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Factors Which Facilitate the Successful Inclusion of Students with Learning Disabilities ar Emotional and Behavioral Disabilities	ıd

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# Acceptance of Senior Honors Thesis

This Senior Honors Thesis is accepted in partial fulfillment of the requirements for graduation from the Honors Program of Liberty University.

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#### **Abstract**

This paper examines the different types of strategies, supports, and technologies available to students who are classified with a learning disability (LD) or emotional and behavioral disability (EBD) in an inclusive setting. As the number of students with LD and EBD in a general, inclusive classroom setting is rising, it is necessary to find ways to maximize their educational performance. In an inclusive setting, children with disabilities receive instruction with support and accommodations alongside their non-disabled peers in their neighborhood school. The practice of inclusion promotes social interaction and peer-acceptance among students with and without disabilities, therefore providing opportunities for students with disabilities to engage with students that are non-disabled (Avcioglu, 2017; Chapman, 2013; Kart & Kart, 2021; Taub & Foster, 2020). The purpose of my paper is to provide an introduction to the world of inclusion for those who may be new to its concepts, particularly future educators who are interested in learning more about how to help each student in the classroom succeed. There are many factors which facilitate successful inclusion of students with learning disabilities and emotional and behavioral disabilities such as differentiated instruction, Universal Design for Learning, Positive Behavioral Interventions and Supports, environmental arrangements, Opportunities to Respond, and a positive learning environment.

#### *Keywords:*

individuals with disabilities education act, individualized education plan, learning disability, emotional-behavioral disability, free appropriate public education, least restrictive environment, special education

#### Introduction

Inclusion is a vital tool in facilitating the opportunities for students with disabilities to become independent learners (Avcioglu, 2017). It allows for the integration of students with disabilities into the general education classroom to engage in academic and social activities and receive educational training with their non-disabled peers (Avcioglu, 2017; Dieker & Hines, 2014). This practice encourages acceptance between peers both academically and socially while effectively promoting awareness of disabilities (Bilias-Lolis, Gelber, Rispoli, Bray, & Maykel, 2017).

Core concepts of inclusive education draw heavily from Abraham Maslow's hierarchy of needs. In this hierarchy, Maslow described that in order to achieve self-actualization, the highest tier of the hierarchy, other needs must be met first, such as physiological needs. Throughout these different needs, Maslow refers to a sense of belonging and feeling safe (Maslow, 1943). Since its implementation, the practice of inclusion has stopped the segregation of students with disabilities, allowing these students the opportunity to be in an environment with their same-aged peers, thus establishing a sense of belonging (Avcioglu, 2017; Bossaert et al., 2015: Dieker & Hines, 2014). Therefore, it can be drawn that the practice of inclusion helps to fulfill a number of the levels of Maslow's hierarchy. If a child with a disability feels as though he or she is accepted, safe, and loved, this will build self-esteem and guide the child toward achieving self-actualization (Maslow, 1943). This paper examines the different types of strategies, supports, and technologies available to students who are classified with a learning disability (LD) or emotional and behavioral disability (EBD) in an inclusive setting.

Factors which Facilitate Successful Inclusion of Students with Disabilities

Placement in general education, or inclusive education, is the preferred and appropriate placement for most students with disabilities. McLeskey et al. (2022) maintains the same idea, with the formal definition of inclusion as follows: "Students with disabilities are included as valued members of the school community. This suggests that they belong to the school community and are accepted by others; that they actively participate in the academic and social community of the school; and that they receive support that offers them the opportunity to succeed" (p. 441). Special education laws have played a critical part in ensuring the successful inclusion of students with disabilities within their educational setting.

The Individuals with Disabilities Education Act (IDEA) was enacted in 1990 to ensure that all children with disabilities continued to have access to a free and appropriate public education (FAPE). This piece of legislation calls for local education agencies (schools and school districts) to utilize the least restrictive environment (LRE) to educate children with disabilities alongside their non-disabled peers (IDEA, 2004, §114.a.2.i). The intention of the LRE is to permit the inclusion of students with disabilities and prevent segregation based on the disability of the child (Giangreco, 2020). When considering LRE, it is beneficial to ask how the classroom and teacher can support and teach students with disabilities, rather than asking how the child can perform in the general education classroom (Giangreco, 2020). Support is provided to students with disabilities to help them succeed in the general education classroom setting, both academically and socially.

Additionally, IDEA requires students with disabilities to be educated in a general education setting to the highest extent whenever possible (Chapman, 2013; Giangreco, 2020; Wright, Wright, & O'Connor, 2015). As identified in the U.S. Department of Education's National Center for Education Statistics (NCES, 2018), approximately 13% of school-aged

students (ages 3 to 21) have received special education services. Beyond this, the NCES (2017) reported that almost 95% of children with disabilities ages 6 to 21 were given services in neighborhood schools. A study performed by Artiles and colleagues supports the notion that students with disabilities who spend the majority of their time in general education classrooms are academically closer to their grade levels and perform higher on standardized testing than their peers who spend most of their time outside of the general education classroom (Artiles et al., 2010). Research also indicates social benefits from inclusion in addition to these academic benefits (Artiles et al., 2010). Students with various learning and emotional behavioral disabilities experienced social acceptance, increased self-esteem, and improved social skills (Kliewer & Biklen, 2001; Mu, Siegel, & Allinder, 2000). In a two-year longitudinal study, 40 students with disabilities were assessed in order to compare growth of social competence (Fisher & Meyer, 2002). One group of students received instruction in an inclusive, general education setting, while the other group of students were instructed in a self-contained classroom. After a two-year period, the inclusive student group scored significantly higher on the Assessment of Social Competence. These results support previous research showing the social benefits from inclusion.

#### **Characteristics of Children with Learning Disabilities**

A learning disability (LD) is defined as "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia" (IDEA, 2004, §300.8(c)(10)). Some children with LD have been noted to exhibit emotional, social, and behavioral difficulties,

with many children receiving an official diagnosis of Emotional and Behavioral Disorder (EBD) as a comorbidity (Greenham, 1999). Since Greenham's landmark study, significant research describing the linguistic, cognitive, and behavioral differences between children with LD and normally achieving peers has been performed. Even still, there is additional research to be performed, as educators have little understanding about how these differences shift over time and contribute to academic difficulties.

There are marked individual differences in achievement outcomes for children with LD that are predominately unexplained (Kavale, 1988). Various characteristics, such as self- esteem, ability level, and socioeconomic status have been associated with children with learning disabilities. Repeated academic failures by students with LD can lead to disapproval toward the child from parents, teachers, and even peers. It has been observed that as a consequence of this, the child then begins to feel helpless or inferior (Avcioglu, 2017). This can lead to further academic failure and a cycle of pressure and negative feelings that may eventually give rise to emotional and behavioral problems (Bruck, 1986).

## Characteristics of Children with Emotional and Behavioral Disabilities

IDEA defines an Emotional and Behavioral Disability (EBD) as "a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance" (IDEA, 2004, §300.8(c)(4)). According to IDEA (2004), there are five specific subsets of eligibility criteria that would deem a student eligible for special education services as a student with EBD, including:

1. An inability to learn that cannot be explained by intellectual, sensory, or health factors (IDEA, 2004, §300.8(c)(4)(i)(a)). Despite the implementation of strategies and support, students have not

made academic or behavioral progress, and the student does not have an identified learning disability, intellectual disability, or medical condition that would hinder learning.

- 2. An inability to build or maintain satisfactory interpersonal relationships with peers and teachers (IDEA, 2004, §300.8(c)(4)(i)(b)). Thus, the student is not able to create or maintain relationships with either students or adults. He or she may struggle to exhibit interpersonal skills, like making friends, demonstrating sympathy, and playing and working with others.
- 3. Inappropriate types of behavior or feelings under normal circumstances (IDEA, 2004, §300.8(c)(4)(i)(c)). Under this criterion, students display age-inappropriate feelings or behavior that differ greatly from what a typical peer of a close culture, age, and gender would convey in a related situation.
- 4. A general pervasive mood of unhappiness or depression (IDEA, 2004, §300.8(c)(4)(i)(d)). With this, the student undergoes unhappiness or depression across many of the situations they encounter in life over a regular period of several months. The pervasive unhappiness is not attributed to substance abuse, medical factors, or to life scenarios.
- 5. A tendency to develop physical symptoms or fears associated with personal or school problems (IDEA, 2004, §300.8(c)(4)(i)(e)). Here, the child's physical symptoms cannot be ascribed to medical conditions. Rather, there is a particular correlation to psychological factors and the individual is not aware of the conflict that the symptoms are causing.

Furthermore, as described by IDEA, EBD includes schizophrenia but does not include children who are identified as socially maladjusted, unless it is determined that a child has EBD (IDEA, 2004, §300.8(c)(4)(ii)). Similarly to any other special education process, the choice to identify a child with a disability calls for a team decision after an extensive evaluation has been completed with insight from all team members. This team, often composed of teachers, parents,

the student, administration, and the therapy team then determines the most fitting way to support the student.

## **Overlap Between Conditions**

Most definitions of LD do not include those whose poor achievement is chiefly due to EBD difficulties. This assessment is difficult to make, mainly because LDs co-occur with disorders of attention, namely Attention Deficit Hyperactive Disorder (ADHD) (Barkley, 2005; Fletcher, Shaywitz, & Shaywitz, 1994) and other emotional and social issues. It is challenging to determine which disorder is primary, as those who struggle may develop behavioral difficulties that are secondary to lack of success in school. Because of this, many children have co-occurring learning and behavioral, emotional, as well as social difficulties (Fletcher, Shaywitz, & Shaywitz, 1999). For example, a child who meets the standard for both an LD in reading and ADHD shows traits of both. Research studies on comorbidity of specific LDs such as in writing, reading, or math found that there is often overlap between these conditions (Fletcher et al., 2002). This association was emphasized in most clinical studies of comorbidities between specific LDs and social, behavioral, and emotional difficulties (Bryan, Burstein, & Ergul, 2004). Thus, a child with disabilities involving ADHD and a domain-specific LD appears like a child with ADHD 'through the behavioral lens' and like a child with LDs 'through the cognitive lens' (Fletcher et al. 2009, p. 58). Cooley and Ayres (1988) and Bruck (1990) described that many of the emotional problems displayed by readers with LD reflect adjustment difficulties resulting from academic failure or labeling.

Principally, the nature of the relationship between LD and EBD has been examined in two ways: (a) determining the prevalence of psychosocial issues in individuals with LD and (b) conversely, the prevalence of LD in individuals with psychosocial issues. An additional approach

has been to compare heterogeneous groups of children with LD to normally achieving or low-achieving (but non-LD) children on a variety of social factors such as whether children with LD (a) can demonstrate appropriate behaviors and social skills (Tur-Kaspa & Bryan, 1995; Vaughn and Haager 1994), (b) are accepted by their peers (Conderman 1995; Nabuzoka & Smith, 1993), (c) know what to do in social situations (Pearl 1986; Wong 1996), (d) can perceive and understand social information (Kavale and Forness 1996; Wong 1996), and (e) can take the perspective of others (Maheady and Sainato 1986; Pearl 1986); and on a number of emotional factors including internalizing problems, such as low feelings of self-worth and perceived competence, anxiety, depression, and faulty attributions for success and failure. It is also important to note externalizing behavioral problems, such as delinquent-antisocial, hyperactive-inattentive, and aggressive-disruptive behaviors.

While researchers and clinicians have observed an association between LD and EBD, the direction of the relationship has not yet been clearly determined. One view holds that LD is manifested as a secondary reaction to a primary emotional problem (Goldstein & Dundon, 1986). This perspective asserts that learning problems result from a child's unconscious emotional block or as a reaction to conflicts with teachers, unrealistic parental demands or undiagnosed psychiatric disorders that hinder learning (Rourke & Fuerst, 1991). Although, by definition, LD cannot result from serious emotional disturbance, although the two can co-occur (Hammill, 1993). Therefore, it is often the case in referrals of children for having LD to rule out other conditions to which underachievement can be attributed. High on the list of these conditions come EBD and ADHD (Fletcher et al. 2007).

#### **Differentiated Instruction**

Students' abilities range greatly in any classroom, which poses challenges for teachers and a need for differentiated instruction. The IRIS Center defines differentiated instruction as "an approach whereby teachers adjust their curriculum instruction to maximize the learning of all students (typical learners, English language learners, struggling students, students with learning disabilities, gifted and talented students); not a single strategy but rather a framework that teachers can use to implement a variety of evidence-based strategies" (The IRIS Center, 2010, p. 1). Differentiated instruction has been considered a common characteristic of effective special education practices (Kauffman & Hallahan 2018; Stradling & Saunders 1993). Along with the spread of inclusive ideology, researchers have also begun to emphasize it as an essential means by which to meet student academic and motivational diversity in heterogeneous, mixed-ability classrooms (Broderick, Mehta-Parekh, & Reid 2005; Persson 2008; Tomlinson 2022; Tomlinson et al. 2003). As opposed to standards-based teaching, differentiation refers to a student-centered pedagogical strategy which aims at responding flexibly to individual students' learning styles, readiness levels and speeds of learning in order to maximize their learning opportunities in the classroom (Stradling & Saunders 1993; Tomlinson 2003). According to Mastropieri and colleagues (2006), differentiated instruction should include approaches and strategies to address diversity in students' needs, interests, experiences, and abilities.

### **Universal Design for Learning**

A combination of the growing inclusion of students with disabilities, and the demand to address each student's needs, has led to the development of an internationally supported framework for appropriate curriculum design, Universal Design for Learning (UDL) (CAST, 2018), which includes an emphasis on the use of technology to guarantee access is reached for all students. Similarly to differentiated instruction, UDL takes the student's individual needs into

account. UDL is described by the Center for Applied Special Technology (CAST) as "a framework to improve and optimize teaching learning for all people based on scientific insights into how humans learn" (CAST, 2018). Rather than serving as an accommodation or adaptation to instruction, UDL is a "proactive approach that is incorporated at the beginning planning stages of instruction" (Hott, 2020). According to CAST (2018), UDL consists of three main principles to guide instruction: engagement, representation, and action and expression. The framework of UDL often incorporates some type of technology.

# Engagement

As part of UDL instruction, it is necessary to provide students with multiple means of engagement. Not all students are engaged in the same way; thus, there must be multiple options for engagement (CAST, 2018). Teachers should aim to pique student curiosity by using information that they have gathered. For students with LD or EBD, this could mean allowing student choice in areas like where they sit in the classroom, how they access instruction, or if they opt to work in a small group or individually. Freedoms such as these help to maintain self-regulation within the students as they learn. As defined by CAST, self-regulation is the ability to "modulate one's emotional reactions or states in order to be more effective at coping and engaging with the environment" (CAST, 2018). With this, student motivation shifts from extrinsic to intrinsic.

Under self-determination theory (SDT), intrinsic motivation refers to being engaged in an activity because of one's inherent interest and pleasure for this activity rather than due to external contingencies (Ryan & Deci, 2000). Consequently, intrinsic motivation has been deemed a natural catalyst for learning and achievement (Gottfried, 1985, 1990; Ryan & Deci, 2009). Intrinsic motivation lies at the core of self-determined activity (Ryan & Deci, 2000) and is

expected to be correlated with academic achievement. According to SDT, intrinsic motivation is driven by two cognitive processes: (a) the degree to which individuals perceive that their action fulfills their need for autonomy and (b) the degree to which they feel effective in an activity (Garon-Carrier et al., 2015). When a student feels their psychological needs satisfied, intrinsic motivation occurs and leads to academic achievement. Students who are intrinsically motivated will persist at a task, and thus will be more likely to succeed. Along with this, academic achievement will lead to greater intrinsic motivation in that area as the student will feel a sense of accomplishment.

Within self-regulation, teachers establish expectations and beliefs, facilitate personal coping strategies, and develop self-assessment (CAST, 2018). For students with LD or EBD, this could include the use of self-monitoring charts, a menu of coping strategies to use, and the understanding that the student is in control of their emotions (Hott, 2020). While engagement is not identical for all learners, it is crucial that teachers understand the needs of their students and provide multiple means for engagement so that students are able to learn and develop a sense of intrinsic motivation.

#### Representation

Under UDL, teachers must also provide multiple means of representation. Students approach learning differently based on ability, disability, language, or cultural differences. It is important to take into account the way that the student best learns and accesses information. Options like enlarged texts, change in speed in which auditory information is provided, or providing physical objects can help students with disabilities succeed in an inclusive environment (Hott, 2020). Through using schema to activate prior knowledge, providing explicit cues, teaching strategies to visualize and process information, and generalizing information,

teachers are able to provide options for comprehension (CAST, 2018). Teachers should aim to teach these strategies to students before they are able to use the information on their own. One research-based strategy that has been shown to be effective for students with disabilities, specifically EBD, is Self-Regulated Strategy Development (SRSD). Through this model, students with EBD are able to internalize the use of mnemonic devices, graphic organizers, and other information as the model intends to develop background knowledge, discuss it, model it, memorize it, support it, and establish independent practice (Ennis, 2016; Madson et al., 2009; The IRIS Center, 2012). Through representation in the UDL framework, students with LD and EBD are able to develop strategies that they can then use throughout their academic career.

## **Action and Expression**

The final area in the UDL framework is providing multiple means of action and expression. Action explores how students with disabilities may interact with materials and tools that they are given in a general education classroom. With this, teachers begin using more technology and allow students to respond to questions differently. A student could write an answer on a whiteboard and hold up their answer or use technology like Quizlet for students to respond (Chng & Gurvitch, 2018; Lowe et al., 2019). Furthermore, a student with limited speech could use a choice board to answer questions so that they are engaged in learning.

By providing multiple means of expression, teachers are able to optimize learning for different students. Under this guideline, teachers should provide multiple media for communication, use multiple tools for construction, and build upon fluency by providing levels of scaffolding and support for practice and performance (Hott, 2020). In the general education classroom, students can use manipulatives in mathematics or use different graphic organizers for writing. Through this method, all students can confidently express the answer to the question or

prompt that the teacher has given. In the UDL framework, students should be guiding appropriate goal setting, supporting planning and strategy development, managing information and resources, and monitoring progress (CAST, 2018). Teachers must help in this area by providing prompts and scaffolding information so that students have the instruction and support that they need to successfully set goals. When students with and without disabilities are provided with the UDL framework, the classroom is accessible to all students.

## Implementing Differentiated Instruction and UDL Through the Use of Technology

The UDL framework is just one planning tool that includes the consideration of technology to effectively cater for the needs of all students (CAST, 2018). Technology in the 21st century has allowed us to make strides in the realm of education as well as in the modern world. In order to promote learning, teachers must differentiate instruction and provide the supports, services, and accommodations needed to meet the needs of individuals with exceptionalities and ensure meaningful access to the general education curriculum. Both differentiated instruction and UDL pursue the common goal of meeting the needs of students and allowing for all students to access content and curriculum.

Finding the right technology to meet a specific child's needs may seem like an intimidating feat, yet it is significant in ensuring that the technology holds lasting results. One way that support can be provided to students with disabilities is through assistive technology (AT) and instructional technology (IT). These two basic categories of technology work to support the specific needs of a child in the educational sphere. Both assistive technology and instructional technology are prominent in the field of education and allow students to build their abilities to acquire practical skills that are relevant for their entire lives.

There are a number of different disabilities that may prevent individuals from being able to perform certain basic activities on their own like walking, seeing, hearing, speaking, or being able to grasp or lift objects. The inability to perform these activities affect the independence of individuals with disabilities and may interfere with their education or employment. Nevertheless, the evolution of technology and its innovative application has allowed people with disabilities to perform essential activities on their own (Caldwell, 2020). Technology is integral to many inclusion approaches used to enhance student learning.

## **Assistive Technology**

In particular, AT can be utilized to support students with a broad range of needs, including those with learning disabilities and emotional and behavioral disabilities. The Assistive Technology Act (2004) defines AT as "any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" (Sec. 3, para. 7). Assistive technology is a general term referring to any type of technology, device, or tool that assists an individual in performing a function that they would otherwise not be able to perform. This type of technology includes assistive, adaptive, and augmentative devices for people with disabilities. Assistive technology can be used differently for students with various disabilities. For instance, assistive technology includes mobility devices such as wheelchairs, walkers, and crutches that help people who are unable to walk on their own. Additionally, hearing aids for the hearing impaired and walking canes for the blind can be deemed as assistive technology.

An increasing number of assistive educational technologies have ensured that student improve in multiple content areas, such as math, reading, writing, and communication, throughout classroom activities (Browder, 2018; Chai et al., 2015; Erdem, 2017; Hill & Flores,

2014; Kaur et al., 2017). Many students with disabilities may encounter feeling overwhelmed as they participate in classroom activities in an inclusive environment. Consequently, their learning performance may be affected negatively. However, these students can engage in classroom activities using AT tools, allowing them to participate more fully in inclusive settings and thereby closing the academic achievement gap between them and their typically developing peers (Browder, 2018; Chai et al., 2015). For example, students with learning disabilities may have difficulty completing a classroom writing activity. In this instance, a general education teacher could implement the use of a word processing software through which the students have assistance in creating and editing their writing. Technologies such as these can compensate for the written language difficulties that these students experience in the classroom (Alghamdi, 2021).

AT aims to provide added support for students beyond what they typically would receive within the general curriculum (Shepley et al., 2017). Students who need these supports are evaluated for assistive technology services through occupational and physical therapy services. This way, they are able to receive a device that will be suited to their specific needs. The Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 asserts that assistive technology service is "any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device" (Sec. 3, para. 5). These services may come through working with the student, purchasing of AT, training parents, or working with other professionals.

## **Adaptive Technology**

Adaptive technology is a type of assistive technology where existing tools are adapted for use by individuals with disabilities. For instance, someone without full use of their arms can use

a speech recognition system or a special camera that follows the user's eye movement instead of a computer keyboard. Some technologies are solely assistive, but many are both adaptive and assistive. Adaptive and assistive technology has helped countless people gain independence, education, and employment. It could massively shape the world of special education as we know it in years to come.

Most often, students receive assistive technology services in education-related settings, as this is where the student is evaluated and needs of the student are identified. Assistive technology is typically part of a student's Individualized Education Program per the therapy team's recommendations. Thus, it is crucial that the device is used as designed so that the student's annual goals are met and educational progress is made. At this point, the student's teachers are trained on the use and implementation of the technology or device. Teachers aim to understand the device, utilize available resources, and always adhere to the instructions of the piece of technology.

Throughout the last decade, virtual reality (VR) and augmented reality (AR) have helped teachers educate, encourage, and increase classroom interaction for students of all abilities by making learning more accessible and engaging. VR immerses users in an environment where they are able to see, hear, touch, smell, and even taste stimuli. Students can interact through either a desktop and VR software, or wear a head-mounted display and data glove.

## **Augmented Reality**

Augmented Reality (AR) is a variation of Virtual Reality (VR). While VR completely immerses a user inside a synthetic environment, AR allows the user to see the real world, with virtual objects superimposed upon or combined with the real world. Therefore, AR supplements reality, rather than completely replacing it. When these computer tools are used in the learning

process, students are engaged and interacting with peers and their teacher. Students who are Learning Disabled can use augmented reality to improve vocabulary through gamification. AR supports discovery-based ICT learning which refers to a learning technique in which students, "take control of their own learning process, acquire information, and use that information in order to experience scenarios which may not be feasible to construct in reality given the time and space constraints," (Vinumol et al., 2013, p. 57). Augmented reality enhances this physical content by allowing users to remain external observers as they observe effects through apps such as Google Lens. Both of these technologies have worked to facilitate interaction, increase motivation, improve short-term memory, develop cognitive skills, and make lessons more enjoyable for students.

Inclusion is successful for both typical and disabled students due to two important ideas. Classroom adaptations designed for students with disabilities are often also helpful to students without disabilities. The instructional strategies for inclusive education are the same good-teaching practices recommended by general educational reformers and researchers; these strategies include cooperative group learning (i.e., a group of students with different skills working together), students supporting other students, activity-based learning, paraprofessional support in the classroom, diversified instruction and the use of instructional technology. Within assistive technology and instructional technology, there are many options of devices and programs to choose from.

## **Instructional Technology**

The educational sphere further utilizes technology through instructional technology.

Instructional technology is used to teach different skills in order to meet objectives. The

Association for Education Communications and Technology (AECT) maintains that "one of the

critical elements of instructional design is to identify the learning tasks to be pursued and to choose assessment methods to measure their attainment" (AECT, 2008, pp. 4-5). For example, students may demonstrate their knowledge about fractions using a mobile application at school and then complete the activity at home on a computer. Here, the goal of the technology is to teach a skill that will eventually be performed without the technology. Thus, it is evident that the piece of technology is instructional. In regard to the general education classroom, this instructional technology is beneficial as it helps all students to practice their skills both in and out of the classroom.

# The Impact of Teachers' Positive Perceptions of Technology Use

Teachers' positive perceptions of technology use for teaching and learning have a large effect on the extent to which they utilize technology in the classroom (Pierce & Ball, 2009). When teachers believe in the advantage that students experience using forms of AT, they are more likely to make efforts to incorporate technology into their teaching. Many special education teachers view AT devices as critical to their curriculum due to the benefits derived from technology such as students' increased independent participation in the classroom and increased engagement with their non-disabled peers during free time (Lohmann et al., 2019; Stoner et al., 2008). With this, it is crucial to provide professional development and workshop opportunities to expand teachers' knowledge and understanding of how to select, adjust, and implement AT tools properly and effectively in the curriculum (Flanagan et al., 2013; Pierce & Ball, 2009; Stoner et al., 2008).

Numerous studies have suggested the value of training in UDL to create effective instruction that is accessible and engaging to students across the spectrum of ability (Alghamdi, 2021). The appropriate application of technology is fundamental to implementing UDL in the

classroom, while the UDL teaching approach itself provides a variety of options to students to easily access materials and successfully demonstrate their knowledge. UDL may contribute to the effective implementation of AT by helping teachers make the acquisition of knowledge more engaging and accessible to students through various technologies, such as closed-captions, voice-to-text software, digital books, interactive web programs, and electronic text (Lanterman & Applequist, 2018; Nepo, 2017; Rogers-Shaw et al., 2018). By providing opportunities for teachers to gain actual field experience in using AT technology, they can develop a positive perception, learning to effectively use suitable AT devices to meet the needs of children with disabilities.

### **Positive Behavioral Interventions and Supports**

Before implementing interventions in the classroom, teachers must be aware of the extent of the behavior in question. When a problem behavior arises, behavior change procedures and interventions must be put into place. Positive Behavioral Interventions and Supports (PBIS) is a hands-on, practical educational approach for decreasing and eliminating unwanted behaviors. PBIS is based on far-reaching research as well as principles regarding the rights of all students to be treated given the same opportunities as other students. In Section 1414(d)(3) of the Individuals with Disabilities and Education Improvement Act (IDEIA) of 2004, it is seen that considerations should be made when determining "interventions and supports, and other strategies, to address that behavior" for students with Individualized Education Programs and behavioral directed plans, including functional behavior assessments and behavior intervention plans.

It is crucial to implement PBIS in these plans and in the classroom (Horner et al., 2015). When using PBIS in the classroom with students with EBD, teachers must consider which

stakeholders should be involved and their roles to ensure that the students' needs and concerns are being represented by the correct designated individual. Furthermore, this includes the implementation and monitoring of the interventions, supports, and strategies, as well as use of evidence-based assessments that are culturally sensitive. It is critical for teachers to develop proactive and reactive strategies that are designed to target the function of the behavior and employ interventions that are evidence-based practices and monitor the intervention to evaluate the effectiveness and delivery of the intervention (Hart, 2009; Horner, 1994; Horner et al., 2015; Scott, 2017). The effects that this would have in granting all students the opportunity to be treated with the same opportunities as other students cannot be understated.

### **Environmental Arrangements**

Structure in the learning environment is crucial for all students, especially students with LD or EBD. Structure provides predictability throughout the environment for the individual (Levin & Nolan, 2022). Environments that are not clearly structured may increase confusion and inappropriate behaviors. Teachers can use tools such as individual visual schedules and communication devices with visual pictures tailored to each specific student. These individual schedules should function successfully and be based on the student's environment.

Environmental arrangements can also include providing access to materials, preferential seating arrangements, entrances and exits in zones/centers, and transitional space throughout the classroom to prevent physical contact between students and lessen the chance of someone in the classroom getting injured.

### **Opportunities to Respond**

Opportunities to Respond (OTR) is another strategy that enables a teacher to engage students during instructional time through questioning, statements, and gestures to increase

student responses. Studies have suggested that students with LD and EBD receive fewer OTR than other students without disabilities (Mooney et al., 2004). It has been proven that high rates of OTR improve academic and behavioral performance for students with EBD specifically and should include several types of OTR: individual responding, choral responding, and response cards (Haydon et al., 2012). The teacher provides a signal to students and then they respond.

Students can answer questions verbally individually; all students respond in unison to a question (i.e., choral responding) or use response cards (e.g., pictures, pointing to words, or writing the answer on paper). For example, the teacher will state, "There are four seasons in the year, Fall, Winter..." The teacher then signals the students (e.g., stomps twice) and the class responds in unison, "Spring and Summer." It is recommended that teachers provide three to five OTRs per minute for drill-type instruction and a minimum of one OTR per minute for other intervals (MacSuga-Gage & Simonsen, 2015).

# **Facilitating a Positive Learning Environment**

The attitudes of teachers and principals toward inclusion heavily affects the learning environment in the classroom. Urton et al. (2014) explained that an essential factor in a teacher's perception of inclusion is the teachers' attitude. If a teacher has a positive attitude and welcomes the diversity of inclusion, then he or she will create a positive learning environment that will promote academic and social success (Trent, 2020; Urton et al., 2014). Urton et al. (2014) also explain how the experience and effectiveness of the teacher influenced the atmosphere of the inclusion classroom, stating that if the teacher is confident and feels that he or she knows the strategies and content, then again, a positive environment will be created for an inclusive classroom. Strategies include evidence-based practices of which the teachers have received training, hence, helping foster a high sense of teacher efficacy (Russo-Campisi, 2017). Using

evidence-based practices helps the general education teacher acquire consistent outcomes from struggling students and students with disabilities, increasing the teacher's confidence by providing essential learning strategies (Martin, Spooner, & Singer, 2017; Silveira-Zaldivar & Curtis, 2019; Weiss & Rodgers, 2020). Research also indicates that a teacher's attitude can correspond with students with disabilities feeling included and integrated with non-disabled peers. Moreover, Strogilos and Avramidis (2016) explained the experience of teachers that have co-taught in inclusion classrooms and the positive effects co-teaching has on student behavior and academic success. Educators described feeling confident when co-teaching because both teachers extended support to the students and the content of the curriculum.

#### Conclusion

As we recognize more diversity both in education settings and in society, it has become increasingly important for people to understand and accept the various disabilities and challenges and include them in the community. This concept of accepting diversity has been well reflected in the inclusion of children with disabilities in early childhood education programs. As the number of students with learning disabilities (LD) and emotional and behavioral disabilities (EBD) in a general, inclusive classroom setting is rising, it is necessary to find ways to maximize their educational performance.

The practice of inclusion allows students with disabilities opportunities to take part in classroom activities and engage with their non-disabled peers. A sense of belonging to an environment, learning to the fullest potential, and positive social relationships and friendships are among the desired results of an inclusive experience for students with disabilities and their non-disabled peers (Zhang & Hu, 2015). Through engagement, interaction, and observation with their peers, students gain knowledge and acceptance. Inclusion is a key tool in facilitating

opportunities for students with disabilities to grow into independent learners (Avcioglu, 2017). Furthermore, it is critical that children with disabilities feel academically and socially accepted to fulfill the sense of belonging and progress towards self-actualization according to Maslow's hierarchy of needs (Maslow, 1943). Educators must identify factors that are essential in facilitating the successful inclusion of students with learning disabilities and emotional and behavioral disabilities.

Technology can also be used to differentiate in the classroom; as the field of technology continues to expand, professionals and parents are responsible for evaluating different devices and selecting the best choice for their students as they progress through their educational careers. Teachers can differentiate instruction and provide the necessary supports, services, and accommodations to meet the needs of individuals with exceptionalities and ensure meaningful access to the general education curriculum in order to effectively promote learning.

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