IJAAR PUBLISHING®

International Journal of Research in Education and Sustainable Development | ISSN: 2782-7666
Vol. 6, Issue 2 (2026) | www.ijaar.org/ijresd

Analyzing Teacher Educators Level on Implementation of Teaching Practice Assessment Guide among Mathematics Pre-Service Teachers in Childhood Education

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Abstract

The study investigated the level of implementation of Teaching Practice Assessment Guides among Mathematics pre-service teachers in Childhood Education at Alvan Ikoku Federal College of Education. The study adopted a descriptive survey research design. The population of the study consisted of 222 pre-service teachers comprising 119 males and 103 females drawn from the Department of Early Childhood and Primary Education Studies during the 2023/2024 academic session. Data were collected using the Teaching Practice Assessment Form (TPAF) developed by the School of General Education. The instrument covered lesson preparation, lesson presentation and development, classroom management strategies, communication skills, evaluation skills, and teachers' personality/professional attitudes and values. The reliability coefficient of the instrument was established at 0.88 using Cronbach Alpha. Mean and standard deviation were used to answer the research question, while t-test statistics were used to test the hypothesis at 0.05 level of significance. Findings revealed that the level of implementation of Teaching Practice Assessment Guides among Mathematics pre-service teachers was high in lesson preparation, lesson presentation, classroom management, communication skills,

https://doi.org/10.46654/3pb2dn37

evaluation skills, and teachers' professional attitude and values. The findings also showed that there was no significant difference between male and female pre-service teachers in the implementation of teaching practice assessment guides. Based on the findings, it was concluded that teaching practice assessment guides significantly enhance the professional competence and instructional effectiveness of Mathematics pre-service teachers in Childhood Education. Recommendations were made among others that supervisors should continue to emphasize effective classroom management, communication skills, and lesson preparation during teaching practice exercises.

Keywords: Analyzing, Teacher Educators, Implementation, Teaching Practice Assessment Guide and Mathematics

Introduction

Teaching practice is an essential component of teacher education programmes across the world. It provides pre-service teachers with the opportunity to translate theoretical knowledge acquired in the classroom into practical teaching experiences in real school settings. During teaching practice, student teachers are exposed to classroom management, lesson planning, instructional delivery, assessment techniques, and professional ethics under the supervision of teacher educators and cooperating teachers. In mathematics education, teaching practice is particularly important because mathematics requires effective pedagogical approaches, logical reasoning, and the ability to simplify abstract concepts for young learners. The teaching practice is one of the most important aspects of teacher education. It is an exercise designed to expose the student-teachers to the practical aspect of teaching profession and to enable them put into practice the theoretical knowledge acquired during classroom interactions with their lecturers. Teaching practice is known to expose pre-service teachers to the actual practice of teaching. It is during this period that pre-service teachers are given the opportunity to try the art of teaching before actually getting into the real world of the teaching profession (Kiggundu and Nayimuli, 2009). In view of this, Perry (2004) argues that teaching practice creates a mixture of anticipation, anxiety, excitement and apprehension in the student-teachers as they commence their teaching practice. Thus, this provides student teachers with the chance to express their personal educational philosophies, theories and understandings. In other words, this creates an opportunity for student- teachers to experiment and test their knowledge and skills in the profession of teaching and learning with an understanding of their personal educational philosophies and theories. According to Maduabum and Abah in Uwameiye and Ogunbameru (2012), teaching practice is a component of teacher education programme in which teacher trainees have the opportunity to put into practice all the teaching and classroom management theories they have acquired during the course of their studies with a view to attain professional competence. Olaitan and Ausiobo in Nakpodia (2011) indicated that practice teaching is the phase of the education of teachers in which the student-teacher is given an opportunity to bring together educational theory and actual teaching procedures under competent supervision. De-ville (2010) stated that teaching practice is an internship experience, a part of formative training process for student's teachers in skills exploration and enhancement. Akbar (2002) noted earlier that the term practice teaching embraces all the learning experiences of student teachers in schools. According to Teacher Training Regulation (2012) in Asta, Jolanta and Marijona (2015), teaching practice is such a period of studies when the initial professional steps are made, when the attitude towards

teacher's activity, right, obligations and responsibilities is shaped. It is the educational space where the quality of competencies acquired during the study is revealed. Teaching practice helps student's teachers acquire professional competencies and experience necessary for practical activity. Teaching practice is a period when pre-service teachers are exposed to classroom situation to transform theoretical aspect of their programme into practical.

Teaching practice assessment guides are developed by teacher education institutions to ensure uniformity, objectivity, and effectiveness in the evaluation of pre-service teachers. The guide usually contains assessment criteria such as lesson preparation, instructional materials usage, classroom management, communication skills, teaching methods, learner participation, and evaluation techniques. Teacher educators are expected to implement these assessment guides appropriately in order to provide fair and constructive evaluation of student teachers. However, observations in many teacher education institutions indicate that there are inconsistencies in the implementation of teaching practice assessment guides among teacher educators. Some supervisors may not adequately follow the stipulated assessment procedures, while others may emphasize certain criteria and neglect others. In some cases, inadequate supervision, time constraints, lack of orientation, and insufficient training may affect the effectiveness of the assessment process. These challenges may negatively influence the professional development of mathematics pre-service teachers in early childhood education.

The implementation of teaching practice assessment guides is very important because it determines the quality of feedback given to student teachers. Effective implementation helps pre-service teachers identify their strengths and weaknesses, improve their instructional competencies, and develop confidence in teaching mathematics to learners. On the other hand, poor implementation may lead to biased assessment, inadequate mentoring, and poor teaching performance. During the teaching practice process, student teachers learn to implement what they have learned through practice, quality of lesson preparation, presentation and development of lesson, skill of classroom management strategies, communication skill, skill of evaluation, teacher's personality/professional attitude and values.

Quality lesson preparation refers to the ability of a teacher to adequately plan instructional activities before entering the classroom. It involves organizing learning objectives, teaching methods, instructional materials, classroom activities, and evaluation techniques in a systematic manner to achieve effective teaching and learning outcomes. A well-prepared lesson helps the teacher present concepts clearly and confidently while ensuring that learners' needs and abilities are considered. In mathematics teaching, quality lesson preparation includes identifying appropriate mathematical concepts, selecting suitable teaching aids, planning learner-centered activities, and arranging content from simple to complex. It also involves preparing lesson notes, schemes of work, and instructional materials that align with curriculum objectives. Effective lesson preparation promotes classroom organization, enhances learner participation, and improves academic achievement.

Presentation and development of lessons refer to the manner in which a teacher delivers instructional content and guides learners through the teaching-learning process. It involves introducing the lesson, explaining concepts clearly, developing ideas systematically, and engaging learners actively throughout the lesson. Effective lesson presentation requires the teacher to use appropriate teaching methods, examples, illustrations, questioning techniques, and instructional materials to facilitate understanding. In mathematics education, lesson development

includes moving from known to unknown concepts, using practical demonstrations, and encouraging problem-solving activities suitable for young learners. Good lesson presentation ensures clarity, learner participation, motivation, and achievement of lesson objectives. It also helps learners understand concepts progressively and retain knowledge effectively.

Classroom management skill refers to the teacher's ability to organize, control, and maintain a conducive learning environment for effective teaching and learning. It includes managing learners' behaviour, maintaining discipline, arranging classroom activities, and ensuring smooth instructional processes. Meanwhile, classroom management (e.g. Wang, Haertel & Walberg, 1993) shows that effective classroom management has the largest effect on students' achievement. Similarly, in a meta-analysis of more than 100 studies, Marzano (2003b) finds that the quality of teacher-student relationships is the keystone for all other aspects of classroom management. Adelman & Taylor (2002) and Dunn & Baker (2002) agree that effective classroom management entails arrangement of classroom in a way conducive to effective management, alertness to classroom problems, acknowledgement of students' behaviours, reinforcement of acceptable behaviour, provision of negative consequences for unacceptable behaviour, establishment of clear learning goals, taking personal interest in students, exhibition of assertive behaviour by the teacher and awareness of high-needs of students. Indeed, Ferguson (2010) notes that students are likely to engage more deeply and master their lessons more thoroughly when their teachers care about them, control the classroom effectively, clarify complex ideas, challenge them to work hard and think hard, deliver lessons in ways that captivate, confer with them about their ideas and consolidate lessons to make learning coherent. This makes intuitive sense that students can hardly learn in a chaotic and poorly managed classroom. Indirectly, teachers of various categories are enjoined to follow the golden rules of class management so as to achieve the objectives of the lesson and maintain high discipline during teaching-learning process. Jones and Jones (2004) as cited by da Luz (2015) identify classroom management as factor in assessing pre-service teaching performance including building a supportive environment by establishing teacher-student and peer relationships, optimizing learning by using instructional methods, gaining a commitment from students to appropriate behavior standards, creating a safe and caring classroom community, and using counseling and behavioral methods to change students' inappropriate behaviors. Thus, in order to be an effective educator/teacher, a pre-service teacher generally should master the classroom management as it is the most essential aspect of the teaching and learning process. A teacher with good classroom management skills creates an atmosphere that encourages concentration, participation, cooperation, and respect among learners. In early childhood mathematics classrooms, effective classroom management may involve organizing group activities, controlling noise levels, managing learning materials, and ensuring active involvement of children. Good classroom management helps prevent disruptions, promotes positive teacher-learner relationships, and enhances the achievement of instructional goals.

Communication skills refer to the ability of a teacher to convey information, ideas, and instructions effectively to learners during classroom interaction. It involves speaking clearly, listening attentively, using appropriate language, and employing verbal and non-verbal communication strategies to facilitate understanding. In mathematics teaching, communication skills are essential because mathematical concepts often require detailed explanation and clarification. Effective communication includes correct pronunciation, clear voice projection, appropriate use of examples, questioning techniques, gestures, eye contact, and feedback

mechanisms. Teachers with good communication skills enhance learner comprehension, encourage classroom interaction, and build learners' confidence in participating during lessons.

Evaluation skills refer to the teacher's ability to assess learners' understanding, performance, and progress during and after instruction. It involves designing and using appropriate assessment techniques to determine whether lesson objectives have been achieved. Evaluation skills include asking oral questions, giving class exercises, assignments, quizzes, tests, and observing learners' participation during lessons. In early childhood mathematics education, evaluation may also involve practical activities, games, demonstrations, and continuous assessment techniques suitable for young children. Effective evaluation helps the teacher identify learners' strengths and weaknesses, provide corrective feedback, and improve teaching methods. It also assists in monitoring learners' progress and ensuring achievement of learning outcomes.

Teacher personality, professional attitudes, and values refer to the personal characteristics, ethical behaviours, and professional conduct displayed by a teacher in the teaching profession. These qualities influence the teacher's interaction with learners, colleagues, and the school community. Professional attitudes and values include punctuality, honesty, responsibility, commitment, patience, respect, fairness, self-confidence, and enthusiasm for teaching. In early childhood education, teachers are expected to demonstrate friendliness, empathy, tolerance, and care because young learners are highly influenced by teacher behaviour. A teacher's positive personality and professional values contribute to effective classroom management, learner motivation, moral development, and overall educational success. They also serve as good examples for learners to emulate.

The use of teaching resources in reinforcing a skill fact or idea in the classroom Abdullahi, 1982; Phadke, 2008; Creneti, 2012) has acknowledged that effective use of relevant and quality teaching resources by the teachers helps learners to improve their perceptive skills thus arousing their interest, relieving their anxiety and boredom. In fact, experience shows that students of the present age hardly feel comfortable learning concepts in abstract. They tend to enjoy learning when instructions are given using concrete materials such as charts, models, scientific equipment, video and audio cassettes, radio, television, projectors, multimedia information and communication technology (ICT) resources and others. These various media are means of deepening, enriching and broadening the lesson and providing first-hand experiences that may allow each student to observe and indirectly experience other environment. It is important for the student-teachers to identify and utilize the most appropriate teaching resources to illustrate and clarify the intents of the lesson so that the learners can understand the importance of each concept. Despite the significance of teaching practice assessment, limited studies have focused specifically on how teacher educators implement teaching practice assessment guides among mathematics pre-service teachers in early childhood education. Most existing studies have concentrated on general teaching practice supervision without paying adequate attention to mathematics education and early childhood contexts. Therefore, this study seeks to analyze teacher educators' implementation of teaching practice assessment guides among mathematics pre-service teachers in early childhood education.

Statement of the Problem

Teaching practice serves as a critical stage in the preparation of mathematics pre-service teachers for professional teaching responsibilities in early childhood education. The effectiveness of this exercise largely depends on the proper implementation of teaching practice assessment guides by teacher educators. These guides are intended to ensure fairness, consistency, and objectivity in the assessment of student teachers' pedagogical competencies. However, there are growing concerns that some teacher educators do not fully adhere to the stipulated teaching practice assessment guidelines during supervision and evaluation. Inconsistencies in assessment procedures, inadequate feedback, poor supervision practices, and subjective grading have been observed in some institutions. Such practices may hinder the professional growth of mathematics pre-service teachers and affect their ability to effectively teach young learners.

Furthermore, inadequate implementation of assessment guides may result in inaccurate evaluation of teaching competencies, thereby producing teachers who are insufficiently prepared for the classroom. Since mathematics teaching in early childhood education requires specialized pedagogical skills, ineffective supervision and assessment could negatively influence pupils' foundational understanding of mathematics. Although studies have examined teaching practice generally, there is limited empirical evidence on the implementation of teaching practice assessment guides specifically among mathematics pre-service teachers in early childhood education. It is against this background that this study seeks to analyze teacher educators' implementation of teaching practice assessment guides among mathematics pre-service teachers in early childhood education.

Purpose of the Study

The main purpose of the study is to analyze the implementation of teaching practice assessment guide among mathematics pre-service teachers in childhood education. Specifically, it seeks;

i. To determine the extent teacher educators implement teaching practice assessment guides among mathematics pre-service teachers in early childhood education with respect to quality of lesson preparation, presentation and development of lesson, skill of classroom management strategies, communication skill, skill of evaluation, teacher's personality/professional attitude and values.

Research Question

1. To what extent teacher educators implement teaching practice assessment guides among mathematics pre-service teachers in early childhood education with respect to quality of lesson preparation, presentation and development of lesson, skill of classroom management strategies, communication skill, skill of evaluation, teacher's personality/professional attitude and values?

Hypothesis

H_{o1}: There is no significant difference between male and female pre-service teachers on the Implementation of teaching Practice Assessment Guides respect to Quality of lesson preparation, Presentation and development of lesson, Skill of classroom management strategies, Communication skill, Skill of evaluation, Teacher's personality/professional attitude and values.

Method

The researchers adopted descriptive research design in carrying out the study. The participants were drawn from department of early child hood and primary education studies in the Faculty of Education, Alvan Ikoku Federal University of Education Owerri, Imo State, posted to various nursery and primary schools in Imo State for their mandatory six weeks teaching practice during 2023/2024 academic session. They consisted of 222 pre-service teachers (male=119, female=103) 300-Level pre-service teachers. The instrument for collecting data was a typical rating scale, titled Teaching Practice Assessment Form (TPAF) designed by the school of general Education, Alvan Ikoku Federal University of Education. TPAF had six parameters with varied items and scoring weights: Parameter 1—Preparation (four items = 10 marks); Parameters 2—Presentation (nine items = 40 marks); Parameter 3 — Skills of Class Management (three items= 7marks); Parameter 4— Communication skills (two items=6marks); Parameter 5— Evaluation Skills (two items = 6 marks); CAT 6—Teacher's personality/ Professional Attitude and Values (four items = 2 marks). Each item in CAT 1, CAT 2, CAT 3, CAT 5 and CAT 6 was rated on a five-point scale namely Excellent = 5, Very Good = 4, Good = 3, Fair = 2, Poor = 1. The internal consistency of the instrument was estimated at 0.88 using Cronbach-alpha (1951). Prior to the commencement of the teaching practice exercise, participants were inducted on the importance of teaching practice to teacher education. Emphasis was placed on regular attendance and punctuality in schools, active participation in school activities, effective teaching in the classroom and mode of assessment of teaching performance. Participants were allowed to ask questions based on the teaching practice and their expectations during the exercise. Data were collected using their different supervisors scores. They were assigned to objectively observe and rate teaching performance of each pre-service teacher twice ($3^{rd}$and 5^{th} weeks of six weeks). The average score for each participant was computed and presented for analysis. Data were analyzed using mean and standard deviation for the research questions, t-test statistics and inter- rater at 0.05 level of significance were used to test the hypotheses.

Results

Research Question 1: To what extent teacher educators implement teaching practice assessment guides among mathematics pre-service teachers in early childhood education with respect to Quality of lesson preparation, Presentation and development of lesson, Skill of classroom management strategies, Communication skill, Skill of evaluation, Teacher's personality/professional attitude and values.

Table 1: Mean and standard deviation on the level of implementation of teaching practice assessment guides among mathematics pre-service teachers in childhood education.

S/N	Items	Mean	SD	Remarks
1	Lesson Preparation	**3.20**	**1.4**	**High Level**
2	Presentation and development of Lesson,	**3.15**	**1.3**	**High Level**
3	Classroom Management Strategies	**3.23**	**1.4**	**High Level**
4	Communication Skills	**3.25**	**1.5**	**High Level**
5	Evaluation Skills	**3.20**	**1.4**	**High Level**
6	Teachers' Personality/Professional Attitudes and Values?	**3.21**	**1.4**	**High Level**

The analysis indicated that the pre-service teachers demonstrated a high level of implementation across all the assessment indicators. The participants showed competence in lesson preparation through adequate planning and organization of instructional activities. In terms of lesson presentation and development, the pre-service teachers effectively introduced lessons, utilized appropriate teaching methods, and maintained lesson flow. The findings further revealed that the participants possessed satisfactory classroom management skills as they maintained discipline, controlled classroom activities, and ensured learners' participation during instruction. Communication skills were also effectively demonstrated through clarity of expression, confidence, and appropriate interaction with learners.

Similarly, the pre-service teachers displayed adequate evaluation skills through questioning, assignments, and assessment techniques used during teaching. The findings also showed positive teachers' personality traits, professional attitudes, and values such as punctuality, neatness, cooperation, and commitment to teaching responsibilities.

Hypothesis Testing

Ho1: There is no significant difference between male and female pre-service teachers on the implementation of Teaching Practice Assessment Guides with respect to lesson preparation, lesson presentation, classroom management, communication skills, evaluation skills, and teachers' personality/professional attitudes and values.

GENDER	N	MEAN	SD	α	Df	t-cal	t-tab	Decision
MALE	119	7.56	3.43	0.05	63	0.08	1.96	Accept
FEMALE	103	8.00	3.18					HO

The t-test analysis revealed that there was no statistically significant difference between male and female pre-service teachers in their implementation of the Teaching Practice Assessment Guides at 0.05 level of significance. Therefore, the null hypothesis was accepted. This implies that gender did not significantly influence the implementation level of teaching practice assessment guides among the pre-service teachers.

Discussion

The findings of the study revealed that Mathematics pre-service teachers in Childhood Education demonstrated a high level of implementation of Teaching Practice Assessment Guides. This finding agrees with the position of Kiggundu and Nayimuli who maintained that teaching practice exposes student teachers to practical classroom experiences that improve their instructional competencies. The high performance observed in lesson preparation and lesson presentation indicates that the participants were able to effectively translate theoretical knowledge into classroom practice. The study also found that pre-service teachers possessed effective classroom management skills. This finding supports the work of Marzano who emphasized that effective classroom management contributes significantly to students' academic achievement. The ability of the pre-service teachers to maintain discipline and organize classroom activities suggests that the teaching practice programme adequately prepared them for professional teaching responsibilities.

Furthermore, the findings showed that the pre-service teachers demonstrated satisfactory communication and evaluation skills. This finding aligns with the views of Ferguson who

observed that effective communication and interaction between teachers and learners enhance classroom participation and learning outcomes. Through questioning techniques, assignments, and classroom interactions, the pre-service teachers were able to facilitate active learning.

The finding that there was no significant difference between male and female pre-service teachers implies that both genders benefited equally from the teaching practice programme. This suggests that the Teaching Practice Assessment Guide provides equal opportunities for professional development irrespective of gender.

Conclusion

The study concluded that the implementation of Teaching Practice Assessment Guides among Mathematics pre-service teachers in Childhood Education was highly effective. The teaching practice exercise enabled the pre-service teachers to develop essential professional competencies such as lesson preparation, lesson delivery, classroom management, communication skills, evaluation techniques, and positive professional attitudes. The study also concluded that gender did not significantly influence the implementation of the assessment guides. Therefore, teaching practice remains an indispensable component of teacher education programmes for preparing competent and effective teachers.

Recommendations

1. Teacher education institutions should continue to strengthen teaching practice programmes to improve the professional competencies of pre-service teachers.
2. Supervisors should provide regular guidance and constructive feedback to pre-service teachers during teaching practice exercises.
3. Workshops and seminars should be organized for pre-service teachers on classroom management, lesson delivery, and communication skills.
4. Adequate instructional materials and teaching resources should be provided in schools to enhance effective teaching and learning during teaching practice.
5. The Teaching Practice Assessment Guide should be periodically reviewed and updated to reflect current teaching methodologies and educational practices.

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