

## **DIDATTICA A DISTANZA E DISTURBI DELL'APPRENDIMENTO: UNA DIMENSIONE UNIVERSITARIA**

### **DISTANCE LEARNING AND SPECIFIC LEARNING DISORDERS: A UNIVERSITY DIMENSION**

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#### **Abstract**

This work aims to analyze and observe the world of Specific Learning Disorders (SLDs) within the context of Distance Learning (DL), by introducing and including all the components, expressions and even the consequences that impact on the individual, projected into this different educational dimension. Learning disorders, to date and in the past, have achieved a great resonance in education and training, reaching the possibility of being recognized and supported adequately and appropriately. People with Specific Learning Disorders can generally encounter, in their path of growth and evolution, difficulties in the processes of reading, writing or computing automation, and it often happens that these peculiarities are associated with each other. Frequently, these problems are linked to an experience of failure, assuming a rather relevant relational-emotional configuration and profile. In this sense, the use of distance learning should not in any way weigh on and constrain the educational path of these students, both in school and university; the basic educational goal should in all cases lead to the subject's well-being and overall balance. Consequently, this assumption brings with it that the structuring of a poorly functional and inadequate educational condition could cause and represent an obstacle to the subject's growth and knowledge path.

#### **Keywords**

Specific Learning Disorders, didactics, distance learning, university, school, learning, education, training.  
Disturbi Specifici Dell'apprendimento, Didattica, Apprendimento A Distanza, Università, Scuola,  
Apprendimento, Istruzione, Formazione.

## **Introduction**

Education and training are particularly relevant aspects in the evolutionary process, as they guide and support the subject towards a dimension of awareness and competence, aimed at the realization of a project of autonomy and emancipation. Every educational project must have the aim of conveying knowledge and understanding, and more specifically, it must aim to develop qualities, skills and abilities in the individual, supporting and fostering his or her skills and resources. Therefore, the field of education represents a fundamental context for the subject's cognitive and individual development, constituting a privileged place for socialization and for the experimentation of one's own effectiveness and autonomy.

The circumstances due to the most recent events have changed considerably the education and training field, causing a change of essence and nature in the structuring of educational institutions that have necessarily implemented a different learning strategy for knowledge acquisition.

The COVID-19 pandemic event has required a series of strategic measures to contain and reduce the circulation of a highly contagious virus. This aspect has had inevitable repercussions on the social and economic context and on the organization of work, therefore also on the practical operation of many activities including (of course) didactics in its various expressions. The main consequence has been the limited access, if not the closure, of schools and most universities in all countries affected by the pandemic. As a natural alternative, the expansion and enhancement of distance learning, also known by the acronym DL, has been developed through various organizational modalities.

Distance learning (or even digital online learning, distance training, e-learning) is a form of education in which the main elements include the physical separation of teachers and students, the use of various technologies (especially the use of a PC and an internet connection) to make possible and facilitate the student-teacher and student-student communication. This type of situation has made it necessary to develop a different way of thinking about education, which has inevitably required a substantial readjustment of the different resources normally used in face-to-face teaching. In this sense, if on the one hand the forced distancing has caused a change in the structure and pragmatic aspects related to education, on the other hand it needs to be observed that the importance of the educational and pedagogical aspects within a school project cannot be overlooked in a remote condition, because it is not possible to abandon the substance and essence of the meta-message that didactics inevitably brings with it.

There is no doubt that, if the opportunity for physical interaction between teachers and students is precluded, the former will have to seek new methods to involve students and provide effective remedies to optimize the interaction and transmission of notions, without reducing the natural resources available for face-to-face teaching, and at the same time the latter will have to develop and prepare different resources to be able to adapt to this different teaching mode.

The whole topic of distance learning must be deepened and reconsidered, not only in general terms that concern the teaching - education pair, but also in peculiar terms concerning the area of all those subjects that show some degree of difficulty in the acquisition process, in which we can include learning disorders by extension. Students with Specific Learning Disorders, in fact, are among those who are most likely to face major obstacles, since they use appropriate support and aids in their learning path, which are appropriate to their needs and cannot be ignored in a didactic situation changed by distance. In this sense, it is precisely this change that cannot and must not cause any kind of obstacle and hindrance to their way of knowing and learning.

All this should lead to a general reflection and evaluation regarding the possible impact on the organization of this type of teaching for people with SLDs. The fundamental aspect is that these students must continue to receive a teaching appropriate and adapted to their needs, since in all cases, distance learning should ensure levels of learning comparable to face-to-face lessons. The real issue is how to achieve this.

It is likely that, with regard to Specific Learning Disorders, an essential and universal guiding criterion should be highlighted and supported; a proper education should be maintained in

any circumstance or condition, both in the classroom and remotely. In other words, we must make sure that the teaching modality, the technique with which it is delivered, must still be able to activate effective and adequate transmission modes for an optimal learning.

We can consider the organization of activities, spaces, materials and the network of relationships that are built and established over time as essential conditions for every kind of learning, both in the classroom and remotely. Giving confidence, enhancing the skills of each person, preparing the best means and tools, are all actions that should commonly and habitually be part of each subject's path of growth, evolution and development in any circumstance. These principles related to the world of education must therefore represent a reality, or rather an axiom, a set of substantial elements that should be evident especially when dealing with individuals who may encounter learning difficulties, as for students with SLDs. We will see below how this learning dimension fits, in particular, within university distance learning.

### **1. Main features of SLDs**

A Specific Learning Disorder can be defined as a difficulty in the acquisition of certain particular skills or abilities that do not allow complete self-sufficiency in learning, and which manifests itself with significant difficulties in the use of reading, writing and computing, known respectively as dyslexia, dysgraphia, dysorthographia and dyscalculia. One of the main defining characteristics of this problem is its *specificity*, understood as a disorder that affects a particular domain of abilities in a significant way, while keeping the general intellectual functioning intact. A relevant additional characteristic, necessary to establish a correct diagnosis of SLDs, is that of the *discrepancy* between the abilities of the specific domain concerned (a deficit in relation to expectations for the age and/or the class attended) and the general intelligence (adequate for the age), i.e. the difference between the school skills and the IQ. The last-mentioned criterion allows highlighting an important data for the definition and description of this problem. In fact, people with SLDs are intelligent by definition; however, their reading, writing and calculation performance is significantly below the norm. Finally, the Specific Learning Disorders are evolutionary, in other words are present from the earliest stages of development, find their expression during the school career, and accompany the subject during his or her personal growth, thus manifesting themselves also in adulthood.

SLDs are neurobiological disorders, therefore related to brain architecture, and for this reason, they are not conditions that tend to resolve spontaneously over time and with maturity (Consensus Conference, 2007).

The acquisition of the normally required skills, such as reading, writing and calculating, while changing over time, almost never reach the expected levels for age and educational level, but in any case, and in all cases, an improvement in skills is always possible and desirable, regardless of the level of severity, and the best outcomes in this sense are obtained with early and targeted interventions. This type of difficulty generally presents itself with its own identity and characterization, which manifests itself through an alternative learning modality and naturally requires a functional and adequate system able to respond, in the best possible way, to the peculiar needs.

Therefore, considering the importance of accurately focusing the typicality of each particular learning disorder, it seems appropriate to consider in detail the various expressions with which these problems occur, which, as we have previously described, are represented by a set of multiform characteristics, linked to abnormal cognitive processing. Thus, we are mainly speaking of Dyslexia, Dysgraphia, Dysorthographia, and Dyscalculia.

Dyslexia is a specific learning difficulty of neurobiological derivation related to reading, expressed with problems in reading accurately and fluently. This characteristic, which commonly derives from a deficit in the phonological component of language, is often unexpected in relation to other cognitive skills and the guarantee of an adequate school education. Some consequences may include problems in reading comprehension and practice that can hinder and delay progresses in general knowledge and vocabulary (Lyon, Shaywitz and Shaywitz, 2003).

The typical symptom of Dyslexia is the difficulty in decoding words, in other words, in the ability to associate letters with sounds, and therefore the ability to read words accurately and fluidly, so the dyslexic subject can read and write, but cannot do it so automatically like others. A typical trait of this problem is therefore represented by the fact that the dyslexic subject has difficulty in explaining what he or she reads autonomously, but he or she can understand perfectly when the same thing is read to him or her, and this emphasizes how the dyslexia has no impact on the intelligence of the subject.

The dyslexic subject, moreover, often makes typical mistakes in reading and writing, such as inverting letters and numbers or replacing them; there may be confusion regarding spatial and temporal relationships, and finally, he or she may have difficulties in the oral exposition of complex contents. Dyslexia can present various levels of gravity and overlapping elements, since it can be coupled with problems related to writing, calculation and mnemonic capacity. Every subject therefore presents specific peculiarities and characteristics, any difficulties are generally not univocal, uniform and in the same combination.

The following list is intended to recognize some general characteristics, and has the sole purpose of explaining and exemplifying certain manifestations in the field of reading:

- Confusing letters that look similar graphically;
- Inverting, omitting or adding letters;
- Making mistakes of anticipation;
- Skipping words or entire sentences;
- Meeting more difficulties with unfamiliar words;
- Reading slowly.

Dyslexia is the commonest learning disorder and accompanies the subject throughout the course of his or her development.

Dysgraphia is a specific learning disorder related to a difficulty in writing and reproducing alphabetical and numerical signs. In particular, it can be defined as a disorder of the peripheral components, i.e. the executive - motor components regardless of linguistic variables such as vocabulary or spelling. In this sense, writing appears as tiring and uncomfortable (deformed, irregular, shaking, slow) due to a disorder that affects the coordination of fine skills or visual-motor coordination. For many subjects with dysgraphia, gripping a pen or organizing the letters correctly is difficult, and the consequence is reduced transcription ability, a writing disorder associated with a restricted dexterity.

The main and characteristic elements of Dysgraphia, which represent its essence and nature, are mainly due to both the way of coordinating movements necessary to be able to write correctly the individual graphemes, and to progression movements allowing using the writing tool to write in a straight, horizontal line. The coordination of these two elements is fundamental because, for the writing movements, it is sufficient to activate the movement of the fingers of the hand, and for those of progression it needs the coordination of wrist, elbow and shoulders.

An equally important principle is the orientation in the graphic space with respect to the ability to distinguish and recognize the spatial coordinates necessary for writing, such as above/below and right/left, which allow to correctly identify and trace the graphs and to proceed in the sheet from left to right and/or from top to bottom. Finally, the pressure on the sheet, the pace and the fluidity, allow respectively to bring both the right amount of energy from the hand to the sheet through the pen, and to give continuity to the gesture, avoiding writing without harmony and unnecessary interruptions. In this sense, the following list aims to recognize and identify some features of this problem, with an exclusively demonstrative and illustrative purpose of such manifestations:

- Misuse of sheet lines and margins;
- Poor spatial distance between letters/words (overlaps, too many spaces between letters, and so on);
- Inversions of letters or parts of letters;
- Wrong proportions between letters;

- Macro-micrographs/irregular written letters;
- Too slanted letters;
- Fluctuating letters with respect to the lines;
- Difficulty in pressure modulation;
- Excessive slowness;
- Incorrect writing direction;
- Difficulty in connecting letters;
- Unreadable letters.

Dysgraphia becomes evident in children when writing begins its personalization phase, approximately around the third class of primary school, and is usually identified by teachers for it manifests itself with poor readability, slowness and disorganization of forms and graphic spaces, poor control of the gesture, confusion, disharmony and rigidity.

If not detected, dysgraphia tends to worsen over time, negatively affecting school performance, causing lack of confidence in the subject, demotivation and emotional distress generated by repeated failures in learning how to hand-write.

Dysgraphia is sometimes associated with Dysorthographia, which is a specific writing disorder that corresponds to the difficulty of transforming spoken language into written language, characterized by the presence of inaccurate graphemes, additions, omissions or inversions of letters and mistakes of rules. It is a written text encoding disorder that is caused by a deficit in the functioning of the central components of the writing process responsible for the transcoding of oral language into written language. In fact, spelling is a way through which it is possible to make the writing correspond to the grammatical norm, an ability to respect the rules and conventions of our language that allow us to translate our thought or heard word into a written word.

The coexistence of Dysgraphia and Dysorthographia interferes more deeply in the organization of the written word, even at the level of its contents. All this causes difficulties in learning compared to the peer group, with possible repercussions at psychological, social inclusion and personal growth level.

Finally, dyscalculia can be defined as a disorder of the numerical and arithmetic skills, which develops in children without cognitive or neurological deficits. It manifests itself in the recognition and naming of numerical symbols, the writing of numbers, the association of the numerical symbol to the corresponding quantity, the numbering in ascending and descending order and in resolution of problematic situations. These difficulties have their important repercussions in more complex tasks such as expressions and problems, where it requires the efficiency of several skills simultaneously, and interfere with the performance by bringing it to a level of poor accuracy and poor speed. In the following list, therefore, the purpose is to indicate and trace some peculiarities present in the subject affected by Dyscalculia, with a purely demonstrative purpose of some manifestations of the difficulties encountered with numbers and calculation:

- Writing numbers and making confusion between mathematical symbols;
- Retrieving results in quick calculations and tables;
- Calculation and/or expression procedures;
- Algebraic calculation;
- Geometry.

Dyscalculia differs from the simple difficulty of calculation because, although often presenting severe profiles at a first evaluation, after an intervention to strengthen specific domain skills, a complete and exhaustive evolution and improvement is found. On the contrary, the disorder related to an evolutionary dyscalculia, despite specific interventions, does not show significant or completely exhaustive improvements.

The different characteristics and peculiarities of subjects with Specific Learning Disorders cannot be limited to knowledge of structural difficulties in any case. This condition is often linked to social and relational problems that, in some cases, produce a state of discomfort that might worsen this disorder over time, promoting a vicious circle between emotional difficul-

ties and problems of a constitutive nature. A punctual and accurate intervention can allow the construction of a path that can aim, on the one hand, to the reduction of the specific difficulty through the use of appropriate tools, and on the other, to the individual support and skills enhancement. In this sense, it is necessary to consider all these aspects in a teaching environment that deviates from normal learning practices, in order to achieve a valid growth and acquisition path even remotely.

## **2. Distance Learning and University: a perspective for SLDs**

Didactics is a fundamental element as it enables the growth and development of different qualities and skills, through a greater knowledge and awareness of its tools and resources. However, every didactic path is not always faced by the subject in the same way: development, evolution and personal growth can often be achieved through alternative and parallel paths that vary according to the skills and learning styles that each subject brings with him/her. In this sense, in the educational field, it is not possible to recognize a linearity of learning in the paths of each subject, but rather, we can observe a peculiarity of needs and tools.

The school and university environments, for subjects with Specific Learning Disorders, appear as pivotal contexts from the point of view of education, training, well-being and balance, thus representing social and learning places where a certain behavior acquires sense and meaning. In particular, the university as a social context, a learning context, constitutes a fundamental supporting aspect, an important social and educational environment.

The approach of the world of Specific Learning Disorders to the university area is quite important, since it establishes different and varied dynamics where the subject implements behavioral modes consisting of autonomy and independence. In this sense, the subject becomes part of a different phase of his or her life cycle, generally defined and recognized as a young adult condition. This evolutionary time refers to important and considerable aspects, which bring with them changes that often test the subject's resources and abilities to be prepared to adapt to this new condition. University students who present Specific Learning Disorders, in this context, may encounter difficulties of various kinds (organizational, planning and communicational), because they are projected into a reality that establishes underlying modes of self-determination. In the university context, the student's contact with the institutions is no longer characterized, by the presence and support of the class group as in the school, or vice versa, by the guidance and orientation of the teacher, which define and mark the structure and the school context through specific programming methods. In fact, in the university context, the student uses new tools for adaptation and organization, completely autonomous and independent, since he or she must necessarily rely on himself or herself and on his or her design, coordination and planning skills. This aspect and this role to be played can be quite complex for a subject with SLD, since the general ability to organize and plan a considerable set of aspects can be a real obstacle to the learning process for some subjects. The university world, therefore, brings with it the ability of the students to redefine and re-adapt their own methods because, in this study and training phase, a readjustment of their skills and abilities occurs inevitably. In other words, an "adult" and autonomous way of managing one's own time, of governing one's own learning and growth takes over.

The training process is a phase that allows the subject with SLD to experience his or her role as a learner in a different way, but it is also necessary to emphasize the importance of the compensatory and dispensatory tools as a support to the study, previously used in their path. In this sense, Italian Law n.170/2010 guarantees and protects the right to study of students with SLDs, by achieving, as an effect and consequence, also an increased rate of access to university. In the possibility of being able to respect and comply with the requirements of the new legislation, the university institutions have taken on the task of implementing inclusive protocols, using specific teaching methods that take into account the learning methods and difficulties peculiar to these students in adulthood. The compensatory tools and dispensatory



measures are fundamental elements that accompany the subject with SLD along his or her learning path, and these elements are indispensable for the achievement of certain educational objectives.

Therefore, subjects with learning disorders travel on a double track, which involves, on the one hand, the use of support tools, and on the other, a readjustment of the organization of the study in the university environment, which is more autonomous and independent.

In this sense, in a distance learning perspective, it needs to take into account both factors; in fact, in a broader but simultaneously more specific perspective, it may be appropriate that the technical organizational structure of distance learning can be analyzed and deepened to allow students with SLDs to focus on their resources and energies, thus understanding and adapting needs and requirements related to this type of disorder, which are inevitably projected into this different didactic dimension.

The distance learning (DL) activity, as well as any educational activity, to be defined as such, should provide, on the one hand, the reasoned and guided knowledge construction through the interaction between teachers and students, and on the other, should recognize and identify the different pedagogical and educational needs that are likely to be the most relevant part of a subject's growth path. Whatever the means through which teaching is practiced, it cannot be changed in its aims and principles; therefore, it cannot be altered and deprived of its task and duty, which is to educate, train and build people. In the awareness that nothing can fully replace what happens in a face-to-face lesson, it is still a matter of giving life to a learning space (however unusual) to be created, inhabited and remodeled.

The design and implementation of distance learning activities, in the university environment, must therefore pay particular attention to the presence of students with learning difficulties, because it is essential to recognize and consider, in this condition, everything that surrounds the world of SLDs, starting from ensuring the use of tools (compensatory and dispensatory) used by these students, up to an emotional and relational support, which aims to support them in the organization and coordination of their teaching process.

Considering these premises, the path related to the study and knowledge of subjects with Specific Learning Disorders could undoubtedly proceed in a regular, profitable and effective way, even in a distance learning dimension. In fact, by preserving the general principles and ideas rooted and consolidated in training and education, distance learning could represent a valid alternative to the canonical modes of learning.

## **Conclusions**

It is necessary to emphasize that, in any case, distance learning could represent a valid and effective way of learning, if structured and organized with goals and objectives that focus on the pedagogical needs and demands of each student, indispensable and essential to achieve a correct growth and maturation in the knowledge of oneself and one's own abilities. In this sense, any situation in which valid actions aimed at learning are organized, can represent a functional didactic condition; therefore, we cannot exclude that, in the future, this approach to alternative education may become a valid element, even in a context of normality.

As a matter of principle, we can agree that distance learning has some advantageous aspects able to integrate traditional teaching models, and perhaps it may be possible to state that this type of didactics is destined to change, even if partially, the current paradigm of education: while, on the one hand, qualified teachers will certainly continue to be a fundamental and irreplaceable aspect of every student's life, on the other hand, the opportunities and technological supports will probably tend to integrate and facilitate the general organization of work, and to amplify the opportunities of relationship between teaching staff and students. In fact, in some institutions, distance learning is already part of the educational training programs, so it is not to be excluded that over time (pandemic aside) this type of learning is destined to gain a larger and more extensive proportion in the world of education.

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