Social Media-Mediated Instruction and Academic Achievement in Business Education: A Facebook-Based Quasi-Experimental Study in Nigerian Colleges of Education

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DOI: https://doi.org/10.47772/IJRISS.2026.1026EDU0196

Received: 10 December 2025; Accepted: 16 December 2025; Published: 25 April 2026

ABSTRACT

This study examined the effect of social media-mediated instruction on the academic achievement of NCE II Business Education students in Nigerian Colleges of Education, using Facebook as the main instructional platform. A quasi-experimental pretest-posttest non-randomised control group design was used with two intact classes (N = 182). Students in the experimental group (n = 50) learned through a closed Facebook group, while the control group (n = 132) received lecture-based instruction. Data were collected with the Business Education Practicum Achievement Test (KR-20 = 0.83) and analysed using mean scores, analysis of covariance and multiple classification analysis. Students exposed to the Facebook-mediated approach achieved significantly higher post-test scores than those taught through lectures, and the treatment effect was statistically significant ($F(1,177) = 77.68$, $p < .05$). Gender and treatment-gender interaction effects were not significant. The findings show that familiar social media platforms can serve as viable instructional environments in teacher education when used with clear academic tasks, lecturer guidance, and sustained interaction. The study concluded that guided use of Facebook can enhance achievement without disadvantaging either gender, and that familiar platforms can be repurposed for learning if lecturers are trained, institutional expectations are clear, and students are supported with access and digital discipline.

Keywords: Facebook instructional strategy; academic achievement; Business Education; social media; higher education

INTRODUCTION

The rapid integration of digital technologies into educational environments has transformed how learners access, process, and use their knowledge. Across higher education, social media platforms have moved beyond casual networking to become spaces that support communication, collaboration, and feedback, and sustain academic interactions. Literature reviews indicate that the educational question is no longer whether students use social media, but rather how platforms already familiar to them can be aligned with clear pedagogical goals, assessment tasks, and institutional support structures (Chugh & Ruhi, 2018; Purvis et al., 2020; Demir, 2024).

Within this broader digital shift, Facebook remains especially relevant in many developing-country settings because it is already embedded in students' everyday communication practices and accessible via mobile phones. In contexts where learning management systems may be adopted unevenly and classroom resources are constrained, a guided Facebook-based strategy can offer continuity of interaction before, during, and after a class. Recent studies have shown that social media can support engagement, collaborative learning, and academic performance when its use is structured around educational tasks rather than left as unregulated social activity (Alshuaibi et al., 2021; Masalimova et al., 2023; Alshammari et al., 2024).

Business Education is a vocational discipline that prepares learners for careers in accounting, entrepreneurship, office technology and management, marketing, and other work-related functions. Effective teaching in the field, therefore, requires active engagement, peer interaction, reflection and opportunities to apply ideas to realistic professional situations. However, the lecture method remains the dominant mode of instruction in many Nigerian Colleges of Education despite evidence that passive, teacher-centred approaches often limit collaboration and reduce sustained attention to learning tasks (Eze et al., 2016; Nannim et al., 2023). A pedagogical strategy that connects formal instruction with students' familiar digital routines may therefore be especially useful for Business Education Programme courses.

Facebook provides several pedagogically significant features that support learning, including closed groups, flexible-pace discussions, and multimedia sharing, which facilitate rapid instructor feedback and peer-to-peer collaboration. Earlier work on Facebook in higher education linked the platform to stronger sense of learning, classroom community and connectedness (Barczyk & Duncan, 2013, 2014), while more recent studies emphasise that the value of social media depends on instructional design, social regulation and the degree to which activities are integrated with course outcomes (Purvis et al., 2020; Shafiq & Parveen, 2023; Demir, 2024).

Despite this potential, empirical evidence from Nigerian Colleges of Education remains limited, particularly in Business Education and in quasi-experimental classroom conditions. This study addresses that gap by examining whether students taught using Facebook Instructional Strategy (FIS) achieve higher post-test scores than students taught using the conventional lecture method. The paper is relevant to the Journal of Research in Innovative Teaching & Learning because it evaluates an innovative, practice-oriented teaching intervention with clear implications for curriculum design, digital pedagogy and institutional policy.

Statement Of the Problem

Although digital tools are increasingly available in education, many Nigerian tertiary institutions still depend heavily on lecture-based pedagogies. In Business Education, this reliance is problematic because the discipline requires interaction, demonstration, collaboration and reflective engagement. Existing evidence points to declining performance in practical and professional courses and to the need for more interactive instructional strategies (Eze et al., 2016; Shafiq & Parveen, 2023). However, Facebook, which many students are using, remains underused for formal instruction. The central problem addressed in this study is whether Facebook-mediated teaching can enhance academic achievement more effectively than the conventional lecture method in Colleges of Education.

Purpose Of the Study

The main purpose of the study was to determine the effect of Facebook Instructional Strategy on the academic achievement of Business Education students. Specifically, the study sought to:

1. Determine the difference in achievement scores of students taught using Facebook and those taught using lecture method.
2. Examine gender differences in achievement among students taught using Facebook.
3. Determine gender differences among students taught using lecture method; and

Research Questions

The following three questions guided this study:

RQ1. What is the difference in the achievement scores of students taught using Facebook Instructional Strategy and those taught using lecture method?

RQ2. What difference exists between the post-test achievement scores of male and female students taught using Facebook?

RQ3. What difference exists between the post-test achievement scores of male and female students taught using lecture method?

Hypotheses

H01: There is no significant difference between the achievement scores of students taught using Facebook and those taught using lecture method.

H02: There is no significant difference between the achievement scores of male and female students.

LITERATURE REVIEW

Conceptual Review

Facebook was originally designed as a social networking platform but has evolved into a multifunctional digital ecosystem that supports communication, collaboration and content sharing (Kaplan & Haenlein, 2010). In educational contexts, features such as groups, comment threads, file sharing, livestreams and messaging can be adapted to support class communication and peer interaction. Reviews focused specifically on Facebook in higher education conclude that the platform can facilitate community building, resource sharing and informal-to-formal learning connections when educators set clear rules and learning purposes (Chugh & Ruhi, 2018; Manca & Ranieri, 2016).

Several scholars note that Facebook enhances learning by enabling student-student and student-teacher interaction, strengthening classroom community and extending learning beyond classroom time (Barczyk & Duncan, 2013; Hurt et al., 2012; Purvis et al., 2020). The platform can also support collaborative knowledge construction by allowing learners to ask questions, upload examples, revisit earlier discussions, and receive feedback at their own pace. In resource-constrained environments, these features are valuable because they leverage technology that students already possess rather than requiring a more sophisticated learning management infrastructure.

Academic achievement refers to measurable learning outcomes that reflect students' mastery of knowledge and skills taught in educational contexts. In Business Education, achievement includes not only factual knowledge but also the ability to interpret work situations, communicate effectively and apply professional behaviours relevant to office and entrepreneurial settings (Armstrong, 2006; NCCE, 2012). Because practicum-related courses require active participation and repeated engagement with applied examples, instructional methods that promote continuity of interaction are likely to support achievement more strongly than one-directional lectures.

Facebook Instructional Strategy refers to the systematic integration of Facebook tools, such as closed groups, guided discussion threads, uploaded notes, and multimedia posts, into teaching and learning activities. The strategy is not merely the use of Facebook as a notice board; rather, it involves designing weekly learning cycles in which the lecturer posts materials, students respond, peers explain ideas to one another, and the lecturer moderates the discussion. In this sense, FIS is a structured digital pedagogy intended to increase autonomy, peer collaboration and sustained academic engagement.

THEORETICAL FRAMEWORK

This study is anchored in Connectivism and Astin's Student Involvement Theory. Connectivism argues that learning occurs through the formation of networks and connections across digital spaces, with knowledge distributed among people, tools and information nodes (Siemens, 2004). Social media platforms fit this model because they allow learners to locate information, interact with others, test understanding and co-construct meaning in networked environments. Demir's (2024) taxonomy of social media for learning further reinforces the view that social media can align with specific educational objectives when learning activities are intentionally designed.

Astin's (1984) theory proposes that learning outcomes are closely related to the time and psychological energy students invest in learning activities. A platform such as Facebook can increase involvement by extending

opportunities for interaction, enabling learners to revisit materials repeatedly and making participation more immediate. In effect, FIS combines the networked logic of Connectivism with the emphasis on engagement of Student Involvement Theory, making both frameworks useful for understanding how guided Facebook use may influence academic achievement.

Empirical Review

Empirical studies generally suggest that social media can have positive academic effects when used for learning purposes and negative effects when use is mainly recreational or addictive. Barczyk and Duncan (2014) reported that Facebook use in higher education can strengthen students' sense of learning and connectedness. Chen (2014) likewise found that students taught through Facebook groups performed better than those taught through alternative platforms. In the Nigerian context, Etim et al. (2016) showed that a Facebook instructional package improved students' achievement in Economics, indicating that the platform can be educationally productive in local settings when activities are structured.

In synthesising the evidence, Masalimova et al. (2023) reviewed studies on social networking sites and university students' academic performance. They concluded that many studies report positive and significant relationships, although negative effects also appear when social media use becomes distracting, compulsive or insufficiently regulated. Chugh and Ruhi (2018) similarly found that Facebook-based educational use often improves communication and collaboration, but that outcomes depend on careful course integration. These reviews suggest that the platform itself does not guarantee learning gains; the crucial factor is how educators design, moderate and align it with academic tasks.

Recent research continues to highlight both opportunity and caution. Alshammari et al. (2024) found that social media can strengthen learning in higher education when factors such as usefulness, institutional support and students' attitudes encourage purposeful adoption. Shafiq and Parveen (2023) linked social media usage to academic performance and engagement in higher education, again underlining that the educational value of social media depends on how it is used. Nannim et al. (2023) also highlighted the need for policy guidance in Nigerian universities to ensure that social media use in school settings supports learning rather than distracts from it.

Studies on gender in digitally supported learning environments are less conclusive. Hegadi and Angadi (2015) found no significant difference between male and female students in Facebook-based instruction, while Chukwuere and Chukwuere (2020) reported comparable academic effects across genders in a South African university context. Olumorin et al. (2023) likewise found no significant gender differences in digital pedagogical contexts in Colleges of Education. Taken together, these studies suggest that when the instructional environment is well structured, the benefits of social-media-supported learning may be broadly inclusive.

However, important gaps remain. Very few studies have investigated Facebook use in formal practicum-related Business Education courses in Nigerian Colleges of Education. Fewer still use a quasi-experimental design that compares Facebook-based teaching with lecture-based instruction and examines the effects of gender and treatment interactions. This study responds to those gaps by providing field-based evidence from a real instructional setting.

METHOD

Research Design

The study adopted a quasi-experimental pretest-posttest non-randomised control group design. This design was appropriate because intact classes were used, and random assignment of participants to experimental conditions was not feasible. The design enabled comparison of learning outcomes between students taught using the Facebook Instructional Strategy (FIS) and those taught using the conventional Lecture Teaching Method (LTM).

The design structure is shown in Table A.

Group	Pre-test	Treatment	Post-test
Experimental	O1	FIS	O2
Control	O1	LTM	O2

Table A. Design structure of the study.

The use of ANCOVA allowed for control of initial group differences and strengthened the design's internal validity despite the lack of random assignment.

Area of Study

The study was conducted in South-West Nigeria, one of the country's six geopolitical zones. The region comprises Ekiti, Lagos, Ogun, Ondo, Osun and Oyo states and hosts a large number of Colleges of Education offering Business Education. The region was selected because it has a high concentration of relevant institutions, high student use of mobile and social media tools, and no known prior quasi-experimental study on Facebook Instructional Strategy in Business Education Practicum.

Population of the Study

The population comprised 2,916 NCE II Business Education students across 18 accredited Colleges of Education in South-West Nigeria (NCCE, 2012; institutional records, 2015/2016 session). NCE II students were selected because they had completed foundational Business Education courses, had more stable ICT exposure than NCE I students and were available on campus, unlike many NCE III students who were on teaching practice.

Sample and Sampling Techniques

A sample of 182 students was selected from two Colleges of Education using purposive and simple random sampling procedures.

Two colleges were selected based on internet availability, the presence of NCE II Business Education students, and institutional willingness to support ICT-based experimentation.

The experimental group comprised 50 students from Adeyemi College of Education, Ondo, while the control group comprised 132 students from Federal College of Education (Special), Oyo.

To participate in the experimental group, students were required to have an active Facebook account, at least 1 year of Facebook use, access to a reliable internet connection, and willingness to participate in the online activities. These criteria were necessary to ensure that the intervention could be implemented consistently.

Instrumentation

Data were collected using the Business Education Practicum Achievement Test (BEPAT), a 50-item multiple-choice test developed by the researcher from four topics taught during the intervention, namely: Introduction to Business Education Practicum, Personal Skills in Work Settings, Human Relations and Social Skills, and Time and Stress Management.

Each item carried two marks, giving a maximum obtainable score of 100. The items were generated from a table of specifications to ensure balanced content coverage. The pretest version was reshuffled and re-administered as the post-test to reduce recall bias while maintaining equivalence.

Validity and Reliability of the Instrument

The BEPAT instrument underwent face and content validation by three experts in Business Education, Computer Science, and Measurement and Evaluation. Their feedback informed revisions to item wording, distribution and overall content coverage.

The internal consistency of the instrument was established through a pilot administration to 10 Business Education students outside the main study, producing a KR-20 coefficient of 0.827. A reliability coefficient in this range indicates that the instrument was sufficiently stable to measure classroom achievement.

Experimental Procedure

During week 1, participants were sensitised to the study; the BEPAT pretest was administered to both groups; and the control lecturer and experimental facilitator were briefed on the treatment procedures.

From weeks 2 to 5, the experimental group used a closed Facebook group titled "BIZEDU PRACTICUM FORUM". The lecturer posted weekly lesson notes, infographics, videos and downloadable materials. Students responded through comments and questions, peers explained ideas to one another, and the lecturer provided feedback and clarification. Participation was monitored through activity logs. The control group was taught the same topics through face-to-face lectures, note dictation, board work, and instructor-led explanations. Both groups received two hours of instruction per week for four weeks.

In week 6, both groups took the BEPAT post-test. A delayed post-test was conducted two weeks later to assess retention, but those results are reported separately and are not the focus of the present paper.

Control of Extraneous Variables

Selection bias was controlled statistically through ANCOVA; contamination was minimised by using geographically separate colleges; teacher effects were reduced through standardised lesson plans; attrition was monitored throughout the study; and novelty effects in the Facebook group were moderated through a one-week orientation before the main intervention.

Method of Data Analysis

Descriptive statistics (mean and standard deviation) were used to answer the research questions. Inferential statistics comprised Analysis of Covariance (ANCOVA) to test treatment effects while controlling for pretest scores, and Multiple Classification Analysis (MCA) to estimate adjusted means. Hypotheses were tested at the 0.05 level of significance using SPSS version 23.

RESULTS

This section presents the study's findings in relation to the research questions and hypotheses. For clarity and to meet journal preflight requirements, each statistical table is cited explicitly in the discussion that precedes or follows it.

Research Question 1

What is the difference in the achievement scores of students taught Business Education Practicum using Facebook Instructional Strategy (FIS) and those taught using Lecture Teaching Method (LTM)? The descriptive statistics are presented in Table I.

Table I. Pretest and post-test achievement scores by instructional method (N = 182).

Instructional method	n	Pretest mean	Post-test mean	Mean gain
Facebook (experimental)	50	59.00	70.12	11.12
Lecture (control)	132	48.85	53.48	4.63

As shown in Table I, students in the Facebook group recorded a higher pretest mean (59.00) than the control group (48.85), indicating an initial group difference. After the intervention, however, the Facebook group achieved a markedly higher post-test mean (70.12) than the lecture group (53.48), resulting in a mean gain of 11.12, compared with 4.63 for the control group. The descriptive pattern, therefore, suggests a substantially stronger achievement effect for the Facebook Instructional Strategy.

Research Question 2

What is the difference in the post-test achievement scores of male and female students taught using Facebook Instructional Strategy? The relevant descriptive statistics are shown in Table II.

Table II. Post-test mean scores by gender in the experimental group (n = 50).

Gender	n	Post-test mean
Male	25	68.32
Female	25	71.92

Table II shows that female students (71.92) slightly outperformed male students (68.32) in the Facebook group. The mean difference of 3.60 points is modest and, as later confirmed by the ANCOVA result, does not amount to a statistically significant gender effect.

Research Question 3

What is the difference in the post-test achievement scores of male and female students taught using Lecture Teaching Method? The result is presented in Table III.

Table III. Post-test mean scores by gender in the control group (n = 132).

Gender	n	Post-test mean
Male	35	50.94
Female	97	54.39

In Table III, female students (54.39) again recorded a somewhat higher post-test mean than male students (50.94) under the lecture method. The difference is small and does not, on its own, demonstrate a significant gender effect.

Hypothesis Testing

Hypothesis 1 stated that there is no significant difference between the academic achievement scores of students taught using FIS and those taught using LTM. The ANCOVA summary testing this claim is presented in Table IV.

Table IV. ANCOVA summary for the effect of treatment on achievement.

Source	SS	df	MS	F	p
Corrected model	14824.04	4	3706.01	73.80	.000
Pretest	4311.77	1	4311.77	85.86	.000
Treatment	3900.98	1	3900.98	77.68	.000*
Gender	194.07	1	194.07	3.87	.051

Treatment x gender	56.51	1	56.51	1.13	.290
Error	8888.51	177	50.22		

The ANCOVA results in Table IV indicate that treatment had a statistically significant effect on academic achievement after controlling for pretest scores, $F(1,177) = 77.68$, $p < .05$. Hypothesis 1 is therefore rejected. Gender did not reach statistical significance ($F = 3.87$, $p = .051$), and the interaction between treatment and gender was not significant ($F = 1.13$, $p = .290$). These results indicate that the Facebook treatment improved achievement, but that the magnitude of improvement did not differ significantly by gender.

To clarify the magnitude of the treatment effect after adjusting for pretest differences, the adjusted means are shown in Table V.

Table V. Multiple classification analysis of treatment effects on adjusted post-test means.

Treatment	n	Adjusted mean	Deviation from the grand mean
Facebook	50	66.49	+12.07
Lecture	132	54.85	-4.57

Table V confirms that even after adjustment for initial differences, the Facebook group remained clearly ahead of the lecture group. The adjusted mean difference of 11.64 points (66.49 - 54.85) strengthens the conclusion that the instructional strategy itself contributed meaningfully to the observed achievement advantage.

SUMMARY OF KEY FINDINGS

Facebook's instructional strategy significantly increased achievement scores compared with the lecture method.

Both male and female students benefited similarly from Facebook-based instruction.

The Facebook group recorded almost double the descriptive learning gain observed in the lecture group.

The adjusted mean difference remained substantial even after controlling for pretest scores.

DISCUSSION OF FINDINGS

The purpose of this study was to examine the effect of Facebook Instructional Strategy (FIS) on the academic achievement of Business Education students in Colleges of Education in South-West Nigeria. The findings are discussed below in relation to the research questions, hypotheses and relevant literature.

Effect of Facebook Instructional Strategy on Academic Achievement

The study found a significant difference in achievement scores between students taught using the Facebook Instructional Strategy and those taught using the Lecture Teaching Method. Students exposed to Facebook obtained substantially higher post-test scores and adjusted means than their counterparts taught through conventional lectures. Both the descriptive results in Table I and the inferential results in Table IV point in the same direction: the difference was not only visible but also statistically robust after controlling for initial group differences.

This finding supports earlier work linking guided Facebook use to stronger academic outcomes. Chen (2014) found that students using Facebook groups outperformed those taught through other online systems. Hegadi and Angadi (2015) also reported that Facebook-based instruction improved achievement in Educational Psychology, while Etim et al. (2016) found a positive effect of Facebook instructional packages in Economics. The present study extends this line of evidence to the Business Education Practicum in Nigerian Colleges of Education,

thereby contributing context-specific evidence to a literature that remains relatively sparse in teacher-education settings.

One plausible explanation for the strength of the Facebook effect is that the intervention converted a platform already familiar to students into a guided academic environment, instead of asking students to learn a new platform, the strategy embedded teaching within an interface they already knew how to navigate. This reduced technological friction, making it easier for students to focus on the content itself. It also extended academic interaction beyond scheduled classroom time, giving students repeated opportunities to revisit posts, respond to questions, download materials and learn from peer contributions.

The finding also aligns with broader scholarship that emphasises the importance of intentional design in social-media-supported learning. Chugh and Ruhi (2018) argued that Facebook supports higher education most effectively when instructors define clear academic purposes and actively moderate participation. Purvis et al. (2020) similarly showed that social media use in learning depends on the intersection of personal, pedagogical and institutional factors. In the present study, the intervention was not casual or unregulated; it was structured around weekly instructional cycles, lecturer feedback and course-relevant materials. That level of design likely explains why the platform supported rather than distracted learning.

Recent studies strengthen this interpretation. Masalimova et al. (2023) concluded from their systematic review that social networking sites are often associated with positive relationships with academic achievement when used for educational rather than recreational purposes. Shafiq and Parveen (2023) also linked social media use to student engagement and academic performance in higher education. In the same vein, Alshammari et al. (2024) found that social media can positively influence higher education learning where students perceive the tools as useful and where institutional conditions support meaningful educational use. The present findings are consistent with this contemporary evidence base.

The effect is also understandable from the perspective of Connectivism and Student Involvement Theory. Through the Facebook group, students engaged in repeated questioning, commenting, peer explanation and lecturer-student exchange. Those activities created a networked learning environment in which understanding developed through interaction rather than one-way transmission. At the same time, the strategy increased student involvement by encouraging attention, time on task and academic energy beyond the physical classroom. In practical terms, Facebook functioned as a low-cost extension of the classroom rather than as a mere social distraction.

Gender Differences in Achievement under Facebook and Lecture Conditions

Although female students recorded slightly higher post-test means than male students in both the Facebook and lecture groups, the differences were not statistically significant. This finding suggests that the instructional strategy benefited both genders in broadly similar ways. In other words, the achievement advantage associated with Facebook did not depend on the learner's sex.

This result corroborates Hegadi and Angadi (2015), who found no significant gender difference in Facebook-based instruction, and it also aligns with Chukwuere and Chukwuere (2020) and Olumorin et al. (2023), both of whom reported minimal or non-significant gender differences in digitally supported learning contexts. The implication is important for teacher education: social media-supported pedagogy, when properly structured, appears capable of fostering inclusive participation rather than reproducing gendered disadvantage.

The nature of the intervention may explain the non-significant gender effect. All participants in the Facebook group were required to meet the same participation conditions, receive the same materials, and interact within the same closed digital space. These common conditions may have reduced variability associated with informal technology use. Instead of asking whether one gender 'naturally' benefits more from social media, the study points toward a more useful conclusion: well-designed digital pedagogy can create equivalent learning opportunities across gender groups.

Theoretical, Pedagogical and Policy Implications

The findings provide direct support for Connectivism by demonstrating that learning can be strengthened through networked interactions among learners, guidance from lecturers, and digital content in a continuous instructional space (Siemens, 2004; Demir, 2024). They also support Astin's (1984) view that achievement rises when students invest more time and psychological energy in learning. In this study, Facebook increased opportunities for interaction, questioning, and review, thereby intensifying academic involvement.

Pedagogically, the results show that Facebook can function as more than a communication tool. It can operate as a discussion forum, resource bank, feedback channel and collaborative learning space. These functions are especially relevant in practicum-related courses where students benefit from seeing examples, discussing workplace behaviours and reflecting on professional scenarios. Rather than replacing classroom teaching, Facebook served as a complement that deepened interaction and made the learning process more continuous.

For Business Education and teacher education more broadly, the study highlights the value of using low-cost, already-familiar technologies to support innovative teaching. In contexts where formal learning management systems may be underused or inconsistently available, a closed Facebook group can offer a realistic transitional model for digital pedagogy. This is particularly important in Nigeria, where resource constraints often make the adoption of high-cost technology difficult. However, the finding should not be interpreted as support for unrestricted social media use. The evidence here favours structured, moderated and academically focused integration.

At the institutional level, the results suggest three priorities. First, Colleges of Education should invest in campus connectivity and lecturer development so that digital pedagogy is practical and sustainable. Second, curriculum planners and regulators should frame social media not merely as an informal student activity but as a potential instructional tool when aligned with course outcomes. Third, institutions should establish clear guidance on online participation, privacy, and academic conduct so that social media-supported learning remains educationally purposeful.

Research Limitations and Implications for Further Study

Although the findings are strong, the study has limitations that should be acknowledged. The design involved only two Colleges of Education and one course, which limits the scope for broad generalisation. The treatment and control groups were also unequal in size, and intact classes were used rather than random assignment. While ANCOVA helps address baseline differences, statistical adjustment cannot eliminate all sources of selection bias in field settings.

A second limitation concerns the scope of outcomes measured. The present study focuses on academic achievement, while the delayed post-test on retention is reported elsewhere. The study also did not include qualitative evidence on students' experiences of the Facebook group, so some mechanisms behind participation and engagement must be inferred from the instructional design and quantitative outcomes. Future studies could combine achievement testing with interviews, analytics or observation of discussion quality to provide a richer account of how learning unfolds in social-media-supported environments.

A third limitation is contextual. The intervention required students in the experimental group to have active Facebook accounts and reliable access to internet-enabled devices. While this was necessary for implementation, it may exclude some learners in less connected settings. Future research could compare Facebook with other widely used platforms, such as WhatsApp, Telegram or institutionally managed learning systems. It could also investigate whether similar effects emerge in other Business Education courses, in other geopolitical zones, or with larger and more balanced samples.

These limitations do not weaken the central contribution of the study; rather, they clarify the boundaries of the evidence. The present study provides a credible demonstration that structured use of Facebook can improve achievement in one important teacher-education context. Further work can now build on this by examining sustainability, transferability, and the relationship among platform design, self-regulation, and learning outcomes.

CONCLUSION

This study investigated the effect of Facebook Instructional Strategy on the academic achievement of Business Education students in Southwestern Nigerian Colleges of Education. The evidence showed that students taught through Facebook significantly outperformed those taught through the conventional lecture method. The advantage remained substantial even after adjustment for pretest differences, while gender and treatment-gender interaction effects were not statistically significant.

The findings, therefore, confirm that Facebook can serve as an effective pedagogical tool when it is intentionally structured around course content, lecturer moderation, and collaborative learning tasks. In the context of Business Education Practicum, the platform supported interaction, continuity of learning and active student involvement in ways that lecture-only instruction did not. The study's contribution lies not in claiming that all social media use is beneficial, but in showing that guided, curriculum-linked use of a familiar platform can improve achievement in a real classroom context.

For Colleges of Education and similar institutions, the implication is both practical and theoretical: innovative teaching does not always require expensive new systems. Familiar platforms can be repurposed for learning if lecturers are trained, institutional expectations are clear, and students are supported with access and digital discipline.

RECOMMENDATIONS

1. Lecturers in Colleges of Education should adopt the Facebook Instructional Strategy as a complement to classroom teaching when course objectives require interaction, discussion, and resource sharing.
2. Curriculum planners and the National Commission for Colleges of Education should formally recognise structured social-media-supported pedagogy within Business Education curricula and practicum guidelines.
3. Colleges of Education should organise professional development workshops to prepare lecturers to design, moderate, and assess social media-supported learning activities.
4. School administrators and government agencies should improve internet connectivity and access to digital resources on campuses to enable equitable implementation of technology-supported teaching.
5. Students should be oriented to use social media responsibly for academic purposes, including class discussion, collaborative assignments and access to instructional materials.
6. Further studies should examine long-term effects, compare Facebook with other platforms, and incorporate qualitative evidence on student engagement patterns.

Submission Declarations

Conflict of Interest: The author declares no conflicts of interest related to this study.

Funding: The author received no specific funding for this work.

Ethics Statement: The study involved student participants in classroom settings. Participants were sensitised about the study, and participation in the Facebook-based activities was voluntary. No personally identifying data are reported in the manuscript. Formal committee approval details were not documented in the source study, and this is acknowledged for transparency.

Data Availability Statement: The data supporting the findings consist of de-identified achievement test scores and related study materials. These materials are not posted in a public repository, but de-identified data may be made available by the author on reasonable request.

Declaration of Generative AI and AI-assisted Technologies in the Writing and Revision Process

The author used Grammarly and ChatGPT (OpenAI) solely for language polishing, sentence-level editing, and formatting of author-generated content. No AI tool was used to determine the study design, generate the data,

perform the statistical analysis, or make the study's findings and conclusions. The author critically reviewed all edits and accepts full responsibility for the final manuscript.

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