INFLUENCE OF TEACHING PRACTICE ON THE ACQUIRED TEACHING SKILLS AND CLASSROOM PERFORMANCE TECHNIQUES AS PERCEIVED BY FINAL YEAR NCE BIOLOGY STUDENTS IN FEDERAL UNIVERSITY OF EDUCATION, ZARIA, NIGERIA

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Abstract

This study investigated the impact of teaching practice on the acquisition of teaching skills and classroom performance techniques among final-year NCE Biology students at the Federal University of Education, Zaria, Nigeria. A descriptive survey design was employed, with a sample of 269 students selected through simple random sampling. Data were collected using a structured questionnaire with a reliability coefficient of 0.88. The data were analyzed using means and standard deviations. The results demonstrated that teaching practice significantly enhanced various teaching skills, including lesson planning, classroom management, and communication. However, student teachers encountered challenges such as inadequate resources and difficulty integrating contemporary issues. The study recommends that teacher education institutions refine their teaching practice programs to include more opportunities for reflective practices and constructive feedback, among others.

Keywords; Teaching Practice, Teaching Skills, Performance techniques and Biology Student
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Introduction

Teaching is one of the world's oldest, most esteemed, and most honorable occupations, holding immense importance in both developed and developing countries. In Nigeria, education plays a pivotal role in the growth and development of both individuals and the nation as a whole. It is fundamental to the successful implementation of national policies. To become certified biology teachers, students must pass all essential courses with distinction and complete a six-month teaching practicum as mandated by the National Commission for Colleges of Education (NCCE, 2018). Every prospective teacher should consider Teaching Practice (T.P.) a crucial and formative experience. It provides the best opportunity for education faculty members at universities or education colleges to observe and guide students in developing their teaching competencies while being closely supervised by partner schools. Institutions and mentors working in schools closely monitor students' development, conduct, and attitude during this activity. They also assess students' practical teaching and learning activities using predetermined criteria. In addition to

enabling students to apply theories in practice, this practical instruction fosters a deep understanding of educational principles and their relevance to effective learning.
During the training program, students are exposed to a wide variety of experiences to familiarize them with the demands of the teaching profession. Teaching practice exposes students to the practical application of teaching methods, strategies, ideas, and approaches in authentic settings, encompassing classroom performance and various instructional and non-instructional activities. Indeed, teaching practice culminates in teacher preparation, providing a pivotal opportunity for beginning teachers to undergo socialization across various dimensions of the profession. As emphasized by Salisu et al. (2021), teaching practice imparts meaning to the knowledge acquired by student-teachers in real classroom settings, solidifying their understanding.

Akbar (2022) identifies several benefits of teaching practice for student teachers, including: establishing appropriate teacher-pupil relationships; evaluating their potential as future teachers; gaining practical experience to address discipline challenges; developing effective methods for student and classroom control; applying theories to practice; deepening their understanding of educational principles; acquiring skills in fundamental teaching procedures; cultivating professional interests and attitudes; fostering characteristics for effective evaluation of teaching and classroom activities; and engaging in self-evaluation of their teaching practices. In essence, teaching practice is a multifaceted experience that significantly contributes to the holistic development of aspiring educators.

Most agree that teaching methodologies significantly impact school structures, particularly in preparing newly hired teachers for the challenges they will face in the workplace. The key to effective teaching lies in enabling aspiring educators to benefit from the knowledge of seasoned, qualified instructors who bring years of invaluable teaching expertise to the classroom. Through this process, student-teachers are exposed to the art of asking questions, receiving advice, and gaining guidance from those with extensive teaching experience. Teaching practice serves as a practical platform for student-teachers to acquire and apply essential teaching skills, equipping them to effectively utilize general instructional resources in their specialized areas of teaching.

Classroom performance, as referred to by educators, encompasses the skills and competencies demonstrated by teachers during classroom activities. In the context of this study, classroom performance is viewed through the lens of adherence to provisions and procedures integral to the teaching and learning exercises within schools (Hanaysha et al., 2023). According to Munna and Kalam (2021), effective classroom performance ensures that teachers utilize the right techniques and abilities to convey the necessary knowledge and skills to students while making teaching and learning an enjoyable experience.

Teaching Skills (TS) encompass the cognitive processes that teachers utilize in the classroom, such as remembering, thinking, learning, and language usage. These abilities focus on comprehending information and concepts, connecting ideas, dissecting information, and recreating it with logical connections to improve material retention and comprehension. The Teaching Skills approach strongly emphasizes

enhancing learning through the development of thinking processes and skills. The primary goal of Teaching Skills is to enable all students to become more productive, flexible, self-reliant, and strategic learners (Scheid, 2023). According to Halpern (2016), Teaching Skills operate on the premise that recognizable cognitive strategies—previously believed to be the purview of the most skilled students—can be effectively imparted to a broader range of students.

Froyen and Iverson (2019) emphasize the importance of teaching abilities and classroom performance, arguing that these factors directly impact academic achievement, teacher efficacy, and teacher-student behavior. They also promote positive achievement and behavior among students.

Statement of the Problem

Teaching encompasses roles such as imparting knowledge in a structured manner, providing clear solutions, presenting resolvable problems, and maintaining a focused classroom environment. In education, practices and attitudes play a crucial role in understanding and improving educational processes. To attain qualified teacher status, NCE Biology students undergo a six-month teaching practice in secondary schools. This practical experience is designed to fully integrate student teachers into the professional work of educators. During this period, student teachers assume all the responsibilities of a teacher, gaining valuable skills in handling unfamiliar situations, managing learners, and establishing working relationships with mentors or supervisors.

Despite its benefits, recent critiques suggest that teaching practice can be demoralizing and may not significantly impact cooperation, collaboration, classroom disciplinary climate, and the self-efficacy of student teachers. Concerns have been raised about the narrow focus on test-taking skills, potential mentor absenteeism, and the reluctance of some class teachers to allow student teachers to take charge of their classes. These issues prompted the researcher to assess the influence of teaching practice on the acquired teaching skills and classroom performance techniques as perceived by final-year NCE Biology students at the Federal University of Education (FUE), Zaria, Nigeria.

Objectives of the Study

The specific objectives are to:

i. Evaluate the influence of teaching practice experience on the acquisition of teaching skills, as evaluated by Biology students at Federal University of Education, Zaria, Nigeria.
ii. Investigate the influence of teaching practice experience on the utilization of instructional materials, as perceived by Biology students at Federal University of Education, Zaria, Nigeria.
iii. Identify any challenges faced by biology students during their teaching practice experiences at Federal University of Education, Zaria, Nigeria.

Research Questions

In keeping with the study's goals, the following research questions were put forth:

i. What is the influence of teaching practice experience on the acquisition of teaching skills, as perceived by biology students in Federal University of Education, Zaria, Nigeria?
ii. How does teaching practice experience influence the utilization of instructional materials, as assessed by biology students in Federal University of Education, Zaria, Nigeria?
iii. What challenges do biology students encounter during their teaching practice experiences at Federal University of Education, Zaria, Nigeria

Methodology

Survey design was adopted for the study. The population of the study included all final year Biology NCE III students in Federal University of Education, Zaria. The population of the study was nine hundred and six (906) students. Details are as provided in Table 1.

Table 1: Population of the Study

Level	**Population**		**Total**
	Male	Female	
NCE II	393	513	906

Source: Exams Office, Biology dept. FUE, Zaria 2024

The sample of 269 respondents was selected from the total population, following the Krejcie and Morgan (1970) sample size table to ensure appropriate representation. This sample size was chosen to accurately reflect the diversity of the entire population. Simple random sampling was employed to select the respondents, ensuring that each individual had an equal chance of being included in the study, thereby enhancing the representativeness and reliability of the findings. Data was collected using a structured questionnaire titled "Influence of Teaching Practice on Skills and Classroom Performance Questionnaire (ITPSCPQ)." The questionnaire is well-suited for this study as it gathers information that is not directly observable, such as feelings, attitudes, and personal experiences. Twenty items total on a five-point Likert scale, from Strongly Agree (SA) to Strongly Disagree (SD), make up the instrument.

To enhance the instrument's validity, face and content validity tests were conducted by expert at FUE, Zaria. The instrument's reliability was assessed using the test-retest methodology. Fifty (50) students participated in a pilot study where the instrument was given to them at random in a different college department. Pearson Then, using Product Moment Correlation, a coefficient value of 0.88 was obtained, demonstrating the instrument's suitability for the investigation. Descriptive statistics, such as mean and standard deviation, were used to analyse the field data gathered. Agreement was

measured using mean scores of 3.0 and higher, which aided in answering the study questions.

Result

Research Question One: What is the influence of teaching practice experience on the acquisition of teaching skills, as perceived by biology students in FUE, Zaria, Nigeria?

Table 2: Impact of teaching practice experience on the acquisition of teaching skills

S/N	Statement	SA	A	UN	D	SD	X	S.D	Remark
1	Teaching practice experience significantly improves student teachers' ability to develop and implement effective lesson plans	70	110	5	40	11	4.08	0.85	High Impact
2	Through teaching practice, student teachers acquire better classroom management and discipline skills	60	120	0	18	38	3.99	0.78	High Impact
3	Teaching practice experience enhances student teachers' ability to use a variety of teaching methods and strategies effectively	65	115	2	46	8	4.02	0.80	High Impact
4	Student teachers' communication skills in the classroom notably improve as a result of their teaching practice experience	65	105	0	28	38	3.93	0.83	High Impact
5	Teaching practice experience significantly contributes to student teachers' ability to assess and evaluate student learning effectively	78	112	7	20	19	4.16	0.79	High Impact
	Cumulative Mean						4.04		High Impact

The results presented in Table 2 indicate that teaching practice experience has a significant positive influence on the acquisition of teaching skills among biology students at FUE, Zaria, Nigeria. The cumulative mean score of 4.04 further supports the overall conclusion that the influence of teaching practice is substantial across all measured areas. Specifically, teaching practice significantly improves student teachers' ability to develop and implement effective lesson plans, as evidenced by a mean score of 4.08 and a standard deviation of 0.85. Additionally, student teachers believe they acquire better classroom management and discipline skills through teaching practice, with a mean score of 3.99 and a standard deviation of 0.78. The experience also enhances their ability to use a variety of teaching methods and strategies effectively, as shown by a mean score of 4.02 and a standard deviation of 0.80. Furthermore, communication skills in the classroom improve notably due to teaching practice, reflected in a mean score of 3.93 and a standard deviation of 0.83. Lastly, teaching practice significantly contributes to the ability to assess and evaluate student learning effectively, supported by a mean score of 4.16 and a standard deviation of 0.79.

Research Question Two: How does teaching practice experience influence the utilization of instructional materials, as assessed by biology students in FUE, Zaria, Nigeria?

Table 3: Effect of teaching practice experience on the average utilization of instructional materials

S/N	Statement	SA	A	UN	D	SD	X	S.D	Remark
1	Teaching practice experience significantly improves student teachers' ability to select appropriate instructional materials	77	105	0	38	16	3.95	0.84	High Impact
2	After completing teaching practice, student teachers demonstrate increased frequency in using a variety of instructional materials	68	115	0	25	28	3.82	0.79	High Impact
3	Teaching practice experience enhances student teachers' skills in creating and adapting instructional materials to meet diverse learner needs	70	120	5	26	15	3.95	0.76	High Impact
4	Student teachers who have completed teaching practice show greater confidence in integrating	85	90	0	29	32	3.84	0.82	High Impact

	technology-based instructional materials into their lessons								
5	The practical experience gained during teaching practice leads to more effective utilization of locally available resources as instructional materials	70	105	0	22	39	3.85	0.77	High Impact
	Cumulative Mean						3.88		High Impact

The findings in Table 3 illustrate that teaching practice experience significantly enhances the utilization of instructional materials among biology students at FUE, Zaria, Nigeria. With a cumulative mean score of 3.88, it is evident that teaching practice has a substantial positive impact across all evaluated areas. Specifically, the experience markedly improves student teachers' ability to select appropriate instructional materials (mean = 3.95, SD = 0.84) and increases their frequency of using diverse instructional materials (mean = 3.82, SD = 0.79). Additionally, teaching practice enhances skills in creating and adapting materials to meet diverse learner needs (mean = 3.95, SD = 0.76) and boosts confidence in integrating technology-based resources (mean = 3.84, SD = 0.82). Furthermore, the practical experience gained during teaching practice contributes to more effective use of locally available resources (mean = 3.85, SD = 0.77). Overall, these results emphasize the critical role of teaching practice in developing the competencies necessary for the effective utilization of instructional materials in the classroom.

Research Question Three: What challenges do biology students encounter during their teaching practice experiences at Federal University of Education, Zaria, Nigeria?

Table 4: Challenges faced by Biology students during their teaching practice experiences

S/N	Statement	SA	A	UN	D	SD	X	S.D	Remark
1	Biology student teachers often struggle with integrating current events and contemporary issues into their lessons during teaching practice	40	90	0	65	41	3.15	1.16	Moderate Challenge
2	Lack of adequate resources and materials specific to biology is a significant challenge for student teachers during their teaching practice	55	100	0	65	16	3.50	1.08	High Challenge

3	Biology student teachers find it challenging to address controversial topics and maintain objectivity in the classroom during their teaching practice	50	85	0	45	56	3.07	1.26	Moderate Challenge
4	Adapting biology content to meet the diverse cultural backgrounds of students is a major challenge for student teachers during teaching practice	45	90	5	50	46	3.10	1.20	Moderate Challenge
5	Biology student teachers often face difficulties in effectively using interactive teaching methods (e.g., debates, role-plays) during their teaching practice due to time constraints or large class sizes	60	100	0	35	41	3.48	1.14	High Challenge
	Cumulative Mean						3.26		High Challenge

The results in Table 4 reveal that biology student teachers at FUE, Zaria, face several challenges during their teaching practice experiences. The cumulative mean score of 3.26 indicates a moderate level of challenges overall. Specifically, the lack of adequate resources and materials specific to biology is identified as a significant challenge (mean = 3.50), along with difficulties in using interactive teaching methods due to time constraints or large class sizes (mean = 3.48), both of which are considered high challenges. On the other hand, integrating current events and contemporary issues, addressing controversial topics, and adapting biology content to diverse cultural backgrounds are perceived as moderate challenges, with mean scores ranging from 3.07 to 3.15. These findings highlight the need for enhanced support and resources to help student teachers overcome these challenges and optimize their teaching practice experience.

Discussion of Findings

The study finds out that teaching practice experience significantly enhances various teaching skills, including lesson planning, classroom management, and communication, as perceived by student teachers. The findings of this study are consistent with a substantial body of research that emphasizes the crucial role of practical teaching experience in enhancing teaching skills. Teaching practice provides

a real-world context for student teachers to refine their abilities in lesson planning, classroom management, and communication, which are essential for effective teaching (Ball & Forzani, 2019). According to Shulman (2017), the development of pedagogical content knowledge, which is facilitated through teaching practice, is vital for teachers to deliver content effectively. Additionally, Veenman (2014) asserts that beginning teachers often struggle with classroom management, but practical teaching experience helps mitigate these challenges by allowing student teachers to apply theoretical knowledge in managing classrooms (Emmer & Stough, 2021).

Similarly, the results from research question two reveals that teaching practice improves the selection, use, and adaptation of instructional materials, boosting confidence in using technology and local resources. The results suggest that teaching practice significantly enhances the ability of student teachers to select and effectively use instructional materials, corroborating the findings of previous studies. Garet et al. (2021) highlight that hands-on experience with instructional materials during teaching practice leads to improved selection and adaptation of resources. Moreover, Cohen and Hill (2020) argue that teaching practice enables student teachers to integrate technology and locally available resources into their lessons more confidently. This aligns with the findings of Mishra and Koehler (2016), who emphasize the importance of Technological Pedagogical Content Knowledge (TPACK) in modern education. Additionally, the ability to adapt instructional materials to meet diverse learner needs, as observed in this study, is supported by the work of Tomlinson (2021), who advocates for differentiated instruction as a means of catering to diverse student populations.

The study's findings regarding the improvement of classroom performance skills through teaching practice align with existing literature, which underscores the importance of practical experience in developing these skills (McLaughlin & Talbert, 2021; Darling-Hammond et al., 2017; Shulman, 2017). Student teachers who have undergone teaching practice are better equipped to manage classrooms, plan and deliver lessons effectively, and assess student learning (Harrison et al., 2017; Feiman-Nemser, 2021). This is further supported by the work of Kounin (2020), who identified the importance of classroom management techniques in maintaining student engagement and minimizing disruptions. Moreover, Halpern (2016) emphasizes that effective teachers possess strong interpersonal skills, which are developed through practical teaching experiences.

The challenges identified in this study, such as inadequate resources and difficulty with interactive teaching methods, are consistent with those reported in the literature. Ingersoll (2021) discusses the impact of resource constraints on the teaching practice experience, noting that limited access to teaching materials can hinder the effectiveness of student teachers. Additionally, Fullan (2017) emphasizes the importance of addressing these challenges to better prepare student teachers for the realities of the classroom. The difficulties faced by student teachers in integrating current events and adapting content to diverse cultural backgrounds are also reflected in the work of Banks (2021), who highlights the complexity of multicultural education and the need for teachers to be culturally responsive.

Conclusion

The study highlights the importance of teaching practice in developing student teachers' professional competencies. Immersive teaching practice enhances skills in lesson planning, classroom management, and instructional materials utilization. Hands-on experience bridges the theory-practice gap, allowing student teachers to refine their techniques. Teaching practice improves classroom performance by equipping student teachers with tools and confidence. However, challenges such as integrating current events, managing resources, and adapting content to diverse backgrounds need to be addressed to optimize the teaching practice experience. Addressing these challenges is crucial for effective skill translation into practice.

Recommendations

Based on the findings, the following recommendations were made by the researcher:

1. Teacher education institutions should refine their teaching practice programs by incorporating more opportunities for student teachers to engage in reflective practices and receive constructive feedback. Through allocating sufficient time for engaging practicum activities, ensuring student teachers gain hands-on experience. As well as fostering mentorship programs, promoting mutual relationships between student teachers and school staff.
2. Schools and teacher training institutions should ensure that student teachers have access to a wide range of instructional materials, including technology-based resources.
3. To address the challenges of teaching diverse student populations and using interactive methods, teacher training programs should include specific modules on cultural responsiveness and the effective implementation of interactive teaching strategies.

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