Multidisciplinary Journal of Vocational Education & Research; Vol.8 No.1, August 2026, pg.65 - 80; ISSN(Print): 2630 – 7081

PERCEIVED INFLUENCE OF BLENDED LEARNING AND COLLABORATION STRATEGY ON THE ACADEMIC ACHIEVEMENT OF SECONDARY SCHOOL BUSINESS STUDIES STUDENTS IN ANAMBRA STATE

CHIMA CHIZOBA FLORENCE
Department of Vocational Education
Chukwuemeka Odumegwu Ojukwu University, Igbariam
Email: chimafloxy2@gmail.com

CHINWE SUSSAN OGUEJIOFOR
Department of Vocational Education
Chukwuemeka Odumegwu Ojukwu University, Igbariam
Email: chysussyogu@gmail.com

VIRGINIA NKECHI OKEKE (Ph.D)
Department of Vocational Education
Chukwuemeka Odumegwu Ojukwu University, Igbariam
Email: vn.okoeke@coou.edu.ng
https://orchid/0000-0002-0362-3858

Abstract
This study ascertained the perceived influence of blended learning and collaboration strategy on the academic achievement of secondary school business studies students in Anambra State. Three research questions guided the study and three hypotheses were formulated and tested at 0.05 level of significance. The study adopted descriptive survey research design. The population of the study consists of 5660 business studies teachers from six education zones in Anambra State. The sample size of the study was 374 business studies teachers from six education zones in Anambra State. Two instruments were used for data collection namely: Blended Learning Questionnaire (BLQ) and Collaboration Strategy Questionnaire (CSQ). The instruments were subjected to face and content validation from three experts. The instruments were pilot tested and the data obtained were subjected to test for internal consistency using Cronbach alpha and academic achievement was ascertained using Kuder-Richardson formula 21 (K – R 21) which yielded a coefficient value of 0.75. Cronbach Alpha reliability coefficient was used for the reliability of the instrument and an overall reliability coefficient value of 0.81 was obtained which indicate that the instrument were reliable. The researcher administered 374 copies of the instruments personally to the respondents in their schools with the aid of research assistants who were teachers in the area and were briefed on the method of administration of the instrument. Out of 374 copies of questionnaires administered to the respondents, 369 were retrieved indicating 95% response rate. Data collected from the respondent were

analyzed using descriptive statistics of Mean and standard deviation and t-test was used to test the null hypotheses. The findings revealed that the mean result indicates that business studies teachers agree that supplemental model, replacement model, and fully online model has perceived influence on the academic achievement of business studies students in Anambra State. Also, there is no significant difference in the mean ratings on how Supplemental model, replacement model, fully online model influences the Academic Achievement of Business Studies Students in secondary schools in Anambra State. Based on the findings of the study, the researcher concluded that the usage of blended learning models and collaboration strategy types improves the academic achievement of business studies students in secondary schools in Anambra State. It was recommended that curriculum planners and school management should encourage teachers to use the models and strategies in teaching business studies in secondary schools in Anambra State to ensure excellence in academic achievement of business studies students.

Keywords: Supplemental Model, Replacement Model, Fully Online Model and Academic Achievement

INTRODUCTION

Education is the systematic development and cultivation of intellectual powers through the transmission of ideas, attitude and values from one generation to another. It is seen as a process that enables individuals to acquire the necessary skills and norms for material, spiritual, and cultural survival within their community or environment. The importance of education in national development is to shape the psychological attitudes and physical skills that contribute to societal transformation. Education serves as a tool for societal progress, and its transformative power is particularly crucial in the context of African countries (Akinwale, 2023). Education plays a crucial role in fostering national progress in Nigeria by equipping individuals with the necessary knowledge and skills for development and socio-economic progress. Education is recognized as a fundamental human right and a key factor in promoting sustainable development, enabling individuals to function effectively in various environments. However, education in Nigeria has impacted various sectors such as technology, industry, health, law, security, and agriculture, contributing to economic growth, improved living standards, political stability, and infrastructural development. Education is a potent vehicle for national transformation and a veritable platform for youths to realize their intellectual potential, develop their abilities and follow their aspirations. Education broadens opportunities and bulbs capacities. Education determines the kind of future any nation want to have. Indeed, any nation's future socio-economic success depends on the ability of its people to deal with a global environment that is knowledge driven. Education has been considered as a crucial tool created to promote positive

social adjustment and rapid progress in countries and nations around the world, particularly in terms of socio-economic, scientific and technological advancement (Lawal, 2021). Education provides for the creation of awareness, acquisition of requisite skills and knowledge that enable an individual function properly in a society. The educational system in Nigeria comprises of three levels; the primary education, secondary education and tertiary education and the focus of this study is on secondary education.

Secondary education is a crucial tier in the hierarchy of education in Nigeria and the form of education that students receive after their primary education (Okeke et al., 2024). Okeke et al. further stated that it completes the provision of basic education that began at the primary level and aims at laying the foundations for lifelong learning and human development, by offering more subjects or skill-oriented instruction using more specialized teachers because it is the pivot of higher education in that it influences to a large extent the quality of the input and output from tertiary institutions. Secondary education is the type of education that children receive after primary school. The secondary school has two stages covering six years duration. The first stage runs classes from J.S.S 1 to J.S.S 3. At the end of J.S.S 3, the students are required to sit for and pass the junior secondary school certificate examination (JSSCE). The second stage runs classes from SS1 to SS3 at the senior secondary level of education. At this level, the student's ability, attitude and interest is considered in subject selection. Although he/she is guided with compulsory, field of study, technology, humanities and business studies. Evaluation and certification is based on the continuous assessment and external examination like WASC and NECO. However, junior secondary school is seen as a talent hunting stage in which children are exposed to both academic and prevocational subject with a view to identifying their attitude and talents. Those that could not cope with formal education are expected to acquire some vocational skills and the vocational skills are mainly embedded in business studies at that stage. Oguejiofor and Onyiora (2023) posited that business studies are that part of the curriculum that enables the student to make informed decisions in the everyday business of living. Business studies is a pre-vocational subject offered at the junior secondary school level to expose the students to general business knowledge and basic skills in office practice, shorthand, commerce, book keeping, keyboarding and computer literacy (Federal Ministry of Education in Olamide,2024). Business Studies helps students develop basic skill in office occupation and personal use as well as prepare them for further training (Ogbaga et al., 2021).

Business studies is a programme designed to enable students acquire practical vocational skills, attitudes, knowledge and competencies in the society. Business studies involve attitude, aptitude, knowledge, understanding and skills in business activities for business and employment in the world of work. This attitude, aptitude, knowledge, skills and understanding in the subject is a gate way to job creation, self-employment

after graduation, and career growth thereby contributing to the economic growth, sustainability and development of the nation. Dikeocha (2024) averred that business studies refer to the study of those components of business subjects which will lead an individual into understanding the business world. Business studies plays a pivotal role in preparing students for future career prospects and fostering their understanding of economic and business concepts (Liadi, 2024). Liadi further asserted that business studies encompass vocational education that covers areas such as economics, commerce, bookkeeping, accounts, business mathematics, typing, and shorthand. It is on this basis that the Federal Government of Nigeria (FGN) (2013) stated in her National Policy on Education that the objective of business studies is to equip the students with basic business skills. It also aims at preparing them for further studies in business courses at the senior secondary school level and into tertiary institution. Business studies are seen as a discipline that fosters logical, analytical, and creative thinking and the ability to focus deeply and think with clarity and precision. A deeper connection to the practicalities of business studies can also increase student interest, retention and academic achievement, leading to better results. However, the focus of this study is on academic achievement.

Academic achievement is a multifaceted construct that determines how successful students performed in various examinations. Dosunmu and Adetayo (2021) opined that academic achievement of a student determines how well the student had mastered what had been taught and this leads to determining the grades scored by all the students, and further determines the students who are to move to the next class. Academic achievement is a test for the measurement and comparison of skills in various fields of academics or study (Oguejiofor & Eya, 2022). Madigan and Curran (2020) stressed that academic achievement can be measured in many ways which includes specific test performances (e.g., exams), overall class performances (for example grades), or composite performance metrics that are aggregated across classes (for instance grade point average or GPA). Academic achievement is the knowledge, skills, success and development instilled in students by the teacher in school (Carter & Goodin Ozcan, 2021). Zhou (2022) stated that academic achievement is a direct manifestation of learning effectiveness and a valid indicator to evaluate the effectiveness of teaching and education in higher education as well as the overall development of students.

The problem of poor academic achievement at the secondary school level of education in Nigeria has been widely documented. Record from Anambra State Universal Basic Education Board (ASUBEB, 2023) revealed the performance of all the junior secondary school candidates that registered for the Basic Education Certificate Examination (BECE) organized by Examination Development Centre (EDC) between 2021 and 2023. ASUBEB (2021), 41.97% performed well while 53.03% recorded poor performance. In 2022, 42.26% was good performance and 57.74% was

recorded as poor performance while in 2023, 45.27% was good performance and 58.72% was recorded as poor performance. This is an indication that the major problem facing the educational system in Nigeria is the abysmal failure of students in public examinations, particularly in business studies at the secondary school level of education. Notwithstanding, certain strategies could be put in place to help low achieving students improve academically. The strategies may include the use of self-regulated teaching strategy, role playing teaching method, problem-based teaching method, team teaching, case-based teaching method, simulation method, discussion method, peer tutoring, programmed teaching, project method of teaching, field trip, discovery method, cooperative learning, demonstration, collaboration teaching method, blended learning. However, the present study is based on blended teaching method.

Blended learning, also known as mixed-mode instruction or technology-mediated instruction or web-enhanced instruction or hybrid learning is an instruction that combines online educational materials and opportunities for interaction online with traditional physical place-based classroom methods. Blended learning requires the physical presence of both teacher and student, with some elements of student control over time, place, path, or pace or place. Students still attend conventional schools with a teacher present, face-to-face classroom practices are combined with computer-mediated activities regarding content and delivery. It is also used in professional development and training settings. Moses et al. (2021) averred that blended learning extends teaching and learning beyond the classroom walls, developing critical thinking, problem solving, communication collaboration and global awareness. In blended learning, a student can also learn from social interaction, whether face-to-face or online and get immediate feedback. Blended learning is one of the learning methods that combines face-to-face learning in the classroom and online learning that uses electronic media (Anak, 2020). Blended learning is defined as integrating face-to-face classrooms learning, computer-based learning, internet-based learning and associated mobile learning, by applying suitable teaching strategies that help in enhancing the learning objectives (Cecilia in Alajwaleen, 2024). As a result of using technology in teaching and learning, it also offers learners a wider exposure to the course content since they may learn from any corner of the world (Messaoud, 2022). Blended learning reflects more conscious and intentional approach in designing optimal instruction or learning environments following the strategy of blending components while the blended character of traditional instructional contexts is largely the result of habit (tradition), convenience or happenstance (Rossett & Frazeein Mondal, 2019).

Blended learning methodology allows students to demonstrate greater responsibility in terms of their own commitment to the learning process, which leads to greater motivation and more satisfactory results (Aleb & Labed, 2021). Cronje (2020) proposed that a definition of BL must

contain context, theory, method, and technology. Supporting technologies like learning management systems, virtual and remote laboratories, interactive quizzes, and remote invigilation, as well as enabling technologies like 4G/5G communication systems, big data and data analytics, artificial intelligence, sensors, and the Internet of things, and augmented and virtual reality, are crucial for an effective transition from traditional teaching to online or remote teaching and learning (Reine et al., 2021; Salta et al., 2022). Additionally, the incorporation of devices like computers, cellphones, tablets, and cloud-based resources into educational institutions has changed how instruction is delivered (Bati & Workneh, 2021; Dudar et al., 2021). Using blended learning models (BLMs) in the classrooms has various advantages for teachers, including more convenient teaching resource storage, greater communication, and freedom to roam around the classroom with the resource materials (Tuma, 2021). As a result, many people are adopting new technology to enhance their learning overall (Amankwah-Amoah et al., 2021; Egielewa et al., 2022; Poquet & De Laat, 2021). Mishra and Devi (2022) expressed that to execute the mixed learning, six models ought to be hypothesized, specifically: supplemental model, replacement model, emporium model, completely online model, buffet model, and linked workshop model. This study adopted the view of Mishra and Devi on six models of blended learning which includes supplemental model, replacement model, emporium model, completely online model, buffet model, and linked workshop model. This study concentrated on supplemental model, replacement model, completely and online model.

Supplemental Instruction (SI) sessions are peer-facilitated, structured study sessions designed to help students in challenging business studies which is seen as “gateway” courses in secondary schools. In SI, students learn from experienced peers who have been successful in that subject and are recommended by a course teacher. This strategy allows one teacher to work with students at their expected grade level while the other teacher works with those students who need the information and/or materials re-taught, extended, or remediated. For instance, one teacher works with students who need a concept re-taught while the other teacher extends the concept for remaining students. Olatunde-Aiyedun and Adams (2022) averred that supplemental learning is a mixed learning that supplements conventional course or educating growing experience by utilizing innovation-based materials, items and talks or out-of-class exercises. Supplemental learning is an approach to education that goes beyond the traditional classroom curriculum. It involves providing additional educational activities and resources to enhance a student learning experience. It is an addition to regular classroom learning that helps children explore subjects in more depth and introduces them to new topics that are not covered in their school syllabus. It is not meant to replace regular classroom instruction but rather to add value to it. It can fill gaps in the curriculum or provide opportunities for students to delve deeper into

business studies. Supplemental learning has the potential to significantly enhance the student's educational experience in several ways. Firstly, it offers a broader and deeper understanding of subjects that go beyond the standard school curriculum. This means that the student can explore areas of personal interest with more depth and detail. Additionally, it introduces them to a wider spectrum of topics, allowing for a more diverse and well-rounded education. Supplemental learning is also great because it lets students to learn at their own pace. Every student learning at a different pace, and extra learning resources can adjust to that. If a student needs more time to understand something, they can spend more time on it. On the other hand, if they already understand something well, they can move ahead faster. This helps students stay interested and not get bored or frustrated while learning. Supplemental instruction is said to have promoted the active participation of students, increased collaborative learning spirit among students and served as a means of getting feedback from students (Adebola, 2020; Budiharso & Tarman, 2020; Double et al., 2020). The supplemental model as a peer-assisted learning strategy can be fully online or virtual classroom to avoid interference with normal classroom activities.

Fully online model or virtual classroom is where all coursework is taken remotely or off-site and the teacher or teachers are online. The fully online model eliminates all in-class meetings and moves all learning experiences online. In fully online model, individual teachers design and deliver multiple course sections, each of which is relatively small in size, web-based materials are used largely as supplemental resources rather than as substitutes for direct instruction and instructors are responsible for all interactions, personally answering every inquiry, comment, or discussion. In this model educators are not liable for all co operations, addressing each question exclusively, remark, or conversation (Ekpo & Aiyedun, 2020). Fully online instruction may be an attractive alternative for cost reasons if it is equivalent to traditional face-to-face instruction in terms of student outcomes (Barbara et al, 2024). The online driver model focuses completely on instruction through the Internet and generally resonates with independent learners (Guido, 2024). It adopts successful design elements of replacement models including Web-based, multi-media resources, commercial software, automatically evaluated assessments with guided feedback, links to additional resources and alternative staffing models.

Replacement models are a form of blended learning that replace some scheduled in-person class sessions with online learning. For instance, instead of meeting Monday to Friday in-person each week, the class might meet in person only on Monday to Thursday with Friday activities being done online. The replacement model of blended learning substitutes online content and activities for portions of in-class class time and reduce face-to-face class time. The replacement model also changes the way that the face-to-face class time is structured: class time is dedicated more to interactive activities and peer-to-peer or student-to-instructor collaboration that cannot be conducted as easily online. The replacement model of blended learning

is perhaps one of the more widely used and promoted models for blended learning course design, partly because it: helps to mediate the "course and a half" syndrome of some of the other models by focusing on the reduction of in-class/seat time, often leverages an online micro-lecture style that makes efficient use of lecture materials and online lecture delivery, promotes efficiency of both in-class and online time and engages students with the course content in both the face-to-face and the online environments. This model replaces some homeroom time (eye to eye collaboration time) with on the web, intuitive exercises (Olatunde-Aiyedun & Adams, 2022). This model plans understudies by perusing the reading material, finishing tasks, and utilizing web-based assets (Chowdhury, 2020).

Several studies have examined the perceived influence of blended learning and collaboration strategy and found it could be used to enhance collaboration, knowledge, critical thinking skill and self-directed learning skill in other subject areas like flow experience (Tang et al,2023),English (Kusuma, 2020) and chemistry (Edem et al., 2023).However, a lot of research has been carried out on blended learning and collaboration strategy with little or no consideration given to ascertain the perceived influence of blended learning models and types of collaboration strategy on the academic achievements of secondary school business studies students in Anambra State. It is with this background that this study was considered imperative.

Statement of the Problem

Academic achievement in Business Studies is a core goal of basic education, as it equips students with the knowledge, skills, and values needed for effective participation in business and management. However, performance data from the Anambra State Basic Education Certificate Examination [BECE] indicate persistent underachievement in the subject. Records from the Anambra State Universal Basic Education Board [ASUBEB] show that between 2021 and 2023, the majority of junior secondary students recorded poor performance in Business Studies. In 2021, only 41.97% achieved a pass, while 53.03% performed poorly. The trend continued in 2022, with 42.26% recording good performance against 57.74% poor performance, and in 2023, 45.27% passed compared to 58.72% who failed. This persistent poor performance suggests that current instructional approaches are not effectively facilitating learning in Business Studies. For many years, teachers have relied predominantly on conventional lecture methods, which emphasize oral presentation and teacher-centered delivery. While this method allows coverage of broad content and easy monitoring, it limits student interaction, active participation, and transfer of learning. Effective learning in Business Studies requires instructional strategies that promote active engagement, collaboration, and practical application. Blended learning and collaborative learning strategies are known to increase student participation, provide individualized attention, and improve knowledge retention. Despite their

potential, the extent to which these strategies influence students' academic achievement in Business Studies in Anambra State has not been adequately researched. Therefore, the problem of this study is that students' academic achievement in Business Studies remains low, possibly due to the continued reliance on conventional teaching methods that do not adequately promote learner participation. This study seeks to determine the perceived influence of blended learning and collaborative learning strategies on the academic achievement of secondary school students in Business Studies in Anambra State.

Research Questions

The following research questions guided the study.

1. What is the perceived influence of supplemental model on the academic achievement of business studies students in Anambra State?
2. What is the perceived influence of replacement model on the academic achievement of business studies students in Anambra State?
3. What is the perceived influence of fully online model on the academic achievement of business studies students in Anambra State?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. Supplemental model would not significantly influence the academic achievement of business studies students in Anambra State.
2. Replacement model would not significantly influence the academic achievement of business studies students in Anambra State.
3. Fully online model would not significantly influence the academic achievement of business studies students' business studies in Anambra.

METHOD

The study adopted descriptive survey research design. Nworgu (2015) stated that, descriptive surveys are studies which aim at collecting data on, and describing in a systematic manner, the characteristics, features or facts about a given population using questionnaire. Descriptive survey research design is considered most appropriate for the study because a questionnaire was used to elicit the opinions of business studies teachers regarding the perceived influence of blended learning and collaboration strategy on the academic achievement of secondary school students' in business studies in Anambra State. The research was conducted in Anambra state. Anambra State is located in the south eastern part of Nigeria. The population for the study consists of 5660 business studies teachers who are

teaching business studies in the 267 public secondary schools in the 6 education zones in Anambra state. The study employed a simple random sampling technique to select respondents from the population. The sample was determined using Taro Yamane's formula. Given a population size of 5660 and a margin of error of 0.05, the calculation sample size is 374. Two instruments were used for data collection namely: Blended Learning Questionnaire (BLQ) and Collaboration Strategy Questionnaire (CSQ). And Business Studies Achievement Test (BEAT)was used to ascertain the academic achievement of business studies students. The instruments were developed by the researcher, based on the reviewed literature and research questions guiding the study. The instruments used for data collection were subjected to face and content validation by three experts. To establish the reliability of the instrument, a pilot test was carried out. The data that was obtained from their responses were subjected to reliability analysis using Cronbach Alpha. Data collected from the respondent were analyzed using descriptive statistics of Mean and standard deviation. The mean value was used to answer the research questions while the standard deviation was used to ascertain the homogeneity or otherwise of the respondent ratings.

RESULTS

Analysis of Research Questions

Research Question 1: What is the perceived influence of supplemental model on the academic achievement of business studies students in Anambra State?

Table 1: Mean and Standard Deviation on Supplemental Model on the Academic Achievement of Business Studies Students in Anambra State

S/N	Item Statement	Mean	Standard Deviation	Remark
1	I regularly integrate online resources to compliment classroom teaching	3.94	0.74	Agree
2	I provide clear instructions on how students should use supplemental materials	3.62	0.61	Agree
3	I provide clear instructions on how students should use supplemental materials	3.73	0.56	Agree
4	Supplemental model makes my teaching more effective	4.01	0.76	Agree
5	The supplemental use of online tools enhances my student's outcomes	3.89	0.73	Agree
6	I have access to platform necessary for supplemental teaching	3.52	0.70	Agree
7	I am satisfied with the use of supplemental model of blended learning	3.78	0.63	Agree
8	Supplemental model of blended learning broadens the business studies student's intellectual horizon	4.03	0.83	Agree
9	Business studies student's confidence are boosted using the SI instruction	3,57	0.64	Agree
10	Supplemental model of blended learning fosters the business studies student's critical thinking skills	3.54	0.71	Agree
Aggregate		3.76	0.69	Agree

Data presented in Table 1 show the mean responses on the supplemental model on the academic achievement of business studies students in Anambra State. The Table shows the mean responses range from 3.54-4.03 whiles the standard deviation range from 0.56-0.83. The

mean results indicate that the business studies teachers agree with all the 10 items of supplemental model on the academic achievement of business studies students in Anambra State. The aggregate mean of 3.76 indicates that the business studies teachers perceived supplemental model as adequate in teaching of business studies at junior secondary schools in Anambra State.

Research Question 2: What is the perceived influence of Replacement model on the academic achievement of business studies students in Anambra State?

Table 2: Mean and Standard Deviation on Replacement Model on Academic Achievement of Business Studies Students

S/N	Item Statement	Mean	Standard Deviation	Remark
11	I am able to align content with in-class activities	3.94	0.72	Agree
12	I am confident in using digital tools to deliver online content	3.82	0.68	Agree
13	I have adequate access to ICT resources to implement this model	4.02	0.75	Agree
14	Replacement model improves the quality of classroom interactions	3.55	0.87	Agree
15	Students are motivated to complete online activities	3.62	0.80	Agree
16	Students show improved performance when online tasks replace lecture	3.74	0.71	Agree
17	Replacement model of blended learning reduces actual class meetings	3.64	0.85	Agree
18	Business studies students are faced with a lot of challenges in using replacement model of blended learning	3.73	0.73	Agree
19	Replacement model of blended learning increases flexibility	3.88	0.77	Agree
20	Replacement model of blended learning allows for the integration of diverse learning activities	3.93	0.74	Agree
	Aggregate	**3.79**	**0.76**	**Agree**

Data presented in Table 2 show the mean responses on the replacement model on the academic achievement of business studies students in Anambra State. The Table shows the mean responses range from 3.55-4.02 whiles the standard deviation range from 0.68-0.87. The mean results indicate that the business studies teachers agree with all the 10 items of replacement model on the academic achievement of business studies students in Anambra State. The aggregate mean of 3.79 indicates that the business studies teachers' perceived replacement model as ideal in teaching of business studies in secondary schools in Anambra State.

Research Question 3: What is the perceived influence of Fully Online model on the academic achievement of business studies students in Anambra State?

Table 3: Mean and Standard Deviation on Fully Online Model on Academic Achievement of Business Studies Students

S/N	Item Statement	Mean	Standard Deviation	Remark
21	I am engaging in online discussion frequently	3.33	0.75	Agree
22	I interact with students in the fully online model regularly	3.38	0.80	Agree
23	I experienced technical issues with the online platform	3.25	0.78	Agree
24	Fully online model eliminates face to face meetings	3.40	0.63	Agree
25	I am not fully responsible for interactions with the students	3.11	0.70	Agree
26	In fully online model lesser time is required in teaching the students	3.16	0.93	Agree
27	Fully online model reduces boredom	2.87	1.16	Agree
28	Learning are highly promoted with fully online model	2.96	1.03	Agree
29	I receive support on technical issues challenges	3.06	0.90	Agree
30	Fully online model develops of digital literacy	2.75	1.03	Agree
	Aggregate	**3.12**	**0.80**	**Agree**

Data presented in Table 3 show the mean responses on the Fully Online Model on Academic Achievement of Business Studies Students. The Table shows that the mean responses range from 2.75 to 3.40, while the standard deviation range from 0.63 to 1.16. The mean results indicate that the business studies teachers agree with all the 10 items of Fully Online Model on Academic Achievement of Business Studies Students. The aggregate mean of 3.12 indicates that business studies teachers perceived fully online model as effective in teaching business studies in secondary school in Anambra State.

Analysis of Hypotheses

Hypothesis1: Supplemental model would not significantly influence the academic achievement of business studies students in secondary schools in Anambra State.

Table 4: t-test on Supplemental Model on the Academic Achievement of Business Studies Students in Anambra State

Model	N	Mean	Std.Dev.	Df	t-value	P-value	Decision
Supplemental	374	3.06	0.611	351	0.991	0.322	Not Significant

Table 4 shows the results of the t-test about how the Supplemental Model influences the Academic Achievement of Business Studies Students in secondary schools in Anambra State. The Table shows that the mean 3.06 is not significant ($t = 0.991$, $p = 0.322$). This means that the null hypothesis is not rejected. Hence, there is no significant difference in the mean ratings on how business studies teachers perceived Supplemental Model on the

Academic Achievement of Business Studies Students in secondary schools in Anambra State.

Hypothesis2: Replacement model would not significantly influence the academic achievement of business studies students in Secondary Schools in Anambra State.

Table 5: t-test on Replacement Model on the Academic Achievement of Business Studies Students in Anambra State

Model	N	Mean	Std.Dev.	df	t-value	P-value	Decision
Replacement	374	3.23	0.658	351	0.259	0.796	Not Significant

The results of Table 5 depict the t-test about how the Replacement model influences the academic achievement of business studies students in Anambra State. The Table shows the mean of the Replacement model on the academic achievement of business studies students in secondary schools in Anambra State (M = 3.23) is not significant (t = 0.259, p = 0.796). The results indicate that the null hypothesis is not rejected. Therefore, there is no significant difference in the mean ratings on academic achievement of business studies students in secondary schools in Anambra State using replacement model as perceived by business studies teachers

Hypothesis3: Fully online model would not significantly influence the academic achievement of business studies students' business studies in Anambra.

Table 6: t-test on Fully Online Model on the Academic Achievement of Business Studies Students in Anambra State

Model	N	Mean	Std.Dev.	Df	t-value	P-value	Decision
Fully Online	374	3.21	0.696	351	0.275	0.784	Not Significant

Data shown in Table 16 represent the results of the t-test about how fully online model influences the Academic Achievement of Business Studies Students in Anambra State. The Table shows that the mean (M = 3.21) is not significant (t = 0.275, p = 0.784). This means that the null hypothesis is not rejected. Thus, there is no significant difference in the mean ratings on academic achievement of business studies students in the usage of fully online model as perceived by business studies teachers in secondary schools in Anambra State.

Conclusion

Education is the systematic development and cultivation of intellectual powers through the transmission of ideas, attitude and values from one generation to another. From the findings of the study, it is evident that the business studies teachers perceived the models of blended learning (supplemental model, replacement model, fully and online model) to enhance the academic achievement of business studies students in secondary schools in Anambra State.

Recommendations

Based on the findings and conclusion of the study, the following recommendations are made:

1. Curriculum planners and school administrators should integrate blended learning models and collaborative learning strategies into the teaching of Business Studies in secondary schools in Anambra State, and provide the necessary support to facilitate their adoption by teachers.
2. Business studies teachers should periodically be monitored by the school management to ensure adequate use of these models and strategies.
3. School management should allocate enough time in the teaching of business studies to secondary school students in order to achieve success.

REFERENCES

Abdel-Haq, E.M. (2021). The Blended Learning Model: Does It Work? Sohag University International *Journal of Educational Research, (3),* 29-39

Abubakari , A., Nabie , M. J., Adusei , M. S., & Zuberu , M. B. (2023). The Effectiveness of the "Think-Pair-Share" Cooperative Learning Approach in the Teaching of Mensuration to Senior High School Students. *Journal of Global Research in Education and Social Science*, *17*(4), 63–74.

Abuh, Y.P. (2021). Influence of Gender on Students' Academic Achievement in Science and Technology Education When Taught Using Innovative Strategies. *African Journal of Science, Technology and Mathematics Education (AJSTME), 7(1):* 14-20.

Adebola, O. O. (2021). Supplemental Instruction as a Tool for Students' Academic Performance in Higher Education. *Journal of Culture and Values in Education*, *4*(2), 42-51. https://doi.org/10.46303/jcve.2021.4

Adebola, O.O. (2020). The use of supplemental instruction in university classrooms as a strategy to enhance the academic performance of first-year students. *Universal Journal of Educational Research*, (8)11B, 6289-6296.

Chowdhury, F. (2020). Blended learning: How to flip the classroom at HEIs in Bangladesh? *Journal of Research in Innovative Teaching & Learning, 13*(2), 228-242. https://doi.org/10.1108/JRIT-12-2018-0030

Ekpo, C. G., & Aiyedun, T. G. (2020). Effect of integration of photographic album teaching strategy on students' performance in environmental education. *The Environmental Studies Journal: A Multidisciplinary Journal, 3*(1) 15-33. 4

Green, C., Molloy, O. & Duggan, J. (2021). An empirical study of the impact of systems thinking and simulation on sustainability education. *Sustainability*, *14*(1), 394. https://doi.org/10.3390/su14010394

Jekayinfa, O., Adeniyi-Egbeola, F. O., Daramola, D. S., Awoyemi, A. O, & Okesina, F. A. (2023). A comparative analysis of gender trend in academic achievement among history graduates of a University in Nigeria. *Interdisciplinary Journal of Education Research, 5*, 14-23

Lee, S., Lo, Y. G., & Chin, T. (2019). Practicing multiliteracies to enhance EFL learners' meaning making process and language development: A multimodal problem-based approach. *Computer Assisted Language Learning*, *34*(1-2), 66-91. https://doi.org/10.1080/09588221.2019.1614959

Mende, S., Proske, A., & Narciss, S. (2020). Individual preparation for collaborative learning: Systematic review and synthesis. *Educational Psychologist*, 29-53 doi:10.1080/00461520.2020.1828086

Mendoza, A., & Venables, A. (2023). Attributes of blended learning environments designed to foster a sense of belonging for higher education students. *Journal of Information Technology Education: Research, 22,* 129- 156.

Musa, F. L, Adamu, I.&Umar I. (2023). Assessment of implementation of business studies curriculum in government junior secondary schools in Bauchi South Geopolitical Zone, Bauchi State, Nigeria. *Sapientia Foundation Journal of Education, Sciences and Gender Studies (SFJESGS), 5 (2), 73 – 88.*

Musa, O. S. (2020). Objectives of business education for national development**.** *Journal of The Business of Education (JTBE),3 (1),* 247-254

Oguejiofor, c.s. & Eya, E. I.(2022**)**.Influence of computer-based learning and web-based learning on academic achievement of business education students in tertiary institutions in Anambra State. *Global Journal of Education, Humanities and Management Sciences (GOJEHMS); 4 (1), 131 – 142.*

Okoye, A.C. & Anaso, U. J. (2025). Influence of collaborative teaching approaches on the academic achievement of business education students in tertiary institutions in Anambra State. *Irish Journal of Educational Practice, 8 (02*), 107-126.

Olamide, G. B. (2024). Teachers and students' perceptions toward business studies *in public junior secondary schools in Ondo State, Nigeria*. *AAU Journal of BusinessEducators, 4(2)*, *29-35.*

Olatunde-Aiyedun, T. G., & Adams, S. O. (2022). Effect of Blended Learning Models on Students' Academic Achievement and Retention in Science Education. *Eurasian Journal of Science and Environmental Education, 2*(2), 35-42. https://doi.org/10.30935/ejsee/12613

Oluwalola, F. K. (2018). Students' perceptions of teachers' attitude to teaching of business studies in junior secondary schools in lagelu local government, Oyo state. *Unilorin. Journal of Lifelong Education 2* (2)75-83

Reine, R., Juwono, F. H., & Wong, W. K. (2021). Reinventing the future online education using emerging technologies. *Green Intelligent Systems and Applications, 1*(1), 26-36. https://doi.org/10. 53623/gisa.v1i1.42

Saber H, Abdul Manaf R, Basman AT, Sanip S, Lee PY, Kamalludeen R, Ibrahim R, Amin-Nordin S. (2022). Challenges and barriers of blended learning among Asian health sciences students: a pilot study. *Education in Medicine Journal, 14(1):*1–16. https://doi.org/10.21315/ eimj2022.14.1.1

Sahin, D., & Yilmaz, R. M. (2020). The effect of augmented reality technology on middle school students' achievements and attitudes towards science education. *Computers & Education*, *144*, 103710. https://doi.org/10.1016/j.compedu.2019.103710

Salma, N. (2020). Collaborative Learning: An Effective Approach to Promote Language Development. *International Journal of Social Sciences and Educational Studies*. doi:10.23918/ijsses.v7i2p57

Salame, I. I. (2021). The impact of supplemental instruction on the learning achievements and attitudes of organic chemistry students. *Interdisciplinary Journal of Environmental and Science Education*, *17*(2), e2232. https://doi.org/ 10.21601/ijese/9330

Smith, E., & Johnson, M. (2020). Impact of simulation-based learning on elementary students' reading comprehension skills. *Journal of Educational Technology Systems, 49*(2), 212-231. https://doi.org/10.1016/j.nedt.2012.06.018

Stephen, M. R., & Makoji-Stephen, A. (2023). Issues and Challenges in the Implementation of Blended Learning in Higher Education Institutions (HEI's) in Nigeria. *International Journal of Public Administration and Management Research* ,*8*(6), 42-50.

Talan, T. (2021). The Effect of Simulation Technique on Academic Achievement: A Meta-Analysis Study. *International Journal of Technology in Education and Science, 5 (1),* 17-36

Yakubu, A.A., Nwaba, A.A,.& Emmanuel, S.J.A. (2023). Simulation technique as a strategy for enhancing students academic achievement in physics, Kogi State, Nigeria. *International Journal of Research in Education Humanities and Commerce, 02(05)*,42-50.