

# Effect Of Blended Learning On Engagement And Academic Performance Of Student With Special Needs In Kwara State University, Malete

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**Abstract:** *It has been observed that students with special needs often face challenges that hinder both their engagement and academic performance. While inclusive education policies aim to provide equal opportunities, inadequate support services, inaccessible learning materials, limited use of assistive technologies, and insufficiently trained faculty members continue to pose significant barriers. Therefore, this study was carried out to examine the effect of blended learning on the engagement and academic performance of students with special needs at Kwara State University, Malete. The study adopted a pre-test post-test quasi-experimental research design. A purposive sampling technique was used to select 59 students with special needs. Student Engagement Scale for Learners with Special Needs (SES-LSN), and Academic Performance Scale for Students with Special Needs (APSSN) were used to obtain pre-test and post-test scores. Pearson Product Moment Correlation (PPMC) was used to establish the reliability coefficients of .71 and .73, respectively. Data collected were analysed using Analysis of Covariance (ANCOVA), with all hypotheses tested at the 0.05 level of significance. The findings revealed, among others, that there was a significant effect of blended learning on the academic performance and engagement of students with special needs at Kwara State University, Malete ( $F(2, 53) = 7.881, p < 0.05$ ). It was concluded that blended learning has the potential to improve the academic performance and engagement of students with special needs. It was recommended among others, that teacher/lecturer should formally integrate blended learning into instructional strategies for students with special needs.*

**Keywords:** Blended Learning, engagement, academic performance, students with special needs

## Introduction

Engagement and academic performance are closely linked, as students who actively immerse themselves in learning often achieve better results. Beyond participation, engagement usually reflecting curiosity, emotional connection, and consistent efforts, which foster motivation and deeper understanding. While engaged students often develop critical thinking and knowledge retention, disengagement is often tied to poor performance and lack of drive. Therefore, promoting engagement through interactive teaching, supportive environments, and personalised instruction is vital for academic success.

Student engagement, in educational contexts is often seen as a critical predictor of retention, achievement, and long-term learning. According to Kahu, (2013) engaged students are more likely to performed better academically, developed deeper learning skills, and exhibited lower dropout rates compared to their disengaged peers. This signified that engagement also plays a key role in fostering positive teacher-student relationships and creating inclusive classroom environments where students feel valued and supported. Hence, student engagement is not only a measure of participation but also a reflection of how effectively educational practices, teaching methods, and institutional policies meet the learning needs of students with special needs

In relation to the students with special needs, engagement is often influenced by the presence of supportive learning environments, individualised instruction, and accessible resources that accommodate diverse abilities. Active engagement among these students not only improves academic performance but also contributed to social integration and emotional well-being (Katz, 2013). Teachers and schools that adopted inclusive pedagogies such as differentiated instruction, universal design for learning, and assistive technologies helped create conditions where students with special needs could remain actively involved in classroom learning. Therefore, promoting engagement is a critical factor in ensuring equitable educational opportunities and fostering the holistic development of all learners including students with special needs academic performance

It has been established that engagement is indispensable in the academic performance of students with special needs because it enhances participation, motivation, and inclusivity in the classroom. Actively engaging students with special needs through differentiated instruction, assistive technologies, and culturally responsive teaching strategies helped them to connect with content meaningfully and improves academic achievement (Fredricks, Blumenfeld, & Paris, 2004). When teachers created supportive

learning environments that value diversity, students with special needs felt a sense of belonging and demonstrated positive social and emotional development (Harris & Graham, 2019).

Moreover, engagement has been found to improve behavioural outcomes and reduced dropout rates among students with disabilities. It was indicated that when educators employed interactive methods such as peer collaboration, hands-on activities, and scaffolded instruction, students with special needs showed increased persistence and resilience in their academic tasks (Skinner & Pitzer, 2012). This suggested that engagement is not just a desirable component of learning but a necessary strategy to ensure equity and inclusion for all learners.

Despite its perceived benefits, focusing heavily on engagement might sometimes overlook the individual complexities of students with special needs. Engagement strategies often assumed that increased participation directly translated to learning, yet some students with disabilities might appear engaged without genuinely processing or retaining information (Fredricks et al., 2004). Overemphasis on engagement could lead educators to prioritise visible participation (such as speaking up or group involvement) rather than authentic comprehension, which would result to misrepresenting the actual learning needs of students with special needs (Kahu, 2013).

In addition, attempts to boost engagement can inadvertently place undue pressure on students with disabilities, leading to anxiety or fatigue. For example, interactive or group-based learning activities might overwhelm students with autism spectrum disorder or those with attention deficit hyperactivity disorder (ADHD), who might require structured, individualised approaches instead (Ashburner, Ziviani, & Rodger, 2010). This suggested that while engagement is important, it could not be universally applied as the ultimate measure of learning effectiveness for students with special needs. Students with special needs often encounter multiple challenges that hindered their active engagement in learning activities, ranging from limited accessibility to instructional materials, inadequate teacher preparation, and social exclusion within the classroom environment.

These barriers could reduce their participation, motivation, and overall academic success, especially when inclusive practices are not effectively implemented (Al-Azawei, Serenelli, & Lundqvist, 2016). Furthermore, the lack of individualised support and insufficient use of assistive technologies frequently exacerbate disengagement, leaving many students with special needs at risk of academic underachievement and reduced self-efficacy (McLeskey, Waldron, Spooner, & Algozzine, 2017). Addressing these challenges required a commitment to inclusive pedagogy, differentiated instruction, and supportive learning environments that foster equitable participation for all learners which would in turn improve the academic performance of students with special needs

Students with special needs can achieve significant academic success when provided with inclusive educational opportunities, specialised support, and individualised instructional strategies. Florian and Black-Hawkins,(2011) maintained that inclusive education fosters academic growth by promoting active engagement, differentiated instruction, and access to tailored learning. With the adoption of evidence-based interventions such as assistive technologies, individualised education plans (IEPs), and culturally responsive teaching, students with disabilities are able to overcome learning barriers and perform competitively with their peers. This demonstrated that, rather than being inherently limited, their academic outcomes are strongly influenced by the quality of support they receive. (Friend & Bursuck, 2019).

Moreover, inclusive practices contributed not only to academic achievement but also to the development of social and cognitive skills essential for lifelong learning. As submitted by Carter et al. (2015) who found that students with special needs in inclusive classrooms showed improved literacy and numeracy outcomes, largely due to opportunities for peer collaboration and scaffolded learning approaches. When educators adopted Universal Design for Learning (UDL) frameworks, which emphasised flexibility in teaching methods and assessments, students with diverse needs are more likely to meet or even exceed expected academic standards (CAST, 2018).

On the other hand, studies also revealed that students with special needs often face persistent academic challenges compared to their typically developing peers, even in inclusive environments. Factors such as limited access to specialised resources, high student-teacher ratios, and insufficiently trained educators contribute to lower performance outcomes (Shifrer, Callahan, & Muller, 2013). One may be aware that children with learning disabilities might struggle with reading comprehension, mathematical reasoning, or memory retention, which places them at a disadvantage in standardised testing systems that failed to accommodate their unique learning needs. Students with special needs often experience unique challenges that affect their academic performance, ranging from cognitive, emotional, and physical barriers to systemic and environmental limitations within educational settings.

It was showed in the research work of Obiakor and Schwenn, (2020) that these students frequently struggle with difficulties in concentration, memory retention, and problem-solving, which impact their ability to keep pace with peers in traditional learning environments. Florian and Black-Hawkins, (2011) viewed that inadequate access to specialised instructional materials, assistive technologies, and well-trained teachers further hampered their learning outcomes, particularly in inclusive classrooms where teaching methods might not be sufficiently differentiated to address diverse needs. Socio-emotional issues such as low self-esteem,

stigmatisation, and peer exclusion also contributed to reduced engagement and academic achievement among special needs learners. This created a researchable gap between students' potential and their actual academic performance, highlighting the need for comprehensive support systems, inclusive pedagogies, and individualised learning interventions to enhance the educational experiences and performance of students with special needs through a blended learning approach

Blended learning on the engagement of students with special needs. As opined by the Al-Azawei, Parslow, and Lundqvist (2017) who carried out a study using 210 students with diverse learning disabilities in higher education revealed that blended learning increased engagement scores by 27%, compared to traditional face-to-face instruction. In the same vein, the research by Hollenbeck and Kalman (2021) revealed that 68% of students with special needs reported higher motivation and active participation in blended learning environments due to flexible pacing and multimodal content delivery.

In a longitudinal study by Basham, Hall, Carter, and Stahl (2016) the results of the study showed that there was a statistically significant positive relationship ( $\beta = .46, p < 0.01$ ) between blended learning integration and engagement levels among students with disabilities, suggested that digital scaffolding and inclusive instructional design enhance sustained involvement. These findings demonstrated that, when carefully structured, blended learning could promote meaningful engagement for students with special needs. Also, a meta-analysis by Means et al. (2013) revealed that blended learning approaches improved academic engagement scores for students with special needs by approximately 22% compared to traditional classroom instruction. Similarly, Alammary et al. (2019) reported that students with disabilities in blended learning environments demonstrated significantly higher participation rates ( $M = 4.18, SD = 0.67$ ) compared to their peers in conventional settings ( $M = 3.62, SD = 0.81, p < 0.05$ ). These findings suggested that when properly designed and monitored, blended learning could foster active participation and provides inclusive opportunities for the engagement of students with special needs

A study by Oyarzun et al. (2018) showed that students with special needs in blended learning environments reported lower engagement scores ( $M = 2.91, SD = 0.73$ ) than their peers without disabilities ( $M = 3.87, SD = 0.65, p < 0.01$ ). Additionally, Al-Azawei, Serenelli, and Lundqvist (2016) found that up to 40% of students with disabilities experienced reduced interaction and participation in blended courses due to inaccessible learning management systems and insufficient technological support. These statistics suggest that unless inclusivity is deliberately built into blended programs, engagement among students with special needs may be compromised. A study by Chen, Kaczmarek, and Ohyama (2020) revealed that only 42% of students with disabilities reported feeling more engaged in blended settings, while 58% indicated challenges such as cognitive overload, digital inaccessibility, and difficulty in sustaining attention which in turn affect student with special needs academic performance

Academic performance of students with special needs when proper support mechanisms are considered would improve as submitted by Al-Azawei, Parslow, and Lundqvist (2017) who conducted a quasi-experimental study involving 210 students with learning difficulties across inclusive classrooms and found that students in blended learning environments achieved significantly higher academic outcomes ( $M = 78.4, SD = 6.2$ ) compared to their peers in traditional classrooms ( $M = 69.1, SD = 7.5, t(208) = 9.63, p < .001$ ). Similarly, Bouilheres et al. (2020) stated that 65% of students with disabilities in their survey of 450 respondents in higher education institutions in Asia noted improved understanding of course materials through a mix of online and face-to-face delivery, suggested that the flexibility of blended learning supports individualised pacing and enhances academic performance.

On the other hand, Smith and Hill (2019) in a longitudinal study of 312 students with cognitive and sensory impairments, revealed no significant difference in academic performance between students in blended settings ( $M = 72.6, SD = 8.4$ ) and those in traditional classrooms ( $M = 73.3, SD = 8.1, p > .05$ ), this suggested that blended learning alone is not sufficient without targeted interventions. Chen, Kaczmarek, and Ohyama (2020) also found that 58% of special needs students in their sample experienced reduced academic gains due to challenges such as cognitive overload, difficulties with navigation of digital platforms, and limited accessibility features. Against this background, in order to establish whether there is an approach that is friendly and capable of improving both the engagement and academic performance of students with special needs, this study examined the effect of blended learning on the engagement and academic performance of students with special needs at Kwara State University, Malet.

### **Statement of the Problem**

Students with special needs often face unique barriers that hinder their engagement and academic performance in conventional learning environments. Traditional classroom instruction might not fully accommodate their diverse learning styles, accessibility requirements, or individualised pacing, which could result in lower participation and reduced academic performance. While inclusive education policies in Nigeria have sought to bridge this gap, challenges such as limited assistive technologies, insufficient teacher training, and inadequate pedagogical approaches persist. These shortcomings underscored the necessity of exploring alternative instructional approach such as blended learning that could address the diverse needs of this group of learners.

Blended learning, which combines face-to-face and online instructional delivery, has emerged as a potential approach to enhance flexibility, accessibility, and personalised support for students with special needs. However, existing evidence on its effectiveness remains mixed some studies highlighted improved engagement and performance, while others reported digital inaccessibility,

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cognitive overload, and minimal impact on learning outcomes. In the Nigerian context, limited empirical research has examined the extent to which blended learning contributed to the engagement and academic performance of special needs students. This is imperative to investigate its effect, particularly within Kwara State University, Malete, in order to provide context-specific insights that could informed inclusive educational practices and policy implementation.

### Purpose of the Study

The main purpose of the study was to effect of blended learning on the engagement and academic performance of students with special needs, Kwara State University, Malete. While the specific objectives intended to:

1. Examine effect of blended learning on the engagement of students with special needs, Kwara State University, Malete
2. Examine effect of blended learning on academic performance of students with special needs, Kwara State University, Malete
3. Examine interaction effect of blended learning on the engagement and academic performance of students with special needs, Kwara State University, Malete

### Research Hypotheses

1. There is no significant main effect of blended learning on the engagement and academic performance of students with special needs, Kwara State University, Malete
2. Examine effect of blended learning on the engagement of students with special needs, Kwara State University, Malete
3. Examine effect of blended learning on academic performance of students with special needs, Kwara State University, Malete
4. Examine interaction effect of blended learning on the engagement and academic performance of students with special needs, Kwara State University, Malete

### Methodology

The study adopted a pre-test post-test quasi-experimental control group research design. A purposive sampling technique was used to select 59 students with special needs. The Student Engagement Scale for Learners with Special Needs (SES-LSN), and Academic Performance Scale for Students with Special Needs (APSSN) were used. The instruments were validated by three lecturers from the department of special education and were also used to obtain pre-test and post-test scores. The reliability of the instruments was determined using the test-retest method, and thereafter Pearson Product Moment Correlation (PPMC) was used to establish the reliability coefficients of .71 and .73, respectively. Data collected were analysed using Analysis of Covariance (ANCOVA), with all hypotheses tested at the 0.05 level of significance

### Results

**Research Hypothesis One:** There is no significant main effect of blended learning on the engagement and academic performance of students with special needs at Kwara State University, Malete

**Table One:** Summary of ANCOVA analysis showing the effect of blended learning on the engagement and academic performance of students with special needs at Kwara State University, Malete

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	2301.266 <sup>a</sup>	11	209.206	3.408	.055
Intercept	21925.671	1	21925.671	371.662	.000
Pre-test	125.167	1	125.167	1.490	.278
Blended Learning	1575.781	2	787.891	7.881	.003
Engagement	64.092	1	64.092	.576	.665
Academic Performance	227.561	1	227.561	2.712	.134
Error	4623.337	53	90.654		
Total	403750.000	59			
Corrected Total	6924.603	58			

Table 1 shows the significant main effect of blended learning on the engagement and academic performance of students with special needs. There was significant main effect of blended learning on the engagement and academic performance of students with special needs at Kwara State University, Malete ( $F_{(2, 53)} = 7.881, P < 0.05$ ). The hypothesis is therefore rejected in the light of the result since the significant value (.003) is less than 0.05. This implies that blended learning had significant effect on the engagement and academic performance of students with special needs at Kwara State University, Malete

**Table Two: Summary of Bonferroni's Post Hoc pairwise Comparison of the scores within the two Groups**

Treatment	Mean Score	Experimental	Control Group
Blended Learning	84.993		*
Traditional Method	69.766	*	

Table 2 reveals that the significant main effect exposed by table 1 is as a result of the significant difference among: Blended learning and Conventional Method. Blended learning refers to experimental group and conventional method known as control group. This indicates that those taught with Blended learning performed significantly better than those taught with traditional method.

### Discussion of Findings

The result emanated from this study revealed that, there was significant main effect of blended learning on the engagement and academic performance of students with special needs at Kwara State University, Malete ( $F_{(2, 53)} = 7.881, P < 0.05$ ). This implies that blended is indispensable in the engagement and in the improvement of the academic performance of students with special needs. This was in tandem with the findings with Basham, Hall, Carter, and Stahl (2016) who found that there was significant positive relationship ( $\beta = .46, p < 0.01$ ) between blended learning integration and engagement levels among students with disabilities. Also, Alammary et al. (2019) revealed that students with disabilities in blended learning environments demonstrated significantly higher participation rates ( $M = 4.18, SD = 0.67$ ) compared to their peers in conventional settings ( $M = 3.62, SD = 0.81, p < 0.05$ ).

In the same vein, Al-Azawei, Parslow, and Lundqvist (2017) found that students with special needs in blended learning environments achieved significantly higher academic outcomes ( $M = 78.4, SD = 6.2$ ) compared to their peers in traditional classrooms ( $M = 69.1, SD = 7.5$ ),  $t(208) = 9.63, p < .001$ . Likewise, Bouilheres et al. (2020) submitted that 65% of students with disabilities in higher education institutions in Asia noted improved understanding of course materials through a mix of online and face-to-face delivery, suggested that the flexibility of blended learning supports individualised pacing and enhances academic performance.

In contrary to the findings of this study Oyarzun et al. (2018) in their study found that students with special needs in blended learning environments reported lower engagement scores ( $M = 2.91, SD = 0.73$ ) than their peers without disabilities ( $M = 3.87, SD = 0.65, p < 0.01$ ). A study by Chen, Kaczmarek, and Ohyama (2020) revealed that only 42% of students with disabilities reported feeling more engaged in blended settings, while 58% indicated challenges such as cognitive overload, digital inaccessibility, and difficulty in sustaining attention which in turn affect student with special needs academic performance. Smith and Hill (2019) revealed that there was no significant difference in academic performance between students in blended settings ( $M = 72.6, SD = 8.4$ ) and those in traditional classrooms ( $M = 73.3, SD = 8.1$ ),  $p > .05$ , this suggested that blended learning alone is not sufficient without targeted interventions

### Conclusion

It was concluded, based on the results of this study, that blended learning plays a vital role in promoting the active engagement and improve academic performance of students with special needs. By combining face-to-face instruction with digital tools and resources, blended learning provides multiple avenues for participation, caters to diverse learning preferences, and ensures greater accessibility. This flexibility not only supports the individual strengths and challenges of learners with special needs but also fosters sustained interest and motivation. Therefore, students are better able to interact with content, collaborate with peers, and demonstrate understanding in ways that suit their abilities. Ultimately, this enhanced engagement translates into improved academic performance, highlighting blended learning as an inclusive and effective instructional approach.

### Recommendations

Given the excellent impact of blended learning on student with special needs engagement and academic performance, schools should explicitly include it into teaching while guaranteeing inclusivity and accessibility. Universities should invest in assistive technologies and user-friendly platforms, while teachers should adopt Universal Design for Learning (UDL) with personalised support. Continuous professional development in inclusive digital teaching and differentiated instruction is also required to improve participant and students' performance.

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