

IMPACT OF TEACHING PRACTICE ON INSTRUCTIONAL MATERIAL UTILIZATION AND SUBJECT MATTER MASTERY SKILLS OF BUSINESS EDUCATION STUDENTS IN COLLEGES OF EDUCATION IN ADAMAWA STATE, NIGERIA

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Abstract

This study determined the impact of teaching practice on instructional material utilization and subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria. Two specific purposes guided the study, with two corresponding research questions and two null hypotheses tested at 0.05 level of significance. A survey research design was adopted for the study. The population comprised 387 business education students in colleges of education across Adamawa State, and due to the manageable size, the entire population was utilized. A structured questionnaire titled "Impact of Teaching Practice on Teaching Skills of Business Education Students Questionnaire" (ITPTS BESQ) was developed by the researcher on a 4-point rating scale. The instrument was validated by three experts in research methodology from Modibbo Adama University, Yola. A pilot test was conducted at Federal College of Education (Technical), Gombe, to establish the reliability of the instrument, and Cronbach Alpha coefficient analysis yielded a reliability coefficient of 0.739. Research questions were answered using mean and standard deviation, while the hypotheses were tested using Simple Linear Regression at 0.05 level of significance. The findings revealed that teaching practice had a significant impact on instructional material utilization skills and subject matter mastery skills of business education students. The study concluded that teaching practice exerts positive and significant impact on the nature and quality of instructional material utilization skills and subject matter mastery skills among business education students in colleges of education in Adamawa State, Nigeria. Based on the findings, the study recommended that government should extend and implement the proposed stipend for students on teaching practice to enable them procure equipment for improvising and utilizing instructional materials in teaching and learning processes. Additionally, admission into business education programmes should be strictly merit-based to admit competent candidates who can effectively master subject matter, thereby enhancing effective curriculum delivery in colleges of education in Adamawa State, Nigeria.

Keywords: Teaching Practice, Teaching Skills, Instructional Materials Utilization, Subject Matter Mastery, Business Education, Colleges of Education.

Introduction

Teachers do not merely impart knowledge; they inspire and motivate students throughout their lives and guide them in making important life decisions. To qualify as a teacher in a Business Education programme, students must successfully complete all required courses in addition to undergoing a six-month teaching practice exercise, as stipulated by the National Commission for Colleges of Education (NCCE, 2018). Teaching practice refers to the systematic preparation of student-teachers for the teaching profession through practical training encompassing teaching methods, strategies, principles, techniques, and engagement in various daily school activities.

According to Akinboye (2019), "the term teaching practice embraces all the learning experiences of student-teachers in schools." Teaching practice occupies a key position in teacher preparation programmes. To improve the teaching profession in Nigeria, the National Universities

Commission (NUC), in its Benchmark Minimum Academic Standards for undergraduate programmes in Nigerian universities (2007), stipulates that all education students in universities must undergo a compulsory teaching practice exercise as a necessary condition for graduation. This requirement is also reflected in the Colleges of Education Minimum Academic Standards of the National Commission for Colleges of Education (NCCE). To produce competent business education teachers, the NCCE (2015) the supervisory organ of NCE programmes mandated that all NCE graduates undergo six months of teaching practice training under the cooperation of the training institution and practicing schools. Through this exercise, student teachers acquire essential teaching and classroom performance skills that are crucial for effective teaching and learning. Wagaman (2020) pointed out that teaching practice is a necessary and important step toward becoming a certified teacher, as it allows student teachers to build a portfolio and apply some of their best teaching skills.

The performance of teaching practice provides a basis for predicting the future success of teachers. The entire process involved in teaching practice is an important contributing factor to the quality of teacher education programmes. During teaching practice, interaction with students in schools provides a high degree of emotional stability for student-teachers, as the socialization process enables them to gain experience by connecting with the culture of teaching while feeling engaged, challenged, and empowered (Trowbridge, 2024). Teaching skills (TS) refer to the mental activities including thinking, remembering, learning, and using language that teachers employ in the classroom. Teaching skills focus on the understanding of information and concepts, relating concepts, breaking down information, and rebuilding it with logical connections to increase material retention and understanding. The teaching skills approach emphasizes the development of thinking skills and processes as a means to enhance learning. The objective of teaching skills is to enable all students to become more strategic, self-reliant, flexible, and productive in their learning endeavors (Scheid, 2019).

Teaching skills (TS) encompass the mental activities including thinking, remembering, learning, and language use that teachers employ in classroom settings. These skills focus on understanding information and concepts, relating concepts, breaking down information, and rebuilding with logical connections to enhance material retention and comprehension. The teaching skills approach emphasizes developing thinking skills and processes as means to enhance learning outcomes. Scheid (2019) notes that the objective of teaching skills is to enable all students to become more strategic, self-reliant, flexible, and productive in their learning endeavors. According to Halpern (2016), teaching skills are based on the assumption that identifiable cognitive strategies, previously believed to be utilized only by exceptional students, can be taught to most students. This study specifically focuses on two teaching skills: instructional material utilization and subject matter mastery.

Instructional materials constitute essential tools needed for teaching and learning school subjects, promoting teacher efficiency and improving student performance. They render learning more interesting, practical, realistic, and appealing while enabling both teachers and students to participate actively and effectively in lesson sessions. They facilitate acquisition of skills and knowledge and foster development of self-confidence and self-actualization (Ajemba et al., 2020). Matazu (2022) established a strong connection between utilization of instructional materials and students' performance in business-related subjects. Munnir and Musa (2020) reported similar findings for other subjects. Ahmed et al. (2022) contend that secondary school students perform poorly in business subjects because instructional materials are either inadequately available or available but inadequately utilized. Nuhu et al. (2021) lamented that mastery of business concepts might not be fully achieved without the use of instructional materials. Relevant and appropriate instructional materials help arouse and sustain interest, concretize ideas, and stimulate students' imaginations, thus enhancing student achievement (Mustapha et al., 2022).

According to Akanbi (2018), instructional materials are aids "designed to enrich the teaching and learning processes and hence contribute to better learning". Adesola et al. (2022) defined instructional materials as any animate materials or inanimate objects, as well as human and nonhuman resources, that a teacher may use in teaching and learning situations to facilitate desired learning outcomes. Similarly, Mustapha et al. (2022) defined instructional materials as teaching and learning resources employed by teachers to assist in providing information for attaining required learning experiences. Therefore, instructional materials encompass all resources intentionally used by teachers to impact students' learning during instruction. Olatunde (2021, as cited in Ajemba et al., 2021) noted that instructional materials include modern textbooks, equipment, consumables like chemicals and reagents, models, charts, and physical learning environments including science classrooms and laboratories. Adesola et al. (2022) provided examples including cardboard paper, real objects, CD ROMs, charts, radio, DVDs, holders, models, diagrams, and pictures. Matazu (2022) identified prints, textbooks, magazines, newspapers, slides, photos, workbooks, and electronic media as instructional resources. Instructional materials comprise locally made tools (such as improvised materials) or imported tools that facilitate teaching/learning processes.

For teaching to be effectively delivered, every student must be given opportunity to handle required materials and experience learning individually. Hence, effective teaching is practically impossible without instructional materials, as they constitute important components in the teaching and learning environment (Ajemba et al., 2021; Matazu, 2022; Sodangi et al., 2022). They serve as vehicles carrying messages or information from transmitting sources (teachers) to receivers (learners). Instructional materials are needed in teaching and learning business education for students to acquire process skills such as observing, measuring, classifying, recording, experimenting, analyzing, and inferring. Salaudin et al. (2020) expressed that secondary school business education students cannot fully understand most concepts when taught without instructional materials. Similarly, Ajemba et al. (2021) stated that the quality of education students receive largely depends on the quality of teaching/learning resources provided; thus, students learn faster when instructional materials are applied in teaching implementation. Therefore, "teachers, who are to implement the curriculum, are expected to use a wide range and quality instructional materials for effective and efficient teaching and learning in classroom activities" (Matazu, 2022).

The availability and utilization of instructional materials are crucial in teaching and learning. Matazu (2021, as cited in Matazu, 2022) posited that meaningful teaching and learning can only be attained when there is appropriate and efficient availability and utilization of both human and material resources. However, Ajemba et al. (2021) observed that shortage of instructional materials for teaching and learning in Nigerian schools has been a major concern, noting that many teachers lack adequate instructional materials for teaching, affecting students' learning processes.

Subject matter mastery constitutes the foundation upon which teacher education is based. Teachers require, among other qualities, the skill of mastering subject matter and establishing interrelationships between different subjects. These are essential for professional teacher preparation and anchor firmly on a foundation of general education that contributes to teacher development as persons. Teachers specialize in subjects to be taught, which equips them with scholarly knowledge of those subjects and integrates with professional education leading to new understandings and skills for professional performance (Shantz & Latham, 2012). Content knowledge represents knowledge about the actual subject matter to be learned or taught. To teach all students according to today's standards, teachers need deep understanding of subject matters to help students relate one idea to another (Oyetunde, 2020). Teachers need to see how ideas connect academic content to everyday life. This understanding provides content knowledge that enables teachers to make ideas clear and well understood to learners. Ojo (2015) asserts that content knowledge is very important in classroom teacher performance as it deals with the teaching process. It constitutes a useful form of representing and communicating content and understanding

how students best learn specific concepts and topics of a subject. If student teachers are to be effective in their future careers, they must understand the content of their course of study as well as general knowledge of generic teaching principles (Ornstein, 2020), which can be better acquired during teaching practice exercise.

Considering that teaching practice represents one of the major opportunities through which teachers-in-training gain more experience in the teaching profession, this study assessed the impact of teaching practice on instructional material utilization and subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria

Statement of the Problem

In colleges of education, teaching practice constitutes a compulsory course in faculties of education and forms part of graduation prerequisites. However, observation indicates a decline in the quality of teaching practice being offered in colleges of education in Adamawa State. Numerous problems appear to confront prospective teachers during teaching practice execution, affecting student-teacher effectiveness (Muraina, 2017). Ofeofuna, in Omolara (2019), observed that teachers are not well prepared in Nigeria. Ijaiya (2013) noted that many student teachers fail to acquire sufficient teaching skills, to the detriment of pupil learning. Based on NCCE minimum standards in Nigeria, student teachers are exposed to some skills during microteaching while others remain untreated but are assessed during teaching practice.

However, Kumar (2018) noted that microteaching applies only to observable, demonstrated, and quantifiable skills. Other skills like class management and keeping student records are not addressed during microteaching but are assessed during teaching practice. From student-teachers' perspectives, they find it difficult to translate theory into practice, which can only be achieved through effective teaching skills and training. However, with reduced time and insufficient equipment for microteaching, the microteaching cycle of plan-teach-feedback-replan-reteach-refeedback is not effectively implemented.

Yusuf (2015) observed that many teachers stop coming to schools and hand over all classes to teaching practice students. They neither check lesson plans, scheme of work records, diaries, marking of student assignments, notebooks, continuous assessment, nor examinations. These responsibilities are left to student teachers, sometimes without proper training, as teachers assume student teachers have gained practical experience during microteaching. Personal experience revealed that some problems were student-teacher related, some were institution (colleges of education) related, and others were cooperating school related. Idowu (2016) remarked that the exercise involves a multiplicity of problems and difficulties confronting preservice teachers, cooperating teachers, cooperating schools, and supervisors. Idowu identified problems including psychological makeup of preservice teachers, pedagogical preparations, classroom adaptation, and mode and means of assessment.

Ogonor and Badmus (2017) submitted that student-teachers were often not properly groomed to put into practice current pedagogy and interactive skills theoretically learned. They also lamented that partnership school teachers did not provide specific aid to preservice teachers to improve their teaching skills and strategies. Nakpodia (2018) remarked that six weeks is too short a period, not providing preservice teachers ample opportunity to effectively gain the experience the exercise intends to encourage. Nakpodia noted that some supervisors do not even take time to discuss observations and comments with preservice teachers after lesson supervision, which should afford student teachers opportunity to appreciate strengths and weaknesses; this is often ignored because supervisors are in haste to move to next schools.

Adekunle (2018) acclaimed that the unserious attitude of secondary school students toward the exercise often results in preservice teachers not gaining skills, confidence, and knowledge to cope with classroom situations. Bhargava (2019) remarked that preservice teachers often complain

about forgetting content matter and feeling nervous when their lecturers observe from the back of classrooms. The author remarked that preservice teacher behavior changes, comfort level decreases, and they find themselves in artificial situations where their main consideration remains obtaining good marks in record files. John (2016) observed that in most schools in Adamawa State, mentors supposed to guide student-teachers are lazy, absent themselves from duty for no apparent reason, and do not guide students on the importance of planning in the teaching profession. This scenario affects students in areas of lesson notes and use of instructional materials in classrooms.

Additionally, in some schools, class teachers are reluctant to relinquish their classes to student teachers, thus defeating teaching practice purposes. According to Garba (2018), the essence of posting student-teachers for teaching practice is to enable them showcase rich experience acquired during theoretical and practical aspects of microteaching to learners toward efficiency. It has been observed that many student-teachers in secondary schools in Adamawa State cannot effectively manage classroom situations in terms of audibility and content delivery. Also, as noticed during teaching practice supervision by the researcher, most student teachers do not display sound teaching skills and proper use of set induction in learning activities. Similarly, Muraina (2016) and Garba (2018) noticed that student teachers' ability to use skills of controlling, coordinating, arranging, and managing learners, teaching materials, and non-teaching materials for effective teaching and learning is absolutely lacking.

Insufficient time allowed for students during microteaching has also impacted their use of chalkboard management skills during teaching practice. Additionally, student-teachers' display and mismanagement of teaching materials for achieving desired objectives during teaching practice was noted by Garba (2018) as a mitigating factor toward successful teaching practice. Based on these identified facts, while the essence of teaching practice is not defeated, numerous problems affect student-teacher effectiveness during teaching practice execution. This prompted the researcher to determine the impact of teaching practice on instructional material utilization and subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria.

Purpose of the Study

The main purpose of this study was to determine the impact of teaching practice on instructional material utilization and subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria. Specifically, the study sought to:

1. Determine the impact of teaching practice on instructional material utilization skills of business education students in colleges of education in Adamawa State, Nigeria.
2. Determine the impact of teaching practice on subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria.

Research Questions

The following research questions guided the study:

1. What is the impact of teaching practice on instructional material utilization skills of business education students in colleges of education in Adamawa State, Nigeria?
2. What is the impact of teaching practice on subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria?

Research Hypotheses

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

HO₁: Teaching practice has no significant impact on instructional material utilization skills of business education students in colleges of education in Adamawa State, Nigeria.

HO₂: Teaching practice has no significant impact on subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria.

Methodology

A survey research design was employed for this study. According to Ndagi (2014), survey research design is appropriate when information is obtained from a sample of respondents for testing hypotheses concerning the status of educational problems. Nwana (2017) supported this view, stating that a "survey method involves the population to be studied which could be people, things, or institutions as the case may be"; it is one of the most comprehensive methods for obtaining people's opinions on a topic using questionnaires. The study population comprised all business education NCE III students in Colleges of Education in Adamawa State during the 2020/2021 academic session. The total population was 387 business education students. No sampling technique was employed due to the relatively manageable population size. This approach aligns with Kothari's (2014) recommendation that studying the entire population is ideal whenever it does not exceed 500. The instrument for data collection was a structured questionnaire titled "Perceived Impact of Teaching Practice on Teaching Skills of Business Education Students Questionnaire" (PITPTSBSQ). Items 1-15 sought data on instructional material utilization skills, while items 16-25 sought data on subject matter mastery skills. All questionnaire items utilized a four-point rating scale (Strongly Agree = 4 points, Agree = 3 points, Disagree = 2 points, and Strongly Disagree = 1 point). The instrument was validated by three experts from the Department of Vocational Education, Faculty of Education, Modibbo Adama University, Yola. To establish instrument reliability, a pilot test was conducted with 50 students from Federal College of Education (Technical), Gombe, which was not part of the study area. Data collected from the pilot test were subjected to statistical analysis using Cronbach Alpha coefficient method, yielding a reliability coefficient of 0.739. The researcher, assisted by two trained research assistants, visited each college personally to distribute and administer the questionnaire. The instrument was administered twice: after students' microteaching to ascertain prior skill levels before teaching practice, and after their teaching practice to ascertain new skill levels. A total of 387 copies of questionnaires were administered and retrieved instantly during each of the two periods. Data were analyzed using SPSS Version 23.0. Mean and standard deviation were used to answer research questions, with index scores of 2.50 and above indicating agreement and scores below 2.50 indicating disagreement. Simple linear regression was used to test all null hypotheses. For hypothesis testing, if the p-value was greater than 0.05, the null hypothesis was accepted; if less than or equal to 0.05, the null hypothesis was rejected.

Results

The two research questions were answered using descriptive statistics, while the null hypotheses were tested using simple linear regression at 0.05 level of significance.

Research Question 1

What is the impact of teaching practice on instructional material utilization skills of business education students in colleges of education in Adamawa State, Nigeria?

Table 1: Mean and Standard Deviation of Impact of Teaching Practice on Instructional Material Utilization Skills of Business Education Students

S/No.	Items/Statements	N	Mean	SD
1	You understand that teaching aids are devices that assist teachers in lesson preparation and facilitate students' learning of the subject matter.	387	2.5168	1.01369
2	You used teaching materials effectively in the execution of instructional processes.	387	2.1370	1.10784
3	You classified teaching aids into audio, visual, audio-visual, and ICT.	387	2.4780	1.06348

S/No.	Items/Statements	N	Mean	SD
4	You used materials like radio, audiotapes, VCDs, and DVDs, which positively affect teaching and learning business subjects.	387	2.5685	1.00380
5	You used pictures, prints, real objects, and models, which encourage teaching and learning business-related subjects.	387	2.4160	1.05793
6	You used films, television, and projectors in delivery, enhancing teaching and learning of business subjects.	387	2.6385	1.62434
7	You used ICT in teaching and learning business-related subjects, encouraging subject matter understanding.	387	2.5481	1.59627
8	You improvised teaching aids that heighten motivation for learning due to their concreteness.	387	2.6765	1.63600
9	You made teaching aids that foster continuity of thought when words are coupled with explanations in pictures and sounds.	387	2.3850	1.05008
10	You made teaching aids that appeal to students of varied interests and abilities.	387	2.7829	1.07944
11	You understand that the use of teaching aids encourages active student participation in teaching and learning.	387	2.5349	.98733
12	You made teaching aids that widen the range of students' experience.	387	2.2868	1.09303
13	You improvised teaching aids for better teaching and learning.	387	2.5736	1.03144
14	You made teaching aids that enhanced learners' attention.	387	2.3824	1.03988
15	You made teaching aids that supply concrete basis for conceptual thinking.	387	2.7674	1.08101
Grand Mean		387	2.5128	1.58518

The results presented in Table 1 indicate that 6 of the 15 items on impact of teaching practice on instructional material utilization skills had mean values ranging from 2.13 to 2.47, indicating low impact, while 9 items had mean values ranging from 2.51 to 2.78, indicating high impact. Standard deviations for the 15 items ranged from 0.98 to 1.63, indicating that respondents' responses were close to one another relative to the mean.

Overall data analysis in Table 1 showed a grand mean of 2.51 and standard deviation of 1.58, indicating that respondents rated the items on impact of teaching practice on instructional material utilization skills of business education students in colleges of education as high.

Research Question 2

What is the impact of teaching practice on subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria?

Table 2: Mean and Standard Deviation of Impact of Teaching Practice on Subject Matter Mastery Skills of Business Education Students

S/No.	Items/Statements	N	Mean	SD
16	You have adequate mastery over the subject matter to be presented to your students.	387	2.9845	.94115
17	You think of ideas and information to enrich mastering your subjects.	387	2.9587	.97020
18	You used knowledge of subject matter in instructional delivery.	387	2.5452	1.01282
19	You easily arranged selected material in good sequence in preparing lesson plans.	387	2.4212	1.05588
20	You outlined specific objectives of the lesson to be delivered to your students.	387	2.3127	1.12112
21	You possessed essential facts at hand to deliver to your students.	387	2.3953	1.05608

S/No.	Items/Statements	N	Mean	SD
22	You demonstrated what is discussed in class to your students.	387	2.8062	.90259
23	You adopted relevant theories in instructional delivery.	387	2.3204	1.01832
24	You used prior knowledge as a guide to instructional delivery.	387	2.2636	1.10477
25	You communicated procedures in clear terms.	387	2.5891	1.03773
Grand Mean		387	2.5596	1.02207

The results presented in Table 2 indicate that 5 of the 10 items on impact of teaching practice on subject matter mastery skills had mean values ranging from 2.26 to 2.42, indicating low impact, while 5 items had mean values ranging from 2.54 to 2.98, indicating high impact. Standard deviations for the 10 items ranged from 0.94 to 1.12, indicating that respondents' responses were close to one another relative to the mean.

Overall data analysis in Table 2 showed a grand mean of 2.55 and standard deviation of 1.02, indicating that respondents rated the items on impact of teaching practice on subject matter mastery skills of business education students in colleges of education as high.

Test of Hypotheses

All hypotheses were tested at 0.05 level of significance.

HO₁: Teaching practice has no significant impact on instructional material utilization skills of business education students in colleges of education in Adamawa State, Nigeria.

Table 3a: Model Summary of Impact of Teaching Practice on Instructional Material Utilization Skills

Model	R Square	Adjusted R Square	Std. Error of the Estimate
1	.7a	.497	0.483
			4.99797

a. Predictors: (Constant), TEACHING PRACTICE

Table 3b: Regression of Impact of Teaching Practice on Instructional Material Utilization Skills

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	24.541s	1	24.541	4.93	0.03
Residual	9617.201	385	4.980		
Total	9617.742	386			

a. Dependent Variable: Instructional Material Utilization Skills

b. Predictors: (Constant), TEACHING PRACTICE

The linear regression results in Tables 3a and 3b show significant differences between the various R values, $F = 4.93$ (df 1, 386), $p < 0.05$. Since the computed p-value (0.03) is less than the 0.05 level of significance, the null hypothesis was rejected. Thus, teaching practice has a significant impact on instructional material utilization skills of business education students in colleges of education in Adamawa State, Nigeria. Furthermore, the adjusted R-square value (0.48) indicates that 48% of instructional material utilization skills of business education students was accounted for by the impact of teaching practice.

HO₂: Teaching practice has no significant impact on subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria.

Table 4a: Model Summary of Impact of Teaching Practice on Subject Matter Mastery Skills

Model R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.27a	0.071	0.072	3.56138

a. Predictors: (Constant), TEACHING PRACTICE

Table 4b: Regression of Impact of Teaching Practice on Subject Matter Mastery Skills

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.621	1	3.621	1.085	0.04
Residual	4883.123	385	3.683		
Total	4886.744	386			

a. Dependent Variable: Subject Matter Mastery Skills

b. Predictors: (Constant), TEACHING PRACTICE

The linear regression results in Tables 4a and 4b show significant differences between the various R values, $F = 1.08$ (df 1, 386), $p < 0.05$. Since the computed p-value (0.04) is less than the 0.05 level of significance, the null hypothesis was rejected. Thus, teaching practice has a significant impact on subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria. Furthermore, the adjusted R-square value (0.07) indicates that 70% of subject matter mastery skills of business education students was accounted for by the impact of teaching practice.

Summary of Findings

The study generated the following findings:

1. Teaching practice has a significant impact on instructional material utilization skills of business education students in colleges of education in Adamawa State, Nigeria.
2. Teaching practice has a significant impact on subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria.

Discussion of Findings

The finding that teaching practice has a significant impact on instructional material utilization skills of business education students (H_{01} rejected, $F = 4.93$, $p = 0.03$) aligns with existing literature. This result corroborates the study conducted by Uzuegbu, Mbadiwe, and Anulobi (2013), which revealed that teaching practice enhances better knowledge and utilization of instructional materials skills. Similarly, the findings conform with Vera and Ugo's (2017) observation that after teaching practice, approximately 67% of teachers consistently used pictures, prints, real objects, and models to encourage teaching and learning business-related subjects—practices they did not employ before the exercise. This contributes to making teaching and learning more accessible and effective.

Furthermore, these findings align with Abdu-Raheem's (2014) assertion that teaching practice enables teachers to understand that teaching aids assist them in lesson preparation and facilitate students' learning of subject matter. The practical exposure during teaching practice provides student-teachers with authentic opportunities to experiment with various instructional materials, understand their applications, and witness their effects on student engagement and learning outcomes. This hands-on experience cannot be adequately simulated in microteaching or theoretical coursework alone.

The adjusted R-square value of 0.48 indicates that nearly half of the variance in instructional material utilization skills can be attributed to teaching practice experiences. This substantial proportion underscores the critical role of teaching practice in developing this essential teaching competency. The remaining variance may be attributable to factors such as prior exposure to instructional technologies, quality of supervision received during teaching practice, availability of resources in practicing schools, and individual student-teacher characteristics.

The finding that teaching practice has a significant impact on subject matter mastery skills of business education students (H_0 rejected, $F = 1.08$, $p = 0.04$) is consistent with Brophy's (2016) opinion that subject matter expertise skills of teachers are impacted by teaching practice. This result also aligns with Mgbochile's (2014) findings that teaching practice helps teachers master their subject matter better and present lessons more effectively. The practical application of content knowledge in authentic classroom settings reinforces understanding, reveals gaps in knowledge, and necessitates deeper engagement with subject matter to address diverse student needs and questions.

Yusuf (2015) observed that the knowledge and experience gained during teaching practice help teachers adopt relevant theories in their instructional delivery. This theoretical-practical integration is fundamental to developing pedagogical content knowledge—the specialized knowledge that enables teachers to transform subject matter into accessible learning experiences for students. Additionally, Amesi and Ndukwe (2018) found that trainee teachers view teaching practice as an important component of their training because it exposes them to actual teaching and learning environments where they can contextualize theoretical knowledge gained during training and benefit from mentoring.

The adjusted R-square value of 0.07 indicates that teaching practice accounts for 70% of the variance in subject matter mastery skills. This exceptionally high proportion suggests that subject matter mastery is predominantly developed or refined during teaching practice rather than through coursework alone. This finding emphasizes the inadequacy of theoretical instruction alone in developing deep content understanding and highlights the necessity of authentic teaching experiences for consolidating and extending subject matter knowledge.

Conclusion

Based on the findings of this study, it is concluded that teaching practice exerts positive and significant impacts on the instructional material utilization skills and subject matter mastery skills of business education students in colleges of education in Adamawa State, Nigeria. The teaching practice experience provides student-teachers with invaluable opportunities to apply theoretical knowledge in authentic classroom settings, experiment with various instructional resources, deepen their understanding of subject content, and develop the pedagogical competencies essential for effective teaching. The significant contributions of teaching practice to these two critical teaching skills underscore the indispensability of this component in teacher education programmes and justify its continued emphasis as a graduation requirement.

Recommendations

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

1. Government should extend and implement the proposed stipend for students on teaching practice. This financial support would enable student-teachers to procure equipment and materials for improvising and utilizing instructional resources in their teaching and learning processes. Adequate funding would remove economic barriers to effective instructional material utilization and encourage creativity in resource development.
2. Admission into business education programmes should be strictly merit-based. This practice would facilitate the admission of more competent candidates who can readily master subject

matter content, thereby enhancing effective curriculum delivery in business education programmes in colleges of education in Adamawa State, Nigeria. Rigorous selection processes would ensure that only candidates with demonstrated aptitude for teaching and learning are admitted, maximizing the benefits of teaching practice experiences.

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