The Blended Learning Environment: A Viable Alternative for Special Needs Students

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Abstract

The traditional classroom provides a classical medium for educating students by allowing an open forum of communication between the pupil and teacher. The last twenty-five years have opened a new realm of possibilities in education through the use of technology and virtual supplemental resources, designed to engage learners in all academic levels. As general education and special needs teachers strive to provide the special education student with learning disabilities a constructive, enriching learning experience, the concept of a blended classroom has proven to be successful in achieving this goal. A blended learning environment provides special needs students with a two-fold benefit, a physical, face-to-face teacher of whom to ask questions and seek guidance, in addition to the assets of virtual resources.

Keywords: traditional classroom, online classroom, virtual classroom, blended classroom, special needs

1. Introduction

As of 2015, over 6,000,0000 students with special needs are enrolled in public education (Bateman & Soifer, 2015). This influx of students with special needs and learning disabilities has presented the educational community with a variety of challenges, but primarily the question of concern centers around the most effective learning environment to meet the needs of these students. Current research is focusing on the cognitive learning of students with special needs enrolled in the following classroom formats: traditional, online, and blended classrooms. Recent studies suggest that students with special needs, primarily those with learning disabilities, prefer traditional classroom instruction and assessments. Within this learning environment, the teacher is physically present to answer curriculum questions and provide individualized assistance. Traditional methods of instruction have proven effective in providing individualized instruction for students with special needs and those with learning disabilities. Additionally, research has shown large learning gains when online instruction and/or assessments are utilized, especially when partnered with traditional instruction. This method of instruction has provided increasing support to the resurgence of a blended classroom, where students with learning disabilities receive the traditional face-to-face guidance from the teacher, in conjunction with the benefits of virtual supplemental materials designed to reinforce instruction. With the expansion of online educational opportunities, research is necessary to determine if the blended classroom, which is comprised of traditional, face-to-face instruction and virtual supplemental activities, increases understanding of core concepts and overall assessment scores in students with special needs. The following literature review will examine the traditional, online, and blended classrooms within the field of special education.

2. The Traditional Learning Environment

Traditional, face-to-face classroom instruction has historically been considered the foundational method for educating students. The traditional classroom, where learning is achieved through face-to-face discourse between teacher and pupil, dates back to the origins of educational pedagogy (Gutek, 2011). The personal encounter established between the teacher and student in a traditional classroom affords the teacher with an immediate assessments of student learning, allowing the teacher to administer modifications or supplemental learning activities in a timely manner. When discussing students with special needs, traditional instruction is recognized as inclusion (Graves & Ward, 2012). One of the trending goals of special education programs is to provide students with learning disabilities a least restrictive environment with equivalent curriculum to the general education students (Graves & Ward, 2012). Selected research

suggests that students with special needs thrive in this form of classroom format, where the teacher is accessible to answer questions and guide learning expectations (Thompson, Klass, & Fulk, 2012). In addition, students prefer printed materials to learn reading strategies instead of online readers, where books cannot be highlighted, marked, and annotated (Chen, 2010). Similar findings have been concluded in mathematics, where students perceive higher levels of mathematical computation and overall understanding of concepts in a face-to-face encounter (Krishnan, 2016). Although there is no denying the importance of the physical presence of the teacher and classroom materials, there is substantial research validating the learning gains achieved through virtual, online resources (Weng, Maeda, & Bouck, 2014).

3. The Online Learning Environment

Online course enrollment has experienced over 100% growth rates in the past few years (Smith & Basham, 2014). Since the inception of online education in the mid-90's, thousands of virtual learning opportunities now exist for students of varying academic levels (Rose, 2014). According to Coy (2014), "Students with disabilities are included in the nearly two million students who attend school online" (p. 1). It is estimated that by 2019, half of all classes offered for students in ninth through twelfth grades will be administered online (Smith & Basham, 2014). Online education is defined as learning exclusively virtual and separate from the traditional, face-to-face classroom. Online classrooms "support many types of learners, including students who qualify for special education services, English language learners (ELLs), students who receive free and reduced-price lunch, students from varied ethnic backgrounds, and other diverse students" (Coy, 2014). Many parents of students with special needs are attracted to fully online opportunities, due to the individualized programs and broader selection of classes (Marteney & Bernadowski, 2016; Vasquez & Straub, 2012). The opportunity for the student with learning disabilities to "work at their own pace," within a supportive and nurturing environment, provides a sense of protection from the "social and behavioral challenges of brick-and-mortar schools" (Coy, 2014). The online classroom also allows students with special needs to express their individuality in their work without the environmental pressures from peers which exist in the traditional classroom.

Although an attraction for fully online education for special needs students exists, Thompson et al. (2012) found that when students were enrolled in exclusively online classrooms they demonstrated smaller learning gains when compared to students in the traditional classroom. According to the Center on Online Learning and Students with Disabilities, special education teachers are experiencing challenging situations when attempting to address learning disabilities in an online format (Greer, Rowland, & Smith, 2014). The Center on Online Learning (2012) discovered, "Online teachers of students with disabilities are particularly challenged in identifying, developing, and delivering appropriate accommodations to support the diverse learning needs presented in the blended and virtual environments". Considering the very nature of online education requires the teacher – student relationship to exist at a distance, educators teaching online often feel disconnected to the pupils and are not privy to the benefits of non-verbal communication exhibited in a face-to-face encounter (Coy, Marino, & Serianni, 2014). This results in teachers who often find it difficult to gauge the effectiveness of a lesson when not physically present in the classroom. Therefore, a blended learning environment has surfaced as a viable alternative to better meet the individual needs of special needs students. A blended experience, or traditional instruction in conjunction with online supplemental formats, is considered by educational researchers as the perfect marriage of two effective learning platforms.

4. Blended Instruction: A Viable Alternative

Blended education is quickly rising as the fastest growing, effective program to address the learning challenges in students with special needs. Blended learning, as of 2010, included "over 1,500,000 students across the country" (Greer et al., 2014). Blended learning is defined by Greer et al. (2014) as, "A traditional face-to-face class where students complete a portion of their coursework on the computer and another part engaged with their face-to-face teacher or their classmates (p. 1). Behjat, Yamini, and Bagher (2012) describe blended learning as, "Integrating face-to-face classroom instruction with online activities so that learners can take the advantage of both e-learning and face-to-face instruction" (p. 97). Blended learning requires the student to take ownership of their learning through responsibility and self-motivation while providing avenues for exploration (Krishnan, 2016). As the No Child Left Behind Act (NCLB) of 2002 requires full inclusion for special needs students (Byrnes, 2013), blended learning provides general education teachers effective methods to integrate computer-based supplemental activities to enrich reading, mathematics, and language skills in their learning-disabled students.

Therefore, blended instruction has the potential to relieve the disparity existing between the living presence of the teacher and the benefits of online activities by increasing learning gains, student satisfaction, and connectedness to the instructor (Mason, Helton, & Dziegielewski, 2010). Behjat et al. (2012) described the goal of blended instruction, or sometimes referred to as hybrid education, as an avenue to teach the student cognitive independence, make education useful through modern technology, and establish the sustainability of the classroom for the future. As a result of this

cohesive relationship, the benefits of blended learning are recognizable in student outcomes. The blended classroom provides students with special needs a personal encounter with both the teacher and the classmates, while receiving individual assistance with online reinforcement within the classroom. In addition, special needs students are encouraged to share their struggles with other learning disabled classmates increasing their sense of community: physically, mentally, and virtually. A blended environment provides opportunities for the students to engage in collaborative group assignments and open communication in both classroom formats (McCown, 2014).

A meta-analysis conducted by the Department of Education, between the years of 1996 and 2008, concluded that a blended learning environment is more successful in achieving learning goals than its counterparts, the traditional, face-to-face classroom and online learning (Mccown, 2014). Additionally, the blended experience requires collaboration between the general education and special education teacher (McCown, 2014). This method of instruction requires strong communication and collaboration by all parties involved: the student, the parent, the general education teacher, and the special education support staff. A corollary effect of the blended learning environment is the demand for parental involvement, which further supports the goals of the special needs student. Parents also become an important part of student success, as they aid the teacher in developing the blended curriculum and completion of online assignments at home (Coy, 2014). The fostering of a working relationship between the parent and educator assists the special needs student in achieving their learning goals. Educational theorists believe blended education will become the primary scaffolding for special needs classrooms in the near future (McCown, 2014).

4.1 Online Resources

In order to adequately address the unique requirements of special needs students, the primary use of the Internet has been through the integration of supplemental resources within the classrooms and school computer labs (Thompson, Ferdig, & Black, 2012). Online supplemental learning is becoming a viable option for special educators, as the schools implement advanced technology into classrooms and learning labs. According to Vasquez and Straub (2012), online activities, coinciding with traditional instruction, "Meet the needs of students with disabilities because of their ability to accommodate students with extended time and varied multimedia technologies" (p. 32). Though more time consuming to prepare than the traditional lesson plan, integrating online resources has demonstrated success in learning gains with students of special needs and learning disabilities (Smith & Basham, 2014).

The learning gains for special needs students through the use of online resources have been well documented. Research focused on examining the benefits of online readers for special needs students discovered: With the advent of computer technologies in elementary school classrooms, many educators turned to electronic materials to assist students who have difficulties reading. These teachers are applying emerging technologies, such as the Internet, to assist such students with reading in general content education (Chen, 2010).

Additionally, research conducted by Terras, Leggio, and Phillips (2015) found the self-autonomy and responsibility expected of students with disabilities positively impacted academic outcomes. The use of online resources has also resulted in "powerful gains in student achievement and growth," which is a positive outcome for students with special needs (Bateman & Soifer, 2015).

4.2 Models of Blended Instruction

The blended classroom experience has the ability to take many different forms. According to the The Sloan Consortium, a course is classified as "blended/hybrid if 30-79% of the content is delivered online —web-enhanced, if 1-29% of content is delivered online, and "online" if 80% or more is online" (McCown, 2014). Regardless of the form of blended learning a teacher implements in their classroom, often the teacher becomes a facilitator of learning through face-to-face encounters and online supplemental resources. One form of blended learning begins with traditional instruction in the classroom, followed by webinars during the school week. Another blended format is described as "A face-to-face virtual experience mimicking the direct instruction needed for the student with a disability" (Greer et al., 2014). Other forms of blended instruction include a one hour traditional lecture followed by a one to two-hour computer-based instruction with the identical teacher present throughout the entire learning period. In special education, the blended classroom is collaboration between the general education and special education teachers who must rely on strong communication to achieve learning goals (Coy, 2014). The construct of the special needs blended classroom often includes a large group direct instruction with the general education teacher and a one-on-one online reinforcement activity with the special education teacher.

The design and development of blended instruction is generally involved and time consuming requiring extensive preparation. The construction, learning goals, IEPs, and assessments of blended education are guided by the Common Core Standards (Smith and Basham, 2014). The IEP process in a blended classroom is a technical procedure requiring collaboration between the general education and special needs teacher. The requirements include students with disabilities being evaluated for their IEP's in both face-to-face and virtual meetings, as the student will be evaluated in

both classroom formats. The original IEP plan is formatted in a traditional, brick-and-mortar setting, with follow-up meetings occurring virtually between the general educator, special education advisor, parent, and student (Coy, 2014). The specific goals outlined in the IEP are given through direct, face-to-face instruction via an online forum, utilizing a blended format for assessment purposes. The direct instruction is often administered through the use of "microphones, video cameras, chat boxes, whiteboards, and shared desktop capacities" (Coy, 2014). The benefit for the special needs educator is the visible, current progress of the student available in online assessments. By utilizing instant access to student outcomes, accommodations can be implemented quickly and efficiently (Coy, 2014).

5. Benefits of Blended Learning

There is a great deal of research supporting blended instruction. Weng, Maeda, and Bouck (2014) concluded, after completing a thorough meta-analysis of research on online and blended instruction, "Cognitive skills-based CAI (Computer-Assisted Instruction) as a promising intervention to enhance learning of students with disabilities" (p. 173). Behjat et al. (2012) supported blended instruction by providing examples of previous research by Yu, Choy, Chan, and Lo (2008) who synthesized that:

> Hybrid learning increases the contact hours students can have with each other and as
>
> a result through interaction they enhance their learning — that through blended learning,
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> students and teachers find the appropriate software and e-learning environment to utilize
>
> the communication, collaboration, management and administrative tools to improve
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> language skills" (p. 99).

After completion of their own research study, Behjat et al. (2012) found a significant difference in reading comprehension in students enrolled in a blended, hybrid English course, in contrast to the students participating in a traditional style class. Greer et al. (2014) discussed the benefits of a special needs sixth grade student engaging in blended, individualized instruction by explaining the student is, "Gaining knowledge at her current level and not being asked to complete a modified version of the sixth-grade content" (p. 3). The student is also able to work at their own pace, not subjected to the pressures of the classroom expectations (Greer et al., 2014).

Additionally, there are other benefits of blended instruction. When researching the effects of online assessments on special needs students, Taherbhai, Seo, and Bowman (2012) concluded that for, "Students with learning disabilities, the computer is not a hindrance and initiates a similar pattern of behavior from these students on the OL (online) version as with respect to the P&P (paper and pencil) mode of administration" (p. 72). Keramidas (2012) discovered that students enrolled in a blended format had thirty-one fewer absences than students enrolled in a traditional class and concluded blended students preferred the flexibility of the classroom configuration. For the special needs student, flexibility is essential to address the diverse learning requirements of each individual child. Supplementary to this research, Keramidas also appraised the ability of the online, blended student to effectively implement time management skills and their ability to submit assignments by the designated due dates.

Student perception of blended learning is also relatively positive. A study conducted by Trpkovska (2011) concluded 56% of students enrolled in a university blended course perceived blended learning to be as effective, if not better, then the traditional classroom. Trpkovska goes not to state about the student viewpoint on blended instruction, "Students would like to depart slightly from traditional model of learning and are willing to practice online, especially blended model of learning, which supplies to positive learning experiences for them" (p. 248). As Smith and Basham (2014) state, "If students with disabilities are to succeed in the blended and fully online K-12 instruction, accessibility from a physical, sensory, and most important, cognitive or learning perspective is imperative" (p. 3).

6. Challenges for Blended Instruction Implementation

Though the positive aspects of online reinforcement and blended instruction are validated by special education teachers, there are problems implementing the supplemental programs. The Center for Online Learning and Students with Disabilities (2016) concluded that many special education teachers are not being trained on effective blended instructional models or being equipped with the skills necessary to implement blended learning in their classrooms. Therefore, they are not knowledgeable in models that will benefit students with special needs. Additionally, schools across the United States spend over $3 billion every year on digital content and technical resources, but teachers are not fully embracing the technology or using the resources to their full potential (Herold, 2016). The is largely due to teachers who prefer their traditional, practiced methods and are not receptive of the new, innovative technology (Herold, 2016). Therefore, training opportunities for teachers employed in special education and blended instruction are necessary to further expand these options in special education (Carbonell, Dailey-Hebert, & Gijselaers, 2013).

One of the primary difficulties integrating technology is the computer skills and general technological knowledge of

students with special needs. In addition, teachers struggle with the ability to integrate effective virtual opportunities into a typical classroom day, since the classroom time is allotted to curriculum standards and the learning needs of a variety of students. Research conducted by Chen (2010) discovered that the students included in the study were not equipped with the "digital literacy" skills required to complete online reading strategies with success. Ludlow (2014) reiterated this finding by suggesting the development of "a framework for teaching students with disabilities strategies to use in reading and comprehending text to be successful in online courses" is needed for online success with students of special needs and learning disabilities (p. 1). Technical issues are also a concern. McCown (2014), when discussing the problems associated with implementing technology and online learning, stated, "one third of the students in one university's blended learning initiative reported technical problems" (p. 3). The research regarding technology verifies the need for additional training and resources, at all levels of education, to ensure success in supplemental opportunities.

7. Conclusion

The consensus among this research is the benefit of a blended model of learning for students with special needs. Traditional approaches to learning continue to have a stronghold in student success and comprehension; however, online supplemental materials increase cognitive understanding. There are multiple tried and true methods developed by pioneers in education that, if used correctly, challenge and engage students of all academic levels. Over the last quarter-century, technological advances have been influential in constructing a new form of learning in education, one designed to provide individualized information to struggling learners through a virtual medium. Online education has firmly cemented a foundation in education, an indisputable and valuable tool for every individual involved in the education spectrum. As the educational community moves forward to provide paramount opportunities for special needs students, the focus has turned toward the integration of the traditional, physical classroom and virtual learning through the blended classroom. The blended classroom room has demonstrated effectiveness in teaching core concepts and increasing the overall assessment of students with special needs and learning disabilities. This form of blended learning, though not new to education, has moved to the forefront of consideration as a method worthy of evaluation and further research.

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