stop to consider the person with Specific Learning Disorder only in disadvantaged condition, but identifying horizons of change, vital development and inclusion. This approach is providing opportunities for reflection and educational and existential pedagogical reorganization on several levels:

- to policies offers the key to the planning of the system and resources;
- to services it shows the way towards overcoming approaches cantered on context and activities, integrating instead individual needs, processes and contexts, offering services a paradigm and a tool that supports them in the analysis of the meaning and identification of the objectives towards which to direct interventions, and no less it is an opportunity for operators to reflect on the value and meaning of their role and mandate;
- to people with Specific Learning Disorder offers the opportunity to take ownership of the QoL construct and to be actors and producers in the design and planning of their life projects (Cottini, Fedeli e Zorzi, 2016).

The QoL models also provide a series of indicators capable of defining them on an operational level, the measurement of which allows to evaluate personal outcomes and, consequently, the effectiveness of service actions.

3. Research objectives

As of October 2019, the University of Bologna numbered 738 students with specific learning disabilities registered with the "Services for students with disabilities and SLDs" office, who had therefore presented an SLD certification during matriculation or during the course of their studies, and who wished to identify themselves as such to the dedicated office. It should be noted, however, that this number (738) includes only the registered students with SLDs; therefore, since it is the individuals who present their certification and register at the dedicated office, it is not possible to obtain a precise number for the current students with SLDs studying at the University of Bologna, but we can say with certainty that it is a number significantly greater than that currently known. Moreover, of these 738, not all require continuous support: some of them register at the dedicated office to obtain the adaptations they have a right to only during admission to the courses, before then organising themselves independently during their time at university. These are the current numbers but, at the time of the distribution of the electronic questionnaire dealt with by this article, the number of students registered at the SLDs office, that is those receiving the invitation to participate in this research via email, was 722.

This constant growth in students with SLDs brings with it the need to provide a prompt response to their different requirements in order to provide educational settings (both class-based and e-learning) and compensatory measures in order to make access and participation in the didactic environment possible for all students with SLDs. It is this complex panorama, still full of ups and downs, which this report touches on. The purpose of the research, focusing on an exploratory-qualitative matrix design – and therefore featuring an inductive path type (Coggi, Ricchiardi, 2005) and the adoption of structured and semi-structured survey tools – is to determine the state of the art of the quality of educational inclusion of students with SLDs. Specifically, this survey intends to lay out, through the students' own "voices", the main strengths and obstacles in their experience as consumers of educational experiences and services offered by the university to guarantee them full inclusion within the educational process. In other words, the goal was to determine which dimensions encompassed the principle problems for reaching full inclusion of the reference target (and whether they exist), determining the divergence between what is actively done by the university to ensure inclusion of people with SLDs and their real requirements (Genovese, Guaraldi, Valenti; 2018), all the more so now that they have different guidelines for the planning of content and educational environments, such as Italian Law 170/2010 or the CNUDD itself. Moreover, if we look at the international panorama, it is possible to identify some planning frameworks both in the scientific literature and within new approaches to didactic planning, which have been extensively tested and used in numerous countries (Calvani, Menichetti; 2013, CAST; 2011). Amongst the best-known international references in the field of accessible content, we find the guidelines of the Center for Applied Special Technology (CAST), a grouping of planning directives for inclusive didactics which represent the essence of the

so-called Universal Design for Learning (UDL) theoretical approach. New technologies also play a key role within this context, and require constant monitoring for correct their correct use and distribution (Pavone, 2017; Di Masi, Santi, 2017); which are made available to the university, and how do students with SLDs evaluate their experience of using them, or alternatively, which technologies do they use independently to support their studies? The responses provided allow us to obtain a general overview also as regards this aspect.

4. Methodology

This research draws inspiration from the fundamentals of the Student Voice pedagogical movement which has taken shape in English-speaking countries in recent years (Cook-Sather, Grion; 2013). It is possible to describe the idea behind this approach in the words of Cook-Sather (2002), when she explains that "There is something fundamentally amiss about building an entire [education] system without consulting at any point those it is ostensibly designed to serve." In this movement, a collaborative dimension is developed and enhanced in which the "voice" of the students should forcefully insert itself in the dialogue between all parties involved in the educational contexts and in the decision-making processes from which educational practices derive (*ibid.*; 2013). Supporting the theoretical framework of the Student Voice point of view are two solid pillars, the concepts of rights and respect. Rights references the importance of also involving students in the processes of designing and planning the curricular and didactic activities (Cruddas & Haddock, 2003); respect, on the other hand, promotes the idea that involving students in the educational and training processes makes them feel like protagonists both as individuals and as an institutional and social group (Ruddock & Flutter; 2004). Although this recent pedagogical movement is rooted in the scholastic field, it is nevertheless possible to hypothesise its potential forms within the academic context. Inspired by this idea, a semi-structured questionnaire was therefore drawn up (Table 1). The questionnaire was administered online (using the FeedbackServer online application) and was designed to ensure full anonymity for the respondents. No data which could be considered sensitive (email, IP address, connection location etc.) was gathered. With the assistance of the disabled and SLD students' support office, the survey was forwarded to all SLD students, from freshmen to final-year students. The questions were primarily of two types: yes/no and true/false questions, and questions requiring an answer on a scale (intensity or judgement). Only the final group of questions (11 in total) provided space (open questions) for the respondent to reflect freely if they so wished.

Specifically, the aim was to discover: how widely requested the services offered by the university are (and their relative perceived quality) both on enrolment (during matriculation and registration at the disabled students' services office), and during the course of studies; how appropriate the professors' level of preparation and willingness to offer more accessible learning materials is; what technologies (compensatory tools) are most requested by students with SLDs and the corresponding assessment of their perceived quality (meaning compensatory tools and technologies offered by the university). An extract from the semi-structured questionnaire is featured in Box 1 below.

1) During their last year of secondary school, students with SLDs can contact the University of Bologna's SLD student support service in order to receive support on entry to a new course of studies. Did you ever receive information regarding the existence of this possibility during your last year at secondary school?
Yes/No

2) When you registered with the SLD student support office, did you receive exhaustive information on the range of services provided by our university? (Select response)
Yes, I was presented with a full overview of the services available to me
Yes, but the information was not truly clear
I did not receive much information, and it was not particularly useful
No, I was never given specific information

3) The SLD student support service offers various types of support to students throughout the course of their studies. In the list below, indicate which services you have made use of and give a judgement on their quality. (1 = low; 4 = excellent)
Lessons adaptation and mediation with lecturers
Peer tutors
Specialised tutors
Identification of appropriate study strategy
Alternative teaching material
Technological aids
International mobility support

4) During the course of your studies, did you find lecturers willing to provide you with the required support for complete access to the didactics and corresponding study materials? E.g.: willingness to provide alternative and accessible materials, willingness to send lecture notes or other teaching materials in advance, etc. Give a score from a scale of 1 to 4 (1=low, 4=excellent)

5) Do you make frequent use of the technological aids available at our university? (1 = I never use them; 4 = frequently)

6) If you gave a score of above 1 in the previous question, how do you rate the quality of the technology offered by our university? (1 = low; 4 = excellent)

7) Which technologies do you personally use to help you in studying the teaching materials and/or during classroom lectures? (select one or more responses)
Text-to-speech software
Voice recognition software
Spellchecker
Calculators or mathematical support software
Graphical organisation software (e.g. concept maps)
Specific fonts to facilitate reading (e.g. OpenDyslexic font)

8) The university offers a lab specifically designed for students with SLDs, in which you can use and try out text-to-speech software, programs for working on digital texts etc. Were you aware of this facility, and have you ever used it? (Select response)
I know of it, but I've never been there
I know of it and I've used it
I didn't know about it
I didn't know about it, but now I do I will look into it

9) Have you ever previously been asked to express a judgement on the quality of services provided in support of students with SLDs?
Yes/No

10) What are the main learning difficulties which fall under the area of SLDs which you have been certified as having? (Multiple response question - one or more answers possible)
Dyslexia
Dyscalculia
Dysorthography
Dysgraphia

11) In your opinion, which aspects should be improved to increase the level of didactic inclusion for students with SLDs? (open question)

Box 1: semi-structured questionnaire

5. "In progress" discussion of the data gathered

The responses received are listed and discussed in this section, which aims to provide greater visibility to the "voices" of the students with SLDs. The responses given in the table below belong to 61 students with SLDs, out of a total of 722 students registered with the dedicated office who were sent the invitation to respond to this survey. The numbers in the table are expressed as percentages.

1) Before enrolling at the university, students with SLDs have the opportunity to contact the SLD student support service in order to receive support on entry to a new course of studies. Did you know about this opportunity, and therefore this service, before starting your academic journey?	
Yes	72
No	28

Table 1: previous knowledge of university services by students

It is not always a given that students have widespread knowledge of the services offered by the university with regard to certain possibilities. The fact that 72% of the respondents stated that they were aware of the SLD office before embarking on their academic journey is considered positive.

2) When you registered with the SLD student support office, did you receive exhaustive information on the range of services provided by our university?	
Yes, I was presented with a full overview of the services available to me	74
Yes, but the information was not very clear	16
I did not receive much information, and it was not very useful	10
No, I was never given specific information.	-

Table 2: presentation of the panorama of the services offered

As we can see in tab. 2, a positive response to this question was given by 74% of respondents, who were pleased with the presentation of the range of services, compared to 16% who felt the information they had received was not very clear. Those who stated they had received little information totalled 10% of the respondents. In the latter case, these students were probably already prepared about the range of services at their disposal and did not consider what was presented to them by the SLD office to be an added value.

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3) The SLD student support service offers various types of support to students throughout the course of their studies. In the list below, indicate which services you have made use of and give a judgement on their quality.					
	Never used	Low	Sufficient	Good	Excellent
Lessons adaptation and mediation with lecturers	40.82	12.24	14.29	16.33	16.33
Peer tutors	72.34	4.2	2.1	12.77	8.51
Specialised tutors	82.98	2.13	2.13	8.51	4.26
Identification of appropriate study strategy	66.67	12.5	8.33	4.17	8.33
Alternative teaching material	56.25	16.67	6.25	8.33	12.5
Technological aids	46.81	14.89	12.77	14.89	10.64
International mobility support	78.26	8.7	6.52	2.17	4.35

Table 3: services used by students with learning disabilities

The data point strongly emerging from the responses in tab. 3, highlights limited use of the services and tools provided by the university by the students with SLDs. Those who, on the other hand, use or have used tools and services gave a rating evenly distributed between "low" and "excellent". Only as regards the alternative teaching material did there seem to be a trend towards a negative rating (*low*) of the quality of these compensatory tools.

4) On the basis of your experience, how do you consider the lecturers' level of preparation with regard to matters relating to SLDs and their ability to guarantee you complete access to the didactics and corresponding course materials? E.g.: willingness to provide alternative and accessible materials, willingness to send lecture notes or other teaching materials in advance, etc.	
Low	46.92
Sufficient	32.28
Good	10.23
Excellent	10.57

Table 4: evaluation of teachers' preparation and support

In tab. 4 we can see clearly that respondents unequivocally gave a negative assessment of their experience with meeting the lecturers, primarily highlighting a low level of or insufficient preparation around SLDs.

5) How often do you use the software provided in our university for students with SLDs? E.g. software to support your studies, reading, writing, calculations etc.	
Never	66
Rarely	20
Often	8
Always	6

Table 5: frequency of use of software resources made available by the university

Confirming the results from question 3, here, in tab. 5, we see that it not only seems that the services made available by the university are rarely used by the respondents, but also that the new computer technologies are used infrequently, or even not at all. Indeed, 66% of respondents do not make use of them, while 20% stated that they did so rarely.

6) If you make use of the software resources suggested by the university, how do you rate the quality of the following types?					
	Never used	Low	Sufficient	Good	Excellent
Study support software (conceptual maps and similar)	50	26.67	10	3	3.33
Reading and writing support software	56.67	20	6.63	10.67	4
Mathematical calculation software	79.31	10.34	6.9	3.45	0

Table 6: perception of the quality of the university's software

The answers in tab. 6 are line with the previous responses, most of the respondents declared that they had never used the university's technological solutions belonging to the three listed types. The remainder, on the other hand, gave a negative assessment of their quality, therefore not considering these technologies able to adequately meet their needs.

7) Which technologies do you use personally to help you in studying the teaching materials during classroom lectures or at home?	
Text-to-speech software	14.1
Voice recognition software	5.10
Spellchecker	17.29
Calculators or mathematical support software	23.08
Graphical organisation software	21.79
Specific fonts to facilitate reading	5.16
Other	12.82

Table 7: technologies used by the students

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The use of different aids was (almost) evenly distributed, with the exception of specific fonts to facilitate reading (for example fonts such as *OpenDyslexic*) and voice recognition software, two tools which were used by only 5% of respondents, respectively. The remaining aids seem to be used almost evenly, with a predominance of software for graphical facilitation and arithmetical calculation. Those who filled in the field "other" stated, for example: "I use concept maps, and the possibility to record lectures (mp3s)"; "I use my computer and I make concept maps on paper"; "Recorder to take notes"; "PowerPoint for maps and to take notes"; "I'm not keen on using software and technological devices, I prefer analogue methods"; "e-books". The technologies listed in the "other" field by the respondents fell under the preceding categories, except for e-books. Other technological solutions were therefore not recorded.

8) The University of Bologna has a Tecno Lab located on Via Zamboni. There, students with SLDs can also use and try out text-to-speech software, programs for working on digital texts etc. Were you aware of this facility, and have you ever used it?	
I know of it, but I've never been there	28.57
I know of it and I've used it	14.29
I didn't know about it	36.73
I did not know about it, but now I do I will look into it	20.41

Table 8: knowledge and use of the laboratory dedicated to people with learning disabilities

Tecno Lab is a dedicated lab, inaugurated in April 2017, in which students with disabilities and SLDs can make use of technological aids to aid their studies. Only a small percentage of the respondents (14.29%) knew of the lab and had used it. Of the remainder, most did not know of its existence. A positive note was that, amongst those who were not aware of the existence of *Tecno Lab*, a good proportion (20.41%) expressed the desire to look into it in order to investigate the potential of this facility.

9) Have you ever previously been asked to express a judgement on the quality of services to support students with SLDs?	
Yes	64
No	36

Table 9: previous participation in research related to the quality of disability services

Of the respondents, almost an half had previously participated in other research or surveys on the quality of services for students with SLDs. This data, probably, indicates that certain issues are not being monitored very often.

10) What are the main learning difficulties which fall under the area of SLDs which you have been certified as having?	
Dyslexia	38.83
Dyscalculia	24.27
Dysorthography	21.36
Dysgraphia	15.53

Table 10: main types of SLDs present among the respondents

The responses provided by the students appear to confirm the trend for dyslexia to rank as the most common disorder amongst the SLDs (MIUR, 2018).

The following open question was asked at the end of the semi-structured questionnaire, with the goal of uncovering further qualitative aspects from the students regarding their experience as students with SLDs. *In your opinion, which aspects should be improved to increase the level of didactic inclusion for students with SLDs at our university?*

The responses provided by the students allow us to identify certain aspects of their university experience in which certain problems occur. The topics which emerged from an initial qualitative analysis of the open questions were:

a) Relationships with lecturers. Many of the respondents mentioned a poor level of knowledge of SLD issues by lecturers, stating that they need to improve their approach and their willingness to do things such as provide alternative materials, compensatory measures for students with SLDs.

> "[…] greater willingness by the professors to provide more suitable teaching materials to those with certain deficits. What's more, it would be very helpful if certain professors realised that not all students are able to follow their lectures, above all those who like to move at a particularly fast pace."

> "Organising mandatory meetings for the professors, maybe also open to the students concerned, to explain what dyslexia is, what its most common characteristics are, and explain how a professor can best relate to those afflicted with it."

> "I would like to report non-inclusive behaviour by professors who, when requested to divide the exam and to use concept maps, answered that they did not completely agree, even if they did not fully understand the "illness". Subsequently, they make you repeat the exam four times, unfairly, until I decide to show up without maps and with the complete program, to then be told "seeing as you don't need the maps?"."

> "[…] It's necessary to talk about this issue with the lecturers."

> "The professors need to be informed more about it; some of them, as they have children with the same condition as me (dyslexia), are understanding and very kind about it, but others are still stuck in the past with the idea that you're just a lazy student, so they give you the minimum amount of assistance required, e.g. the extra time required by law. I would suggest more information on the problem […] I'm studying chemistry and materials chemistry, and I am the first student with dyslexia that any of the professors have met, so for me it's very difficult.

> "The professors are still very confused about what being a student with SLDs means, and about the real difficulties we have. I think they really need to understand it properly and always make use of compensatory tools."

b) Improving the IT equipment and accessible materials. This aspect had already partially emerged from the previous closed questions. Some students also brought up the need to improve the alternative materials and the IT equipment through the free response question.

"It should be easier to obtain teaching materials in PDF format. The current policy does not provide for easy access to the texts in PDF format if there is a copy on the market in e-book format, but for most formats e-book does not support text-to-speech, making the digital format useless. Also, the bureaucracy required to obtain digital texts has significantly increased compared to the past, causing serious inconvenience to students, particularly those auditing classes, meaning having the text in digital format is necessary for "reading".

"I think that the computers that the SLD service makes available as an exam aid are a bit dated, in fact you always need to be plugged in to the power, and this is not always possible in the university classrooms."

"The availability of the digital tools is poor, and the equipment that I have used has not been very powerful, as well as old and dated."

"We need easier to use digital materials! Slides and text on Moodle created by the professors are not accessible to those with SLDs and are therefore very difficult to read."

c) Relationships with fellow students. Some respondents highlighted that it is not always easy to obtain support and understanding from their course classmates, and they would also like dedicated spaces to be created for students with SLDs (and without) to meet up.

"It would be nice to have common areas for students with SLDs to study together."

"[…] It's certainly useful to compare notes with your peers, but not if a student with SLD is preparing for an exam, you need specific expertise to support us in our studies.

"[…] Organising mandatory meetings for the professors, maybe open to the students concerned, to explain what dyslexia is, what its most common characteristics are, and explain how a professor, or a student, can best relate to those afflicted with it."

"Very often, non-dyslexic students do not understand this condition; if there were more education about it, it would be possible to avoid unpleasant misunderstandings and prejudices. As I find it useful to use concept maps during the exams, I often feel uncomfortable because some of my classmates do not understand the real function of the aid. I feel particularly and unfairly hurt when I have to justify myself against phrases like "you only pass the exams because you have your maps.""

6. Some final consideration

The topic of inclusion for students with SLDs in the academic context has positive and negative aspects, and there are still many challenges to be overcome. Without wishing to jeopardise the consistency and methodological rigour required for dissemination of the data, the responses gathered here should be considered a starting point in providing a qualitative description of the state of the art of inclusion of students with SLDs within the University of Bologna. As required by current Italian legislation on students with SLDs – as well as the previously mentioned recommendations and guidelines, for example those from CRUI (The Conference of Italian University Rector) – the University of Bologna offers specific services dedicated to supporting the studies of students with SLDs. The dedicated office guarantees support to students both during enrolment and throughout the course of their studies, providing them with compensatory tools and measures to meet

their requirements, defined through preliminary and ongoing interviews. Students with SLDs can make use of service such as: support of peer tutors during their studies; the supply of accessible alternative materials (texts in digital format; teaching materials in digital format, when supplied by the lecturer in advance or where available, enlarged photocopies of teaching materials etc.); technological aids (tablets, software for concept maps, scanners for hardcopy texts and more besides), and support with international mobility. To what extent, however, does this range of services provide positive effects as regards our target's needs and requirements? Based on the responses received, the students would seem to be crying out for an improvement in the inclusive processes from various points of view.

From the quantitative data outlined in this paper, it is clear that in most cases, not only are compensatory tools and measures little used – tools that are sometimes not widely known, such as the *Tecno Lab* for instance, which is still unknown to many people – but in the cases in which students do make use of them, they are given poor assessments. The inclusion processes concern the wider social system within which given situations and requirements of a specific user target develop and appear (D'Alonzo, 2018); for this reason we wished to investigate the perspective of students with certified SLDs as regards the preparation and willingness of lecturers to meet their (the students') needs and requirements. On this front, the data discussed in this article confirm that a lot of work is still required to increase the spread of an inclusive culture amongst university professors. By cross-referencing the quantitative data in the table with the answers to the open questions, more clarity emerges and the areas in which it seems appropriate to intervene in order to improve the processes and services of inclusion for students with SLDs take shape: increasing the level of knowledge of the professors with regards to the requirements and issues relating to students with SLD in order to make them able to meet the needs of each individual student through the support network provided by the university (provide alternative examination formats, material in accessible formats etc.); improving the quality of IT aids from various points of view (availability of devices, software not very useful for many requirements etc.; better preparing peer tutors and providing more information, also and above all to non-SLD students, on the issues with those who have difficulty in reading, writing and mathematical operations. Peers' lack of knowledge of SLD issues, the students tell us, brings with it prejudices and stereotypes which do not help foster an inclusive culture made up (in part) of comprehension and support by peers, jeopardising the opportunity to aid and cultivate the processes of socialisation and encounters amongst students.

In confirmation of the results of various recent research (Bellacicco, 2018), it seems there is still much to do to work on inclusive processes to involve all players, holding various roles, in the university context. The provision of services and didactic practices in support of inclusion still seems stuck on the level of simply providing and distributing information. In other words, we still seem to be lacking (or at least they are rather weak) all the dynamics which favour active involvement of students with SLDs in a context (university) in which they can find fertile ground for their professional and social development; a context in which each player involved, from the offices staff to the lecturers, right through to their peers, are able to know and provide continuity to the inclusive practices aimed at students with disabilities or SLDs.

We can also look at the data collected through this exploratory research as a potential set of criteria that could be used for the planning of interventions to in-

crease the probability of inclusion (i.e. access and participation) of our target (SLDs). We refer to the "quality" indicators developed starting from what has been proposed by various authors such as Cottini, Adams., Beadle-Brown and Mansell:

- relevance: significant objectives within the Project Student life;
- observability: translation of objectives into observable behavior;
- functionality: relapse of the objectives in everyday life, expendable by the subject in his reference context and potentially controllable by himself;
- temporality: objectives with specific time limits, in order to verify their effective achievement;
- monitoring constant and continuous observation and recording, in order to verify improvements or worsening also on the way;
- measurability: objectives that can be translated into measurable indicators, to facilitate the task of verifying the intervention;
- realism: objectives realistically achievable with existing individual and contextual resources;
- normalization: objectives aimed at developing typical life skills, respecting the person's wishes and expectations;
- participation: objectives that favour the inclusion of the person in the various contexts and in one's life plan (Adams, Beadle-Brown, e Mansell; 2006).

The criteria just mentioned allow you to ask effective questions to understand if you are realistically acting in favour of the person and what is relevant for him. How important is the goal / activity compared to the student's expectations, desires? How does the goal / activity fit in relation to the age of the person? How much control does the person exercise over the proposed activity? What needs does the achievement of the objective meet in the daily activities and in the context of the person's life? How could the person use this skill in his life? How much is the activity planned to bring the subject closer to contexts and activities typical of everyday life? How much is the objective depending on the achievement of future objectives and the development of the person? Questions that are found in the model of the "Three C" (*Centrality, Continuity and Control*) by Cottini and Fedeli (2008) which describes the work of those who hypothesize and manage programming on a daily basis in order to promote the aspects of centrality continuity and control by the experience from the PcD (Cottini, Fedeli e Zorzi; 2016, pp.37-38).

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