

# Motivation in Learning Disabilities and the impact of ICTs.

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**Abstract:** The value of students' motivation with learning disabilities is significant and their enhancement is a primary goal for learning achievement. Students with learning disabilities are constantly increasing and have less persistence in academic exercises, showing a lack of motivation, while motivation is very much related to the learning process and learning achievements. This article is a literature review investigating the motivation of students with learning disabilities, the importance of enhancing intrinsic motivation, the factors that influence motivation, and the impact of educational technology on the motivation of students with learning disabilities. The results showed that environments that aim to motivate and support students are more effective in enhancing students' learning achievement and motivation, with other findings considering ICT as an important motivation for learning and work, but also a reason for improving the achievement of students, promoting their motivation and improving their attitude towards learning.

**Keywords:** motivation, learning disabilities, ICTs, SDT, factors, intrinsic motivation

## 1. Introduction

Motivation is very much related to the learning process and learning achievements [1]. In addition, students' motivation is important for their academic success and especially for students with Learning Disabilities, the role of motivation is of primary importance. Kamil et al. (2008) suggest that motivation in school refers to whether students have the "desire, disposition, and reason to engage in a task or activity" (p. 26). On the other hand, learning disabilities are defined as a set of biologically based neurodevelopmental disorders that cause cognitive abnormalities, as well as symptoms associated with emotional and behavioral disorders. They are a combination of genetic, epigenetic, and environmental factors that alter the brain's ability to effectively and accurately recognize or process verbal or non-verbal information [3] and affect 11.4% of all school-aged children [4]. These groups of children face many problems that cause a lack of self-efficacy, academic progress, and motivation[5,6].

Although motivation plays an important role in the academic success of all students, students with learning disabilities appear more vulnerable to a lack of motivation throughout their education. Both lacks of motivation and attention problems are likely to affect the learning effort of these students [7]. Consequently, students with learning disabilities face greater obstacles in terms of their academic achievements, but also their quality outcomes compared to their peers without disabilities [8]. The dropout of high school students with learning disabilities each year is reported to be 30% to 40% [9].

According to the literature in the last two decades, the field of motivation (intrinsic and extrinsic) has matured rapidly, especially in the context of Self-Determination Theory [10], a broad theory of human development and well-being with strong implications for education. This particular theory about behavioral approaches emphasizes people's innate motivational tendencies to learn and develop. Furthermore, it suggests that people have basic psychological needs for a) autonomy (e.g., the need for the individual to feel that what he is doing is wanted, for b) competence (e.g., the individual's need for successful engagement in the environment), and for c) relatedness (e.g., desire for close emotional bonds with others); To satisfy the above needs it is necessary to provide students with choices, positive feedback and to promote positive social interactions, respectively [11]. SDT argues that by supporting the above needs, intrinsic motivation is enhanced by achieving higher achievements, while, paradoxically, attempts to control achievements, through external rewards, sanctions, and evaluations, generally fail, leading to lower quality, performance, and motivation. Ironically, despite significant evidence for the importance of meeting psychological needs in learning contexts, many current educational policies and practices around the world remain anchored in traditional models of motivation that fail to support the needs of students and teachers, a gap in knowledge versus policy that should be closed[12].

The purpose of this study is defined as offering data through a review of contemporary literature related to the motivation of students with learning disabilities, the importance of enhancing intrinsic motivation, the factors that influence motivation, and the impact of educational technology on the motivation of students with learning disabilities. Furthermore, this literature review seeks to contribute at a practical and research level to the highly demanding field of learning disabilities and student motivation.

## **2. Extrinsic and Intrinsic Motivation**

Extrinsic motivation occurs when the source of motivation comes from outside the student and the task (e.g., from a teacher or a parent) and can be a reward or punishment for finishing a task or assignment [13]. In schools, extrinsic motivation is most often used because students receive immediate gratification for completing a task. Examples of extrinsic motivators are stickers, rewards, candy, verbal recognition from others, special privileges, studying to get a good grade or even fear of punishment. While students appear to be motivated by extrinsic incentives, these incentives have some serious drawbacks. For example, when motivation is unsustainable or when reward or punishment is withdrawn, motivation disappears. Furthermore, motivation tends to decrease when the effect of the motivator weakens or when the reward or punishment remains the same, and a greater reward is required as a subsequent incentive. A final and major disadvantage of extrinsic motivation is that it prevents intrinsic motivation.

On the other hand, intrinsic motivation, occurs when the source of motivation originates within the student and the task. Intrinsically motivated students view work or tasks as interesting, enjoyable, and worthwhile and seek self-approval for their completion. When students set learning goals or accomplish goals, work toward those goals, and hope to achieve them, they are intrinsically motivated and have a greater sense of accomplishment. An intrinsically motivated student will solve math problems because they find it fun and interesting, or they may read on their own after school because they

find it fun as well. But when students complete tasks for an extrinsic outcome, it tends to damage their intrinsic motivation. Motivating with extrinsic rewards or punishments can remove students' intrinsic desire to complete a task on their own [14].

### **3. Motivation for Students with LD**

Students with LD experience a strong correlation between low extrinsic and intrinsic motivation and their poor academic performance [15, 16], while in contrast, higher achieving students tend to be intrinsically motivated [17,18]. Research has found that while many teachers offer extrinsic incentives to encourage student academic performance, engagement, and good behavior, these types of rewards are generally negatively correlated with academic performance [15, 16, 17, 18]. Other studies, however, have suggested that extrinsic motivation may be useful for students with LD who experience very low intrinsic motivation mainly because teachers believe that students with LD cannot learn [19]. According to Weiser (2014) teachers and parents should make an effort to instill intrinsic motivation in their students and their children, especially students with LD and low self-confidence, so that they do not need to rely on external motivation to complete their tasks and duties. Comments like "You should be proud that you studied and were able to get so many correct answers," "I can tell you're working so hard to learn this lesson," and "I can see that you're trying and putting do your best' can be used to instill intrinsic motivation in students, but also to focus effort. As much as this comes more naturally to younger students from teachers and parents, it is also important for older students who are frustrated by their learning difficulties to help them build intrinsic motivation [20]. If teachers and parents can place more emphasis on having a supportive environment where mistakes are seen as opportunities for learning, rather than failure, then students with varying abilities will be able to develop their own learning goals. Even if teachers and parents focus on providing positive feedback even when students with LD take small steps success to move forward in this way they promote their intrinsic motivation.

### **4. Family Factors**

According to Greate School (2014), the role of the family environment in shaping a student's view and attitude toward learning is essential. A home with a bad influence on children will be fatal as it becomes the cause of a sense of inadequacy and ability to learn. As Whitaker (2012) conveyed, students without family or home support will not be able to perform well in school, resulting in low motivation, lack of moral values and norms, and lack of self-control. According to Wong (2017), too much pressure from families is inappropriate for students' development, will not motivate them, and will not change what children believe because learning is not only about getting good grades but also the enjoyment of the process.

### **5. Teachers' Factor**

The role of teachers has also influenced student motivation. Similarly, Barse (2015) reports that excellent communication and close relationships between teachers and

students increased student motivation. Otherwise, it would worsen their academic performance and reduce their motivation. Accordingly, low motivation to learn was also caused by the teacher's inability to manage time during the lesson [25]. According to Rosanti (2017), teachers who can motivate students are those who are more likely to carry out successful learning activities in the classroom. However, those who are unable to encourage students' creativity, cannot create positive energy, or motivate students to follow the learning process are considered as the teacher factor that affects students' low motivation and poor academic performance.

## **6. The impact of ICTs on learning disabilities**

In teaching and education, more and more attention has recently been paid to students with special educational needs, a group that also includes students with learning disabilities. We are also seeing the emergence of various studies on the impact of ICT on students with severe forms of specific learning disabilities. However, such studies are rare.

Folkesson and Swalander [27] found that 8- and 9-year-old children who use ICT in school have better-developed reading comprehension skills than those who only learn by traditional methods. They found that the primary reason for such results is the motivating role of ICT, and the second is that reading written text is easier, as large and legible letters allow students to read faster and longer. In addition, Sung, Chang, and Huang [28] have studied the impact of computer-assisted teaching strategies on reading and comprehension skills in primary school children with different learning abilities and found that ICT increases reading motivation in students with low reading skills, also improving their reading strategies and reading comprehension. Computer-assisted instruction has such positive effects on their achievement because children with learning disabilities are very attentive to visual stimuli [29].

The researcher Papastergiou [30] studied the way students learn through educational games on the computer and observed that the results of this teaching are better compared to classical teaching and that the motivation to learn is higher than in classical learning. In addition, research has shown that the digital tools offered by Information and Communication Technologies (ICT) can activate the potential and interest of all students but also students with attention difficulties, memory, learning disabilities, and developmental disorders during the course [31].

With the help of computers and other educational technology (interactive whiteboard – IWB, projector, TV, camera, etc.) we allow students to participate in various learning activities, such as computer-assisted work, learning through educational games on the computer and computer simulations, collaborative distance learning, participating in chat rooms, forums, keeping a web journal, solving interactive exercises, recording video and audio clips, and learning about a virtual environment. Most important for all these activities is the active participation of students in the educational process, guiding their learning and choosing their activities, and that they learn how to work together and how to learn individually. By limiting the use of modern teaching methods and computer-assisted work for students with learning disabilities, teachers inadvertently send the message that they are not competent in the field of technology, even though such

assumptions are later revealed to be unfounded. Teachers should not forget how ICT increases students' motivation by improving their achievements and how they can also improve students' attitudes toward learning with the help of educational technology. Pintrich and Schunk [32] found that students who have the desire to succeed and are convinced of their abilities are more determined and ambitious, and consequently more successful than those who see themselves as low achievers who cannot succeed.

## **7. Conclusions**

Concluding we underline the importance of the digital technologies in special education and learning disabilities domain as a motivation tool, that is very productive and successful, facilitates and improves the assessment, the intervention and the educational procedures via Mobiles which brings educational activities everywhere [38-46], various ICTs applications which are the core supporters of education [47-80], AI, STEM & ROBOTICS which raise educational procedures into new levers of performance [81-91], and games which transforms the education in a very friendly and enjoyable interaction [92-99]. Additionally the enhancement and combination of ICTs with theories and models of metacognition, mindfulness, meditation and emotional intelligence cultivation [100-159] as well as with environmental factors and nutrition [34-37], accelerates and improves more over the educational practices and results, especially in the learning disabilities domain and its practices like assessment and intervention.

In summary, the present study through the literature review revealed that the activation and instillation of internal motivation in students with learning disabilities may be the springboard for the exciting journey of knowledge. If the school and family environments are supportive, and properly equipped with understanding and motivation, it can make the students' journey to knowledge more interesting. Also, by taking advantage of new technologies it seems that the journey can become even more creative and easy since these tools can be used to facilitate and educate students, as well as help them increase the quality of their daily life and function with independence [33]. Additionally, information technology must be used with all students, with or without learning disabilities, as equally as possible, as it affects their self-esteem and confidence in their abilities.

Finally, it is time to leave behind traditional methods and approaches, giving space to more modern methods, restoring communication with children and students with learning disabilities, and sending them positive messages that they can succeed. And this is just the beginning.

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