



(REVIEW ARTICLE)



## Students with learning disabilities' mental health Enhancement: The relationship of learning disabilities and emotional difficulties, and the role of ICTs

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### Abstract

In the present work, in order to investigate the relationship between learning and emotional difficulties, the method of literature review was used. In particular, the questions that this research was required to answer were about whether children with learning difficulties are at a greater risk of manifesting emotional difficulties, but also to identify the emotional difficulty that is responsible for the most common learning disability in this particular group of students. For this purpose, a research of both international and Greek articles, older and more recent ones, was conducted depending on scientific journals, bibliographies and field research. The results of the research show that these students are actually at a greater risk of developing emotional difficulties. In fact, research has shown that loneliness, depression, anxiety and low self-esteem can affect these children and their academic performance. In conclusion, it was found that the sense of failure that these students feel also affects their emotional balance.

**Keywords:** Learning Difficulties; Emotional Difficulties; Low Self-Esteem; Students

### 1. Introduction

Recent research has proved that learning difficulties can coexist with internalized or even externalised emotional problems (Dahle & Knivsberg, 2013; Dahle, et al., 2011). Most problems that people face on a daily basis are internalized. For example, depression, stress and fears can all be caused by thoughts and feelings that people have in mind (Achenbach & Rescorla, 2003). Therefore mentioned feelings, without being easily discerned, can make children face difficulties, while the repercussions of their behavior towards others are quite important. The externalized emotional problems are more obvious to others, as an indication of aggressiveness or a wish to break the rules.

The findings of certain research (Arnold et al., 2005) have supported that children with learning difficulties and especially those suffering from dyslexia, present mainly internalized emotional problems without excluding any externalized ones. Dahle et al. (2011) proved that students with Dyslexia exhibit depression and stress, physical problems, a feeling of withdrawal, social and attention problems. The study of Boetsch, et al (1996) proves that symptoms of depression, suicidal tendency, low self-esteem and the guilts are very likely to occur to children with learning difficulties. Willcutt and Pennington's research (2000b) proved that reading difficulties can coexist with stress, depression and attention deficit hyperactivity disorder – ADHD. According to this, girls present symptoms of depression in a higher percentage than that of the boys, who tend to have a more aggressive behaviour. The results of the research conducted by Dahle and Knivsberg (2013) proved that children with learning difficulties experience a lot of internalized emotional problems and mainly attention problems in comparison with typical students. Teachers report that students with Dyslexia exhibit ADHD, aggressive behavior, social and symptoms of depression as well as feelings of withdrawal. As far as externalised problems are concerned, the research of Yu, et al., (2006) proves that students with learning

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difficulties are more likely to have a low performance and developmental problems. They are also more likely to develop behavioral problems, such as aggressive behavior and conduct problems.

In the research of Williams and McGee(1994) the cross-correlation of antisocial behavior with the Dyslexia was observed mainly in boys. Similar results were also obtained from the diachronic research of Smart, Sanson, Prior and Oberklaid(1996) according to which Dyslexia and emotional problems, according to parents, were largely presented to students with learning difficulties who experience stress, fear as well as hyperactivity. From this research, it appears that two thirds of the boys with learning difficulties present emotional problems unlike girls who do not present emotional problems to such a large extent.

The aim of the present research is to investigate the emotional problems which students with learning difficulties develop in relation to their classmates. Specifically, two inquiring questions were determined:

- Which is the direct and inverse relation of appearance between Learning Difficulties and Emotional Problems?
- Which one of the emotional difficulties that students face causes the greatest learning disorder ?

The importance of the results is great, since through the research that is conducted will become a source of information for the organization, development and implementation of courses and programs in emotional education and inclusion of students with learning difficulties in the mainstream classes, and they will also be used for comparative studies in other countries.

For the above reason, in the present paper, literature review and research in both Greek and international scientific bibliography was realized following the basic principles of research (Patelroy & Mprokalaki, 2010) in several data bases, such as Pubmed, Google scholar, Researchgate and Scopus. The electronic research included primarily the combinations of the following terms of/entries: a. in the Greek language: "learning difficulties", "special education", "sentimental problems", "students", "stress", "behavioral problems", "psychological problems", "mental state", "dyslexia", "dysgraphia" and b. in the English language: "Learning difficulties", "special education", "emotional problems", "students", "anxiety", "behavioral problems", "psychological problems", "mental state", "dyslexia", "dysgraphia".

Afterwards, the titles of the articles were checked in order to determine if they include information about the questions that have been raised. At the same time, bibliographic references of the articles were also examined to identify the relevance of the articles to the study. Then, the research papers carried out in both Greek and English from the 1980s until today were selected.

Simultaneously, the articles were categorized according to the emotional problems that students displayed and their effects on the social and learning environment. For the inclusion of the review, it was determined that the research papers would have to meet certain criteria. For example, the use of an experimental combination would be crucial and the research papers should be published in a scientific magazine, concern learning difficulties and evaluate the relationship between learning difficulties and emotional problems.

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## 2. Results

According to research of Miles (1996), it was confirmed that students with learning difficulties develop fears. Particularly, it was verified that students experienced the fear of failure in their social interactions. No matter how supporting their social environment was, students experienced fear, which consequently led them to insecurity.

In addition, Bryan and his collaborators (2004) examined the effort of students to avoid failure. In this research, 30 students with learning difficulties and 30 students without learning difficulties took part. Children with learning difficulties exhibited higher stress levels during their exams.

Moreover, according to Maag & Reid (2006), there is a strong correlation between learning and emotional difficulties. The risk of exhibiting emotional difficulties increases in conjunction with academic failure, the adverse financial and social situation of the family and school dropout, but it also depends on certain character traits such as the student's emotional instability. At the same time, the students who present learning difficulties tend to be more anxious and afraid and find it hard to control their feelings. The particular difficulties can appear at any age, particularly during periods of school changes. Finally, in order to avoid school, students call in sick, while they sometimes show signs of panic due to the emotional difficulties they face (Doikou & Aylidou, 2002).

### 1.1. Learning difficulties and sentimental - psychosocial problems

Research concerning emotional problems showed that at a rate of 62-95%, students present moderate to severe learning difficulties (Cohen, Davineet al., 1993; Cohen, et al., 1989; Baker & Cantwell, 1987a; Camarata, Hughes & Ruhl, 1988; Kotsopoulos & Boodoosingh, 1987; Love & Thompson, 1988). These learning difficulties concern lack of vocabulary, comprehension, expression and pragmatics. In the same way, research in students with learning difficulties showed emotional and behavioral problems at a rate of 50-75% of the sample (Baker & Cantwell, 1987b; Stevenson & Richman, 1978; Love & Thompson, 1988; Richman, Stevenson & Graham, 1982; Beitchman, Nair, Clegg, Ferguson & Patel, 1986). The emotional problems that were examined refer to immaturity, weakness of attention, disappointment, aggressiveness, spontaneity, hyperactivity, conduct disorder, low self-confidence and self-esteem, social withdrawal, depression and the increase in stress. Research in relation to these problems and the age of students proved that the externalized problems, such as aggressiveness, are more often in younger children, while internalized problems, such as low self-confidence and self-esteem can increase with age (Haynes & Naidoo, 1991, Baker & Cantwell, 1987a, 1987b).

Language constitutes a particularly important function regarding the adoption of rules from the students, their behavior and their feelings. The ability to express and understand language helps students to comprehend, decode, organize and accept rules, which in turn helps them acquire a satisfactory level of managing their emotions. The language is also used by students to express their feelings in social sharing and to examine the relationship among actions, intentions, feelings and their impact on themselves and on others. Various studies on students with emotional problems showed a strong link between the ease of language use, the management of feelings and behavior. A study conducted by Cook, Greenberg & Kosher (1994) on primary education students examined the emotional understanding and behavioral adaptation. The researchers had assumed that most students with behavioral problems would be less capable to express their feelings and acknowledge these feelings for themselves and others. Although the students with indicator of intelligence below 85 were excluded from the research and while there can be several reasons why students face difficulties expressing and describing their feelings, students who experience learning difficulties had a disadvantage regarding the ability to express and describe their feelings in relation to their schoolmates who had completely developed their language skills.

Fessler, Rosenberg and Rosenberg (1991) discovered that of the 124 participants that were hospitalized in the clinic because of the diagnosis of serious emotional problems that they faced, 56% of them also encountered learning difficulties. Moreover, a study by Kauffman, Cullinan and Epstein (1987) proved that 70% of the subjects faced serious emotional problems according to education, which corresponded to at least one year less than their actual age. Accordingly, in a study of Fomess, Benett and Tose (1983) was found that this percentage corresponded in the one third of the students. In the same way, students who encounter learning difficulties often display emotional problems as well.

McConaughy (1986) and McConaughy and Ritter (1986) found that boys with learning difficulties will experience considerably more behavioral problems compared to boys without any learning difficulties. Other studies have compared a group of children with learning difficulties and emotional problems and a control group using a measurement scale for the behavior of learning problems with regard to stress and how reserved they are. The teachers declared that the students with learning difficulties presented considerably more problems in all aspects in relation to the control group of their peers.

In the research of Rock, Fessler and Church (1997), regarding the co-morbidity between learning difficulties and emotional problems, it was proved that despite the fact that learning difficulties exclude by definition any emotional problems as a result of serious emotional disorders, students with learning difficulties present high evidence of emotional problems. Furthermore, research showed that almost 50% of students with learning difficulties face both emotional and social problems, which can occur four times as much compared to those that do not have any learning difficulties (McConaughy et al., 1994). Respectively, research on students with serious emotional problems showed that 40 up to 75% students also presented learning difficulties (Fessler, et al., 1991).

Moreover, co-morbidity of learning difficulties and emotional problems proves that students who face learning difficulties exhibit lack of cognitive processes including problem-solving skills and abstract logic, elements measured with intelligence tests in each student. Cognitive function, which allows students to know which skills and strategies and methods are essential for their school performance so that they can change them aiming at the achievement of their goals. The language function, which refers to the comprehension of phonology, morphology, pragmatics and the teaching objectives of the language. The behavioral function, which refers to the behavior and the socioemotional function, which reports internalized behaviors, as stress, bad mood or body shape malfunctions but also refers to the social perception, interaction and the academic performance, which are reported as the disadvantages of basic cognitive

skills meaning text comprehension in the written and oral speech, in the comprehension of mathematic practice and others (Rock, Fessler & Church, 1997).

### 1.2. Learning difficulties and Stress

Stress appears to be the most frequent emotional problem of students, which belongs to internalized problems. According to research, these students have a considerably higher percentage of stress compared to the general population. Also, other studies have shown that both teachers and parents report a higher rate of behavioral stress in students with learning difficulties compared to the general population (Branch et al., 1995). In some cases, the stress of students with learning difficulties was not clinically important and in other cases was at normal levels. The research of Whitaker, Sena, Lowe and Lee (2007), that studied the stress levels during school process in students with learning difficulties compared to students without learning difficulties, used the test TA1CA through a scale which measured four dimensions of exam stress, i.e. the cognitive obstacles, carelessness, physiologic overexcitement, social humiliation and concern, the functional dimension of exam stress, improvement of performance, functional stress and a dimension of lying. The results of the particular research proved that students with learning difficulties had higher scores in the dimension of cognitive obstacles and carelessness. Furthermore, the existence of learning difficulties in students forecasted that the score in the concern scale, which constitutes the most powerful cognitive element of exam stress, would be high. At the same time, students with learning difficulties showed lower scores in the scale improvement of performance / functional stress. The particular result was expected because students with learning difficulties are much more likely to experience the external effect of exam stress compared to the students without learning difficulties and due to the fact that students with learning difficulties are more likely to have a less positive experience in exam situations, something that makes them even more anxious because of their failure (Kovachet al., 1998).

### 1.3. Learning difficulties and Self-esteem

Self-esteem also constitutes an important part of students' feelings and represents the emotional aspect of the concept of the self, referring to the overall view that somebody has for their value as a person. Self-awareness, which represents the cognitive side, belongs to the same concept. Consequently, the researchers who examined self-esteem in students with learning difficulties were led to the conclusion that it is lower than that of their schoolmates. They concluded that there was a considerable difference as far as school self-esteem was concerned in relation to the concept of the self.

The research of Rogers, Smith and Coleman (1978) on students with poor school performance proved that these students use different social groups of comparison for the different aspects of the concept of the self. The particular research reinforced the view that it is only natural that students with learning difficulties compare themselves to groups of normal children, provided that the latter constitute the first group of comparison in a regular classroom.

The research of Renick and Harter (1989) revealed that the school self-esteem of students with learning difficulties and the feeling of overall self-worth related, to a significant extent, to the self-esteem of social acceptance. Specifically, the researchers assumed that for the particular group of children, school self-esteem had a significant impact on the level of their self-esteem as well. They also found that self-esteem in students with learning difficulties gradually decreased as their failures in the school and their disappointing comparisons with their peers increased.

### 1.4. The role of ICTs

Finally, it's critical to emphasize the beneficial and influential role that digital technologies play in the field of health education. Mobile devices (40-43), a range of ICT apps (44-63), AI & STEM ROBOTICS (64-70), and games (71-73) are examples of the technologies that facilitate and improve educational processes including evaluation, intervention, and learning. Additionally, the use of ICTs in combination with theories and models of metacognition, mindfulness, meditation, and the development of emotional intelligence [74-104], speeds up and improves educational practices and results, especially for health education for students with learning disabilities.

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## 3. Conclusions

The aim of the present work was the literature review of research concerning the importance of cross-correlation between learning and emotional difficulties. In fact, the results of the aforementioned studies, both in international but also in Greek bibliography, revealed that the students who are often diagnosed with learning difficulties face emotional problems and vice versa.

Regarding the first question raised about whether students with learning difficulties face a greater danger to develop emotional difficulties as well, we believe it was fully confirmed. In particular, the whole range of research reveals that

students who experience learning difficulties will also show signs of emotional disorder. In fact, some researches proved that students with emotional problems, in a percentage of 62,5%, present a moderate or a severe form of learning difficulties. The particular learning difficulties report a lack of vocabulary, comprehension, expression and factual problems. Also, some other concluded that students with learning difficulties present behavioral and emotional problems in a percentage of 50 to 75%. Some of the emotional problems that were examined were immaturity, lack of attention, disappointment, aggressiveness, spontaneity, hyperactivity, disturbance of conduct, low self-confidence and self-esteem, depression and increased stress.

Through the particular study, it was revealed that although experts have managed to adopt cases of students with learning difficulties, they have not achieved the same results with students with emotional difficulties. There is no explicit or specific guidance and recognition of students with emotional difficulties which is supported with measurements and in sociometric data, there are only informal studies and descriptions. Nevertheless, the relationship between emotional problems and learning malfunction is evident. Some revealed that participants with serious emotional problems also exhibit learning difficulties while others proved that the subjects who faced serious emotional problems in education proved to be academically at least one year behind their age. Other studies concluded that the students that face learning difficulties, often present emotional difficulties as well, while came to the conclusion that even though learning difficulties exclude emotional problems by definition, learning difficulties can indicate the existence of the latter. Accordingly, research in students with serious emotional problems showed that 40 to 75% of the students also presented learning difficulties.

Regarding the second question in relation to which emotional problem causes the greatest malfunction to students with learning difficulties, the research results proved that it is low self-esteem. Actually, researches which studied students with low school records, proved that these students used different interpretation of the concept of the self. The conclusion of particular research discussed that the students with learning difficulties compared themselves to normal children considering, however, that they have lower self-awareness and lower self-esteem, which was connected to the overall performance. Respectively, other studies proved that school self-esteem of students with learning difficulties decreased due to their increasing failure at school but also due to their comparison with their peers and confirms the negative effect of learning difficulties in the psychic condition and self-esteem of adolescents and proves that students' difficulties in cognitive and linguistic skills intensifies their low self-esteem but also their emotional problems.

In conclusion, the relationship between learning difficulties and emotional problems is verified due to the effect of a failure that students with learning difficulties experience. These failures are responsible for forming negative self-awareness that leads to low expectations for future success to their academic performance and result in emotional passivity, loneliness and, in certain cases, even in the occurrence of depression symptoms. The emotional competence of the particular students, the management of their behavioral problems but also the reinforcement of positive self-awareness and self-esteem are essential components to facilitate their educational activity and maintain their emotional balance. For all the above, the creation of intervention programs in the school communities promoting the psychosocial adaptation of students by strengthening their positive skills and by using new technologies is deemed necessary.

To conclude, it is worth mentioning that further studies concerning students with learning difficulties in specific age stages should be conducted in the future and relate these studies to how they influence students' emotional and social growth. Consequently, further research on the aforementioned fields is crucial for the research development of the connection between the emotional and learning difficulties.

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### **Compliance with ethical standards**

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#### *Disclosure of conflict of interest*

The Authors proclaim no conflict of interest.

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