

ORIGINAL RESEARCH ARTICLE

English language teaching and specific learning disorders: A case study

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ABSTRACT

The study of a foreign language for students with Specific Learning Disorders (SLDs) can often be a tremendous challenge, making this process extremely complex (most of the difficulties arise from spelling and lexis with major consequences for reading, writing and pronunciation). This also entails a challenge for educators and educational institutions having the task of responding to students' needs by becoming more flexible and equipped to understand, value and adapt to the differences of their students in order to provide them with quality and inclusive education and equal learning opportunities. The purpose of this paper is to present a study conducted among university students with SLDs with the aim to identify approaches and teaching strategies to foster effective and meaningful English language learning. The underlying intention is to provide useful insight into future trends and definitions of guidelines and viable strategies in the field of education and SLDs. Therefore, 82 university students with SLDs were randomly assigned either to an experimental group (EG, $n = 41$) who received English lessons designed according to their individual needs and based on compensatory measures, or to a control group (CG, $n = 41$) who participated in conventional English lessons. Results suggest that the students who benefited from a variety of individualised supports were able to improve their foreign language skills.

Keywords: English language teaching; special educational needs; compensatory tools; universal design for learning

1. Introduction

The acronym SLDs refers to a heterogeneous set of Specific Learning Disorders that particularly affect the acquisition and application of skills such as reading, writing and calculation, which cannot be attributed to physical disabilities or intellectual impairment^[1]. In Italy, SLDs affect an increasing number of students who are officially diagnosed and obtain medical certificates, thanks to the implementation of Law 170/2010 that details the profile of students with SLDs and provides specific indications and tools for teaching. Especially in the past, and before a formal (medical) recognition of SLDs, students with this kind of disorders were considered lazy, slacking, unmotivated, although very intelligent. The path that led to the current law dates back to 2004, when a Ministry Circular focusing on the initiatives relating to dyslexia was drafted, mentioning, for the first time, the potential use of dispensary measures and compensatory tools, referring, however,

ARTICLE INFO

Received: 25 June 2023 | Accepted: 27 July 2023 | Available online: 13 August 2023

CITATION

Nisco MC, Tafuri F, Saraiello E, Maietta MC. English language teaching and specific learning disorders: A case study. *Sustainable Social Development* 2023; 1(1): 2192. doi: 10.54517/ssd.v1i1.2192

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exclusively to students with dyslexia. In the following years, several additional Ministry Notes were also drafted, leading to the formulation of Law 170 in 2010. Article 1 of the aforementioned law recognises and defines, for the first time in Italy, dyslexia, dysgraphia, dysorthography and dyscalculia as Specific Learning Disorders which appear in presence of adequate cognitive abilities, in absence of neurological pathologies and sensory deficits, while still constituting a major limitation for some everyday activities. This law gives students with SLDs the right to benefit from special dispensary measures and compensatory tools, individualised and personalised teaching methods, guaranteeing their right to education and their educational success and achievement.

In the school context, pupils with SLDs are usually not assigned to a support teacher, because the cognitive dimension or intelligence are not compromised, as much as, instead, the basic prerequisites that do not allow the acquisition of information and, therefore, learning through reading and writing. In such cases, learning must, therefore, take place through alternative modes which are usually specified in the Individualised Education Plan or the Personalised Learning Plan. Indeed, whereas in the Individualised Education Plan (IEP) the goals are personalized, i.e., they are specific for the pupil with disabilities but different from those of the class, in the Personalised Learning Plan (PLP) there are the same goals for the whole class, but the methods to achieve them are personalised and individualised. In other words, the PLP requires teachers to test different compensatory tools, identifying the most suitable ones for their pupils with SLDs^[2]. Such compensatory tools can include: speech synthesis and text-to-speech techniques, digital texts, computers and tablets; word processing programmes with spell-check; calculators; conceptual maps and images. Dispensary measures, on the other hand, allow students to avoid the most difficult tasks and include: oral or digital tests instead of written tests; avoiding reading aloud, avoiding the use of italics, avoiding copying from the blackboard, avoiding writing under dictation and taking notes by hand; avoiding timed tests, or being entitled to more time than other students; avoiding unexpected oral tests by scheduling them.

Within the Italian school context, the highest presence of certified SLDs can be found in higher secondary school, followed by lower secondary school and primary school. From a territorial point of view, certificates of SLDs are issued more frequently in the North-West Italy, an area where the percentage of pupils with SLDs is higher than the national average, followed by the Central and North-East regions. As for the regions of the South of Italy, instead, this percentage is extremely low. Going into more details on the specific types of disorders, it is worth noting that the majority of pupils have dyslexia, followed by dysorthography, dyscalculia and dysgraphia. It is, however, necessary to bear in mind that specific learning disorders can coexist with each other and with other types of developmental disorders, such as speech disorders, coordination and attention disorders, with the potential coexistence of emotional and behavioural disorders. A separate category includes pupils who, following specific tests, are said to possibly have a disorder that cannot be certified as SLDs yet. In general, pupils in the first two years of primary school or in kindergarten fall into this category: given their young age, SLDs cannot be diagnosed, despite the fact that an indication of some risk factors can be provided.

With regard to the Italian university context, there is little data on the presence of university students with SLDs, probably because this context is excluded from surveys due to the fact that it is not part of compulsory education, which is, instead, the time when most students undergo medical investigations to get an SLDs certificate. However, from the perspective of lifelong learning, which has become increasingly relevant for every professional sector as well as for personal and collective growth, it seems relevant to also look at the university context. In particular, it would be useful to examine the most appropriate teaching and assessment methods, since universities must be prepared to welcome students with SLDs wishing to attend a specific degree course, offering them the necessary tools to overcome their potential difficulties during their academic

career. And, as a matter of fact, second language acquisition is one of the most critical areas for students with SLDs.

SLDs are part of a broader diagnostic category related to Special Educational Needs (SEN), which constitute a macro-area within which three sub-categories can be identified: disability, SLDs and socio-economic disadvantage. SEN concern all individuals with problems in the areas of learning, social participation, and emotional, relational and communication skills^[3].

In this context, targeted and personalised interventions, whether or not supported by a medical and/or psychological diagnosis, are required. Of the three aforementioned sub-categories, this study will only take into account SLDs.

SLDs derive from a neuro-diversity, i.e. a different way in which the brain processes certain stimuli and handles certain tasks; due to their evolutionary nature, they emerge spontaneously during the first years of life, probably owing to a genetic predisposition, at a stage when the brain is plastic and flexible^[4]. These disorders cause a number of difficulties in the processes of reading, writing or calculation, they hinder complete self-sufficiency in learning, thus requiring higher concentration and mental focus. Since attentional resources are limited in all human beings, students with SLDs tend to get tired more easily or fail to perform tasks that require the activation of several skills that are not automated yet. Some tasks can be particularly fatiguing, and sometimes even frustrating, especially those involving: language (in particular the phonological and orthographic components), verbal memory (memorisation is difficult as it involves the rapid retrieval of vocabulary and linguistic information), and movement skills (in the case of complex tasks or if coordination of several simultaneous movements is required)^[5]. This is further linked to an experience of failure that takes on a pivotal emotional and relational significance, so that the learning difficulty does not only affect a practical dimension but also the person's overall well-being and balance. It is, therefore, necessary to consider a dual perspective: in addition to the specificity of the disorder, there are other aspects that concern the emotional, social and relational sphere, and that orbit around the difficulty itself.

Drawing on such assumptions, it is worth acknowledging the urge to adequately respond to the educational needs and requirements of students with SLDs in order to provide them with quality, equitable and inclusive education and learning opportunities, recognising the pivotal role of academic institutions in promoting and disseminating knowledge in a climate of mutual respect. Indeed, both the school and the university have the task to enhance quality education and promote inclusion at all levels. Quality education is the basis for improving people's lives and ensuring that they acquire knowledge, skills and abilities that become transversal to other domains, providing them with the tools they need to be autonomous and active players in their personal, social, relational, educational, and professional life^[6].

In this view, within the context of the English language course which is part of the BA in Sports Science at the University of Naples "Parthenope", an action plan was elaborated based on the belief that personal development and growth can be achieved via alternative pathways, that differ according to students' abilities and learning styles. Indeed, in the field of education, homogeneous and linear learning pathways can hardly be recognised, since a variety of specific needs and tools should be acknowledged. This kind of teaching-learning process is the focus of the present study, which aims to investigate whether students who took part to English lessons designed according to their individual needs and with the aid of compensatory measures reported an improvement in their foreign language skills^[7].

2. Materials and methods

2.1. Study design

A randomized controlled study design was used to explore the effects of an English course designed on the basis of the needs of university students with SLDs diagnosis and with the help of compensatory measures to define possible improvements in their foreign language acquisition. The study was conducted at the University of Naples “Parthenope” in compliance with the actions intended to manage and support SLDs cases. Following the guidelines of the National University Conference of Disability Delegates (N.U.C.D.D.), every university must have in-house offices dedicated to services for students with disabilities and SLDs, with the responsibility of providing support and assistance to students who request them, identifying their needs, defining actions while monitoring the procedures put into place. In this regard, the University of Naples “Parthenope” established an Inclusion Office that is the first point of contact for the provision of disability and SLDs services, whose guiding principle is the inclusion of differently-abled students at all stages of their university life. This inclusion involves two issues: the removal of all architectural barriers and the exercise of the right to education. The Office receives approximately 150 requests every year from students with SLDs enrolled in the various degree courses offered by the University and, in synergy with the teachers, it guarantees assistance and support for individualised treatment during exams with additional time and specific compensatory tools that are necessary for the specific certified pathology.

In the light of the requests received in the academic years 2020/21, 2021/22 and 2022/23 concerning the English language course that is part of the BA in Sports Science, some specific teaching approaches were adopted to provide students with SLDs not only with the necessary tools during exams but also, and above all, to encourage their active participation in lessons, to foster effective learning and acquisition of the English language.

2.2. Participants

A sample of 82 students attending their first year in the academic years 2020/21, 2021/22 and 2022/23, and consisting of 72% males and 28% females was selected. Participation in the study was on a voluntary basis and all students with a diagnosis of SLDs were eligible. The study was conducted from January to March respectively in each academic year. All participants received a full explanation of the purpose of the research and its content in advance, in compliance with the Declaration of Helsinki. They all signed their informed consent before the beginning of the study and data were treated confidentially by the researchers.

2.3. Procedures and measures

The study was carried out at the University of Naples “Parthenope” and involved university students with SLDs who had previously applied for the recognition of their special requirements and an individualized treatment at the University Inclusion Office, with the request of aids to sit the English Language exam. The students were divided into two groups: an experimental group and a control group. For the experimental group, support strategies were activated through individualised lessons with the aim of enabling students to learn English through the aid of compensatory tools such as: (i) 30% additional time (maximum percentage allowed in the case of a student with SLDs); (ii) changing exam modality from written to oral; (iii) changing exam modality from oral to written; (iv) using outlines/conceptual maps; (v) additional potential aids.

The study involved an initial phase to collect relevant information on the students who contacted the Inclusion Office, a subsequent phase when the different aids and compensatory tools were put into place, and a final phase to collect and analyse the results after the English language final exam to explore the potential benefits (if any) of the teaching strategies adopted.

A questionnaire developed by the research team that conducted the study was administered in the first phase. The main objective of the questionnaire was to collect structured information on the difficulties that students with SLDs encountered in the school context when learning English; such information was deemed central for future actions and measures, in the university context, to accommodate different learning styles and abilities. The questionnaire, in electronic format, consisted of two sections: the first section required entering personal data on age, gender, geographic origin and type of school attended; the second section was devoted to the students' subjective opinion on the materials used at school to study the English language and the activities proposed to foster their learning in the different levels of education preceding university. In particular, the second section consisted of 10 questions, seven with multiple-choice answers, and three open-ended questions, asking students to indicate which parts of the reference texts or which activities they found most complex and/or difficult to perform, what they thought of the books used at school, what they thought of the additional audio and video materials, etc.

Both the experimental and control groups (consisting of 41 students each) were given an English entry test. Then, while the control group was given conventional lessons, the experimental group was engaged with individualised teaching actions and interventions which complied with the objectives and expected competences of the English language course, i.e., to provide students with an expertise based on specific vocabulary work on a number of macro-areas, including sport, the human body, health and well-being. Generally speaking, during the English lessons, teaching methods based on cooperation and exchange of knowledge were adopted to activate multiple learning channels and styles (despite the high number of attending students and the limited number of teaching hours of the English language course). The specific strategies implemented with the experimental group are detailed below.

From the point of view of the graphical-stylistic presentation of contents, many students complained about the density of information often characterising school textbooks, which hindered the study and understanding of the language. Indeed, graphic design plays a central role due to the visual impact it has for individuals with visual-spatial orientation difficulties that prevent easy use of learning materials, both in terms of text readability (typographically) and organisation of contents^[8]. To overcome this difficulty, the texts proposed during the university English language lessons were collected in a coursebook prepared by the teacher and were always divided into paragraphs, usually with specific headings to clarify and/or highlight essential information. For this purpose, the use of coloured markers for the identification of key concepts was extremely useful. A reading guide was often developed to provide students with a map of the contents of the texts (organized paragraph by paragraph, with a clear introduction of the topic) that could support them in visualising the space of the page and in understanding the relevant points while reading, in addition to the conceptual maps that the students then made by themselves. Specifically, each unit was accompanied by an initial outline aimed at summarising the objectives and main points in a sort of schematic summary.

As for the organisation of the contents and types of activities proposed, they were always introduced in small quantities in order to reduce the students' workload, thus avoiding anxiety and discouragement. The instructions and procedures to be followed in order to carry out the activities were formulated in a simple manner (as many students complained about unclear and confusing exercises in the school textbooks), providing at least one example to promote clarity as much as possible and guide them.

Moreover, given the centrality of the work on the specialised vocabulary, in compliance with the course goals, a glossary was organised by content areas, avoiding dictionaries and other printed materials that employ tables and lists of words arranged in alphabetical order (which have the limitation of hiding the relationships between words), favouring instead an understanding of the meaning of specialised terms focusing on their

context of use, within a semantic network that allows the relationships between concepts and words to be highlighted according to their meaning (rather than according to their form).

In particular, for the memorisation of vocabulary (which is one of the main difficulties in learning English), the teacher decided to work on sensory activation. It is well-known, in fact, that in order to memorise a word, an idiomatic expression or a grammatical structure, an initial verbal input is required, which can be provided in oral and/or written form, alone or accompanied by other non-verbal inputs (such as images, music, movements, etc.). Depending on the form in which the input is generated, the learner activates, in an unconscious way, some senses (hearing if the input is presented only orally, hearing and sight if the input is proposed in association with an image, and so on), and through the senses, the input reaches the learner who retains it, albeit for a few moments, through sensory memory^[9]. Audio and video materials were therefore considered as an integral part of the proposed texts as they fostered a positive and stimulating contact with the foreign language and proved to be a useful tool to compensate for students' learning difficulties^[10].

Lexical memory was also viewed as central, since words are stored through their graphological and phonological traits (and, to some extent, meaning). If the incoming information (the foreign word to be learned) reaches the learner in only one way, the mnemonic trace it leaves may not be sufficient and lasting. This is the reason why materials with images were preferred to support the text, to implement its coherence and facilitate comprehension by catching the students' attention. Indeed, among the advantages of multimodal resources some aspects, in particular, can be mentioned: the activation of different channels that 'relieve' the burden of written decoding and draw on non-verbal languages to facilitate comprehension; a more engaging approach based on input of various kinds; the use of activities that are considered less fatiguing because they do not insist on deficit skills; the autonomous use of resources that allows students to listen to or watch video materials several times and at their own pace. Before reading texts, the entire class group was always exposed to audio stimulation, listening to the passages with the aim of overcoming possible reading problems^[11]. Accordingly, the use of images and sounds enabled the encoding of concrete verbal materials (concrete words) as well as the encoding of abstract verbal materials (grammatical rules and abstract words) through visual reworking based on graphs or visual-imaginative strategies (e.g. inventing, retelling or paraphrasing a story in order to remember a set of terms).

A final aspect concerns the application phase in which students were asked to carry out exercises and activities to fix and reuse the language structures previously introduced. Some strategies were adopted to make materials more accessible and thus increase the interaction between students and texts. Specifically, the same exercise was often proposed to all students although with an alternative procedure for students with SLDs (e.g., suggesting the association of a colour with each question and then using the corresponding colour in the parts of the text containing the answers); the assignments were explained in both English and Italian (the students' mother tongue), with emphasis on certain keywords and the inclusion of an example to clarify what was required. Deliveries that were deemed excessively long were divided into shorter tasks. In addition, intermediate steps were included to increase the gradual and feasible development of the activity. Students had the opportunity to use reference materials (made by the students themselves or provided by the teacher, e.g. semantic networks, prompts, etc.), while collaboration and work in small groups within the class were strongly encouraged to foster mutual support and exchange.

After such measures were put into place during lessons, the students were given a final English language test: both groups received the same test, and the results were compared with the initial test taken at the beginning of the course.

3. Results

In relation to the structured information-gathering questionnaire (that was used in the initial phase of the study) on the opinion of students with SLDs regarding the difficulties they encountered at school when studying the English language, the answers provided by the sample of students highlighted that:

- According to 76% of respondents, grammar is the part they consider as the least accessible;
- According to 77% of respondents, the communicative competence, especially oral and/or written production, is one of the most complex aspects;
- According to 51% of respondents, memorising vocabulary is one of the most complex aspects.

An additional, very significant information emerged from the students' answers, which was shared by almost all the respondents in relation to their school experience: 90% of the students reported, in the open-ended questions included in the questionnaire, that they were almost always 'tacitly exempted' from the activities proposed to learn the foreign language or, alternatively, that they were 'unofficially allowed' to limit their participation in the activities carried out during classes and at home, in the form of self-study, which then had a heavy negative impact on their acquisition of the foreign language. In fact, although they had been studying the English language for at least eight years throughout the different education levels, almost all of the sampled students felt they had minimal or basic English language skills, as they had almost always 'benefited' from dispensary measures.

At the end of the course, students were then given an English language test which was meant to assess any significant changes between the beginning of lessons (when the entry test was carried out) and the end of lessons. The results of the tests in the two groups of students are summarised below:

Table 1. Analysis of the written tests of the entire Control Group (41 students with SLDs).

Control group			
	Initial test	Final test	St.Dev.
Averages	20, 4	22, 6	1, 2
St.Dev.	3, 2	3, 8	1, 5

Table 2. Analysis of the written tests of the entire Experimental Group (41 students with SLDs).

Experimental group			
	Initial test	Final test	St.Dev.
Averages	20, 8	27, 9	5, 1
St.Dev.	3, 2	1, 8	1, 9

Results show that in the control group, for which no individualised action or measure was put into place, there was no relevant improvement (**Table 1**). In fact, the Standard Deviation value of 1.5 is not far from the average value of 1.2, so no dispersion occurred. In contrast, in the case of the Experimental Group, the mean value of 5.1 is far from the standard deviation value of 1.9. The above-mentioned data provide evidence of the change that occurred with the implementation of teaching strategies and actions: with grades calculated out of thirty marks, the experimental group had a grade point average of 20.8 in the initial test; following the adoption of individualised measures, the grade point average raised to 27.9 in the final test. The grade point average of the control group also confirmed the effectiveness of the interventions and measures adopted: it was 20.4 in the initial test and only increased to 22.6 in the final test (**Table 2**). Since the initial average of the two groups

is almost equal, this proves not only the rather equal level of the students in the two groups but also, and most importantly, the centrality of specific actions and measures to implement students' academic success.

4. Discussions

The purpose of this research was to explore the role played by inclusive teaching methodologies when teaching foreign languages to university students with SLDs. The analysis of the difficulties encountered by them in studying foreign languages at school was the starting point for developing and testing methodological principles, intervention strategies and glottodidactic pathways.

Analysis started with the collection of the information regarding students with SLDs who were interested in a personalised educational plan to examine the specific difficulties encountered in the study of the English language, with the aim of favouring inclusion and awareness of didactic actions which could respond, as much as possible, to the needs of extremely numerous students (unlike the school context, university courses accommodate hundreds of students) with mixed abilities and different educational needs. Results of the study indicate that an English curriculum designed on the basis of students' individual needs and a series of compensatory measures was effective in improving their foreign language acquisition. In particular, some of the strategies that were put into place significantly contributed to the effective and productive study of the English language, based on the assumption that learning a language does not occur through the accumulation of notions and information but through the conscious organisation of stored information and the creation of language models. This process leads, firstly, to 'knowing the language' (namely, understanding its mechanisms) and 'knowing how to produce the language' (namely, internalising expressions to be used in concrete communicative situations)^[12]. Individuals with SLDs experience limitations in both cases, as they find it difficult to store and retrieve information quickly and, therefore, need specific support to synthesize and systematize learning materials. In the specific case of English language courses, traditional textbooks usually provide students with plenty of resources, both in printed and digital format; however, according to the opinions of the sample of students with SLDs, a series of barriers could be noted, which made them inadequate.

Therefore, the interventions on the teaching materials carried out within the English language course of Parthenope University BA in Sports Science proved to be particularly fruitful and significant in terms of maximizing the accessibility and use for all students, with or without SLDs, in the light of a general difficulty with foreign languages that is rather widespread among students. In general, the approach adopted was not meant to propose materials that merely simplified, reduced, or eliminated activities and exercises^[13]. On the contrary, the presence of students with SLDs was considered an opportunity to reflect on the quality of the materials proposed, in order to develop learning resources that are more accessible to everyone. In fact, it is worth noting that EFL (English as a Foreign Language) textbooks feature a greater degree of complexity than texts of other disciplines (such as history, for example) since they do not merely convey knowledge but, most of all, they are meant to develop linguistic skills (in fact, the activities included range from reading comprehension to oral and written production, from lexical and grammatical activities to the creative and autonomous use of language). This remarkable heterogeneity of activities combined with students' individual differences in the learning process can cause a dispersion of cognitive resources that hinders effective language acquisition^[14].

Another aspect, that appears equally relevant in the study of a foreign language and that also emerged from this case study, is linked to the difficulty of decoding, which is associated with a lack of metacognitive strategies to be used for the comprehension of an English-language text. In other words, it emerged that all students (with or without SLDs) need training on comprehension strategies, although for students with SLDs these strategies become necessary because they constitute a resource which compensates for a limitation that

precisely affects their decoding ability^[15]. It can thus be said that the entire group of students fully benefited from the forms of intervention carried out during classes.

Generally speaking, the topic of foreign language teaching to students with SLDs is attracting increasing interest among teachers, educators, scholars and publishers, and it is linked to the creation of teaching materials and support tools that should adhere to the theoretical principles of glottodidactic research on SLDs^[16]. In particular, two of the most relevant notions for the creation of materials are the glottodidactic accessibility paradigm and the Universal Design for Learning perspective^[17]. The glottodidactic accessibility paradigm^[18] seeks to understand whether and to what extent general glottodidactic notions are applicable in the context of special educational needs or need to be revised and/or supplemented. In particular, the paradigm of glottodidactic accessibility refers to a process consisting of precise theoretical-methodological choices that the teacher makes in order to guarantee equal language learning opportunities to students with special needs by maximising accessibility (thus removing existing barriers) to materials and activities at a physical, psycho-cognitive, linguistic and methodological level^[19]. Therefore, it is not a new approach to foreign language teaching, but rather a series of choices (based on specific theoretical frameworks) that the foreign language teacher puts into place to support and sustain students with SLDs.

While admitting that the effectiveness of teaching methods largely depends on the quality of teachers and educators' training and experience, learning materials do play a fundamental role, especially considering the difficulties encountered by students with SLDs in foreign language acquisition^[20]. In fact, the materials used have a strong impact on the results obtained by students since they provide core information and resources to develop classroom activities and homework. There is often an exclusive focus on the awareness of the phenomena related to SLDs, while the cognitive operations that students with SLDs perform when using learning materials are underestimated or neglected^[21]. It would, therefore, be worth considering specifically some factors:

- Recognition—students should be able to find their way through the textbook as a whole and within the different sections, quickly decoding its contents;
- Elaboration—this process concerns the ability to understand, study and synthesise the contents of teaching materials, thus developing language skills;
- Application—this process concerns the re-use and transfer of acquired knowledge and the practice of the acquired skills.

Students with SLDs may encounter difficulties in each of these three cognitive processes. From an educational point of view, however, studying a foreign language (regardless of the results in terms of language acquisition and communication) can represent an opportunity for cognitive, socio-relational, semiotic, etc. enrichment^[22]. Therefore, glottodidactic accessibility is of central importance for the construction of a language learning environment that is able to respond to heterogeneous educational needs: it is a process that the language teacher puts into place to guarantee the accessibility of the input even when some receptive channels are only partially available^[23].

In this context, one of the psycho-pedagogical approaches that deserve great attention is the Universal Design for Learning (UDL), which addresses issues related to disability, diversity and inclusive education in a convergent manner. The expression 'universal design' refers, in the first instance, to a specific design methodology that aims to realise buildings and environments that can be accessed by everyone, including people with disabilities^[24]. However, the term is also used to indicate, in a broader way, a cultural movement involving various domains beyond architecture and technology, for example the pedagogical and educational sciences, thus applying the philosophy of universal design to education. This is how the term 'universal design

for learning' originated, referring both to some methodological principles applied to the creation of materials and to the teaching intervention itself^[25]. The underlying assumption of UDL is that students can activate three neural networks when the learning process occurs:

- the neural networks for recognition-which make it possible to receive the information to be acquired (what to learn);
- the neural networks for strategies-which favour the creation of specific strategies and pathways for acquiring the information received (how to learn);
- the neural networks for emotions-which influence the students' decisions to focus attention and concentrate on a task (why learn).

The central idea is that teaching materials should be flexible and able to activate as many sensory channels as possible by using different multimodal media to cater for different cognitive and learning styles. In other words, the UDL enables the implementation of the principle of personalised education plan and aspires to the removal of labels (LSDs, ADHD, SEN, etc.) that often humiliate people with disabilities, neglecting the very concept of inclusion and the right to education that everyone has. It thus offers a response to the growing demand for personalised teaching strategies that can accommodate students' diversity within the educational system.

The class group including students with SLDs is essentially a class with differentiated skills, which should be understood not simply as a group of different people but rather as a dynamic system characterised by the contribution of each person who is part of it^[26]. In this open system, diversity is a key factor for effective language acquisition^[27]. In this view, heterogeneity and differing skills within the class become a resource and cease to be perceived as a source of problems. Indeed, the present study also proved how effective the adoption of what Curzio^[28] calls the Zone of Proximal Development (ZPD) is, to contribute to the successful management of differences in the classroom. The ZPD is defined as a distance between the learner's current level of development determined by the way he or she tackles a problem-solving the problem alone- and his or her level of potential development determined by how the problem solving is tackled under the guidance of a teacher or in collaboration with more capable peers^[29]. In the ZPD, learning takes place through scaffolding (support) and tutoring functions that can be carried out by the teacher or by classmates themselves in teaching activities to be performed in pairs or small groups. Based on the assumption that each person has a unique and unrepeatable learning style, it is evident that the classroom does not feature a single ZPD, but is rather a learning environment with multiple ZPDs. The search for a strategy to value the individual characteristics of all learners while also enhancing the metacognitive dimension (everything related to knowing how to learn through the development of the awareness of what students are doing and why they are doing it) seems to lead to the adoption of methodologies based on social interaction, which have the advantage of proceeding by knowledge construction and not by passive reception of information. Students are stimulated through dialogic forms of lecture, proposals for cooperation or tutoring activities, problem solving activities, to encourage their active participation. The factor that the different methodologies based on social interaction (cooperative learning, playful didactics, peer tutoring, flipped classroom) share is the simultaneous development of linguistic, communicative, social, metacognitive and meta-emotional, cultural and intercultural competences from a lens that considers the person as a whole^[30]. The teacher can, therefore, organize the lesson with common phases (targeting the whole class) and diversified phases (allowing specific actions on different ZPDs). In fact, diversified methodological proposals increase the possibility of enhancing the individual characteristics of all learners^[31].

The additional dimension to be taken into account when dealing with students with SLDs concerns their emotional sphere: they may experience some kind of discomfort in the foreign language acquisition process

that echoes the frustrations they already experienced when learning their native language, which results in increasing socio-emotional problems, such as a low level of self-esteem, relational difficulties, motivational fragility, and potential states of depression^[32]. The foreign language teacher should, therefore, pay great attention to three factors related to the emotional dimension of the teaching-learning process:

- language anxiety—which students with SLDs experience when confronted with particular language tasks that interfere with their disorder^[4], e.g., reading aloud, copying from the blackboard, memorising lists of words, sparking up a conversation; a long-lasting anxiety related to language acquisition will result in an emotional barrier that can inhibit and prevent learning^[23];
- learned helplessness, i.e., an emotional attitude of resignation determined by the repetition of negative situations, for example repeated failures when trying to learn a foreign language;
- the Matthew effect a socio-psychological phenomenon inspired by a passage from the Gospel of evangelist Matthew referring to a tendency of individuals to accrue their success in proportion to their initial level of success/wealth/popularity, which could be summarised by the saying ‘the rich will get richer while the poor will get poorer’; in the context of SLDs, students’ difficulties are often misunderstood and mistaken for laziness, inattention, reluctance, which further worsens their school performance^[33].

It then becomes essential to also take such emotional factors into due consideration in order to understand the weight of the educational context (whether it be the school or the university) and to build not only more adequate teaching materials but also a pleasant, motivating and accessible learning environment for all students (with or without SLDs)^[34].

5. Conclusion

Starting from the awareness that, in the university context, the English language teacher usually works with students with differentiated skills and diversity becomes a key factor to effectively organise the language learning process for all students (not merely SLDs cases), it seems necessary to reflect on how to elaborate and prepare accessible resources and pathways. SLDs are not only resistant to traditional teaching methods, but also have negative repercussions on the cognitive level, in terms of language acquisition, as well as on the emotional level. In fact, students who do not understand the language will not progress, they will always struggle to speak the language, and this will trigger a vicious circle of communicative and linguistic failures.

The case study presented, while not claiming to be exhaustive in any way, contributes to a greater understanding of the relationship between students with SLDs and commonly used teaching resources for English language learning.

The critical issues that emerged in relation to the teaching materials which are traditionally used in the school context and, often, also in the university context, for English language courses suggest that more attention should be paid to the design of materials featuring a greater degree of accessibility. The challenge for the language teacher is to consider the extent to which his or her teaching style respects and enhances the students’ learning styles. It is necessary to explore and let students explore the different pathways, aiming at a shared construction of knowledge that, as a circular process, allows them to take an active role and to be aware of their own learning modalities while, at the same time, allowing educators in general to value diversity as a strength, to modulate their own teaching methods accordingly. The positive results of the research proved that the students in the experimental group had higher average grades which were the consequence of a number of adequate teaching methodologies, tools and strategies the teacher put into place to foster students’ academic success. Through effective, planned teaching actions aiming to raise the quality of the teaching-learning process, real learning opportunities can thus be created. Therefore, the teacher’s task is to intervene in order to

enable a process through which the skills acquired in a formal educational context can become transversal and useful in other domains. His/her tasks involves enabling students to cope with life, to overcome difficulties by developing their potentialities.

Author contributions

Conceptualization, MCN and FT; methodology, MCN and FT; data curation, ES; writing—original draft preparation, MCN; writing—review and editing, MCN; visualization, ES; supervision, MCM. All authors have read and agreed to the published version of the manuscript.

Conflict of interest

The authors declare no conflict of interest.

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