

EFFECT OF PHYSICAL AND BLOG-BASED FEEDBACK MODES ON PRESERVICE TEACHERS' PERFORMANCE IN MICROTEACHING IN FEDERAL COLLEGE OF EDUCATION (TECHNICAL) AKOKA, LAGOS

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ABSTRACT

This study investigated the effect of physical and blog-based feedback modes on the performance of preservice teachers in microteaching in Federal College of Education (Technical) Akoka, Lagos. Two research questions and two hypotheses guided this study. The study adopted quasi-experimental design. Forty pre-service teachers were assigned to two groups, physical group (20) and blog-based groups (20). A researcher-designed rating scale was used to collect data from participants. Analysis of covariance (ANCOVA) was used to test the research hypotheses at 0.05 level of significance. The results showed that there was no significant difference in the performance of the participants in the two groups on communication and questioning skills. This study concluded that physical and blog-based techniques have significant positive effect on the performance of preservice teachers in microteaching. Based on these findings, it was recommended that Colleges of Education should adopt a blend of physical and blog-based feedback to maximise the strengths of both modes for developing communication and questioning skills among preservice teachers.

Keywords: Blog-Based Feedback Mode, Microteaching, Performance, Physical Feedback Mode, Preservice Teachers.

Introduction

Quality education is a sine qua non to the educational development of any nation. Educational development is a precursor for social, political, economic, and general development of any society. Hence, the importance of quality teacher education programme cannot be underestimated. The significance of teacher education is succinctly stressed in the statement contained in section 6, sub section 56 (9a) of the Nigerian National Policy on Education. It is noted that "since no education system may rise above the quality of its teachers, teacher education shall continue to be given major emphasis in all educational planning and development. Teacher education is not only theoretically based but it is also practice oriented. Through theory and practice, pre-service teachers are provided with the knowledge and skills necessary for them to acquire the three basic components of teacher education. These components are techniques of teaching subject content (pedagogy), specialised knowledge in particular subject area, and learning about how children learn (Du Boulay, 2023).

There are several approaches through which pre-service teachers are provided with practical experience during the course of their training. These techniques include teaching practice and microteaching. Microteaching is a staple component of pre-service teacher training in Colleges of Education, because it scaffolds the transition from theory to practice and improves specific classroom competencies (Udo, 2019). It has proven to be an evidence-based strategy and an

important exercise in teacher education programme as it enhances the quality of trainee teachers. The process of training pre-service teachers can simply be viewed as a cordial relationship among the teacher trainer, trainee teachers and teaching skills (Ramirez, 2023). The teacher trainer plays a significant role in the process of training the trainee teachers through the teaching skills that ought to be possessed by the trainees. These skills are usually acquired by the trainee teachers through the microteaching practicum organised by the teacher trainers.

Communication and questioning are core microteaching skills. Effective communication allows preservice teachers to deliver content clearly, engage learners, and maintain classroom flow. Questioning skills stimulate student thinking, gauge understanding, and guide learning trajectories. Yet, research shows these skills are best developed through structured practice supported by feedback loops that direct attention to specific teacher behaviours (Iliasova, Smagulova & Kenzhebayeva, 2025). Feedback is an essential element of microteaching. It refers to the communication of the performance of a microteacher to him/her through written or verbal critique of recorded or live microlesson. Feedback reveals teaching strengths and weaknesses thereby ensuring improvement in teaching. Thus, the pre-service teacher derives the benefit of assessing the discrepancy between his/her performance and the expected standard of performance.

Feedback is applied for trainees' self-improvement through peers and self-evaluation starting from the microteaching experiment at Stanford university in the early 1960s, many users of microteaching have tended to look at feedback as an essential component for successful microteaching activities (Leonard, 2021). Feedback in microteaching can be provided through several means (e.g videotape, audiotape, physical instruction, blog-based and peers' observation). Through feedback using physical classroom and blog-based modes, pre-service teachers are provided with the objective basis for performance evaluation rather than subjective record of performance (Dillion, 2021).

Blog helps in improving the quality of training for pre-service teachers, leading to better acquisition of teaching skills for effective discharge of their duties or efficiency. This may be why Rosenstein (2023) noted that blog usage in microteaching lesson may be used for: performance assessment feedback, interactional assessment feedback, and situational assessment feedback. For performance assessment feedback, performance is used to designate an individual's behaviour in relation to the demonstration of desired skills to reach the goal of teaching, counselling, or communicating. The feedback is aimed at increasing a performer's awareness of strengths and weaknesses. The second, interactional assessment feedback focuses attention not only in the performance of an individual but also in the dynamic of the interaction between or among individuals. The major element in interactional assessment feedback is the behaviour of a person in relation to other people around him/her, or the ways he/she communicates with those around him/her. The communication can be verbal, non-verbal or both actions. The main function of the feedback is to serve as a catalyst for discussion to be used to enhance understanding and planning of an entire situation.

Microteaching is recognised as an important means of providing practical training for pre-service teachers in Nigeria. This importance engendered the inclusion of microteaching as an integral part of teacher education programme in Nigeria. For example, in the Nigerian

Colleges of Education, EDU 213 - Microteaching: Theory and Practice is a compulsory course (NCCE, 2001). Also, in the Nigerian universities, microteaching is taught as either an aspect of the general course on educational technology or an optional course. Microteaching enhances clarity of instruction and teacher confidence during classroom delivery (Bistu & Mangvwat, 2024). This suggests that microteaching is effective for refining communication behaviours when combined with structured feedback mechanisms. In spite of the inherent advantage of physical feedback mode, blog-based mode may also provide needed feedback in microteaching, since microteaching skills are verbal in nature. According to Ajayi (2023), blog-based feedback seems to have become almost a defining characteristic of microteaching, and seen as most effective for feedback.

Despite the recognition of the importance of microteaching, the course is poorly taught in most teacher training institutions. Empirical studies have established that most teacher training institutions in Nigeria do not give feedback to pre-service teachers due to inadequate number of experts, lack of equipment to give feedback to students (Ajayi-Dopemu & Talabi, 2016; Ajayi, 2023; Izuwa, 2023). In most cases, feedback is provided through teachers' and peers' recall of pre-service teachers' behaviour. In Nigerian Colleges of Education, traditional physical feedback remains dominant due to its interpersonal nature and ease of implementation (Olusanya, 2025). This hinders effective microteaching lessons. Consequently, preservice teachers' performance in communication and questioning skills may be negatively affected. However, physical feedback mode and blog-based feedback mode may be used to enhance the teacher trainees' performance in microlesson. This is supported by Leonard (2023) who reported that blog-based feedback provides essential feedback information much more than the traditional physical feedback mode. This is an indication that preservice teachers may show desired behavioural change such as improvement in communication and questioning skills after being exposed to the physical or/and blog-based feedback modes. It is against this background that this study investigated the effect of physical and blog-based feedback modes on preservice teachers' performance in microteaching in Federal College of Education (Technical) Akoka, Lagos.

Statement of the Problem

Feedback is an indispensable part of microteaching. In spite of various techniques which can be used to provide feedback to teacher trainees, most teacher training institutions in Nigeria hardly give feedback to pre-service teachers due to inadequate number of experts and lack of equipment to give feedback to students (Ajayi, 2023; Izuwa, 2023). However, some of the effective feedback modes identified in the literature of studies conducted outside Nigeria include physical feedback mode and blog-based feedback mode. Consequently, there is need for empirical studies on the employment of physical and blog-based as feedback modes within the Nigerian teacher training institutions such as college of education. Hence, this study examined the effect of physical and blog-based feedback modes on preservice teachers' performance in microteaching in Federal College of Education (Technical) Akoka, Lagos, Nigeria.

Research Objectives

The main objective of this study was to investigate the effect of physical and blog-based feedback modes on the performance of preservice teachers in microteaching in Federal College of Education (Technical) Akoka, Lagos. The specific objectives are to:

- i. examine if significant difference exists in performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in the use of communication skills; and
- ii. ascertain if significant difference exists in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in questioning skills.

Research Questions

The following questions were raised to guide this study:

1. Which difference exists in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in the use of communication skills?
2. To what extent do differences exist in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in questioning skills?

Research Hypotheses

The following null hypothesis were tested in the study:

Ho1: There is no significant difference in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in the use of communication skills.

Ho2: There is no significant difference significant in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in questioning skills.

Methods

This study was conducted in Federal College of Education (Technical) Akoka, Lagos, Nigeria. The sample used in this study was drawn from 200 level Science Education Students at the college of education. The sample size consisted of 40 students who have enrolled for the course, EDU 213: Microteaching, during 2022/2023 academic session. Three weeks were used for the theoretical and practical lessons on communication and questioning skills. During these periods, students were divided into two groups. A group of students was assigned to the physical mode and the other group to the blog-based feedback mode.

Group 1 (Physical feedback mode) consisted of 20 pre-service teachers. After the students in this group had received instruction, each pre-service teacher prepared a ten-minute micro lesson on each of the communication and questioning skills for presentation to their peers on topics of interest to the micro lesson teacher. These lessons provided opportunity for the researcher to obtain the pre-test data, and the recordings was played back for written and oral critique of the lessons by the researcher and the students in the group. In addition, each student had the opportunity for self -critique of his or her lesson. Students in this group were later asked after the critique to prepare a ten-minute micro lesson on each of the two skills, but on topics different from the earlier one delivered. Performance in this re-teach session provided post-treatment data. The student in Group 2 (Blog-based feedback group) which contained of 20 students were treated using the same approach that was used for Group 1; however, they experienced their session on a blog. After the critique, the re-teach was used to gather post-treatment data.

The instrument used to gather data from the participants in the study was "Microteaching Skills Rating Scale" which was developed by the researcher. Initial draft of the instrument was discussed with education and English Language experts. Based on their comments and suggestions, necessary corrections were made on the instrument. The instrument consisted of two major sections, A and B. Section A was on communication skills and had 12 items, while section B was on questioning skills which composed of 12 items. A five-point rating (Excellent, Very Good, Good, Fair and Poor) was used. Each of these ratings was assigned mark ranges, depending on the item. The total possible obtainable mark for communication sub-skills was 60, while possible mark for questioning was also 60, totalling 120. The instrument was pilot-tested for reliability using 20 Business education students in the second year of their programme using test-retest method. The data collected from the two administrations were analysed using Pearson Product Moment Correlation Coefficient. The instrument yielded reliability data values of 0.91 and 0.87 for communication skills sub-scale and questioning skills sub-scale respectively. The data collected at the pre-test and post-test stages for the two groups were analysed using Analysis of Covariance (ANCOVA) at 0.05 level of significance.

Results

The two research questions were hypothesised and tested in this section. The results of the tested hypotheses are shown in Tables 1 and 2.

Ho1: There is no significant difference in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in the use of communication skills.

Table 1:
ANCOVA of the Performances in Communication Skills by Students Exposed to Physical Feedback Mode and Blog-Based Feedback Mode

<i>Source of Variation</i>	<i>Sum of square</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Covariate Pre.	.751	1	.751	0.37	.848
Main Effect Treat.	26.188	1	26.188	1.308*	.260
Model	26.939	2	13.470	.673	.517
Residual	741.061	37	20.029		
Total	768.000	39	19.692		

* Not significant at 0.05 alpha level.

The results in Table 1 indicated that no significant difference in the performance of the two groups in the use of communication skills. Those exposed to physical feedback mode had a mean score of 36.80, while the blog-based feedback mode had a mean of 35.80 Inferential statistical analysis revealed that the F-value (1.308) is not significant since the P-value ($P = .260 > 0.05$), is greater than the alpha value. Thus, the hypothesis which stated that "There is no significant difference in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in the use of communication skills" was accepted.

Ho2: There is no significant difference significant in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in questioning skills.

Table 2:

ANCOVA Results on the Performances of Students Exposed to Physical Feedback Mode and Blog-Based Feedback Mode in Questioning Skills

<i>Source of Variation</i>	<i>Sum of square</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Covariate Pre.	129.178	1	129.178	2.527	.117
Main Effect Treat.	18.868	1	18.868	.376*	.544
Model	148.046	2	74.023	1.474	.242
Residual	1657.958	37	50.437		
Total	2006.000	39	51.436		

* Not significant at 0.05 alpha level.

The results as shown in Table 2 indicated that no significant difference existed in the performance of students exposed to either the physical mode or blog-based feedback mode in questioning skills through microteaching. Although, the blog-based feedback mode had higher mean score (70.20) than that of the physical feedback mode (68.80), inferential statistical analysis showed no significant difference. This is because the F-value for the treatment (.376) is not significant, as the P-value (.544) is greater than 0.05 alpha level. Thus, the null hypothesis, which stated that “There is no significant difference significant in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in questioning skills” was accepted.

Discussion of Findings

This study found that there was no significant difference in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in the use of communication skills. Specifically, differences in the two mean scores were marginal as reflected in means for overall performance in communication skills among preservice teachers in the blog-based mode and the physical mode. This finding contradicts the earlier findings of Dillion (2022) that students who were exposed to physical feedback mode used better interaction in the classroom than those who had blog-based feedback mode. This implies that the use of blog-based feedback mode yielded better communication skills than the use of physical feedback mode. However, the finding of this current study agrees with the results of Leonard (2023) who reported that both blog-based feedback and physical feedback modes provided the essential feedback information to preservice teachers; but blog-based feedback may be able to provide the essential feedback information much more than the traditional physical feedback mode.

This study showed that there was no significant difference significant in the performance of preservice teachers exposed to physical feedback mode and those exposed to blog-based feedback mode in questioning skills. Precisely, the preservice teachers in the blog-based had higher mean, while the physical mode had slightly higher score in the use of questioning skills; but the differences in their mean scores were marginal. This may be why Iliasova et al. (2025) found that digital feedback platforms (such as blog) enhance reflective practice and instructional improvement. In line with the finding of this study, a study by Teaching and Teacher Education (2025) revealed that iterative microteaching significantly improved preservice teachers’ questioning strategies and reduced teaching anxiety. Similarly, Genga-Ayiamba (2025) reported that multidimensional feedback, combining face-to-face and digital modes produce better learning outcomes than single-mode feedback. The researcher added

that feedback enabled trainees to internalise instructional expectations and refine teaching behaviours and skills such as questioning skills. This implies that microteaching has the tendency to enhance preservice teachers' ability to manage students' responses and ask cognitively stimulating questions. Thus, microteaching strengthens the questioning skills of preservice teachers through repetitive practice and reflection.

Based on the performance of students in the use of the communication and questioning skills after exposure to physical or blog-based feedback, it can be inferred that the use of any of the modes enhanced students' performance.

Conclusion

The importance of employing physical and blog-based techniques for providing effective feedbacks on microteaching cannot be underestimated. This is based on the fact that the use of these techniques has the tendency to enhance performance of teacher trainees on communication and questioning skills. Specifically, the results of the study showed that no significant difference existed between the performance of pre-service teachers exposed to physical feedback mode and those exposed to blog-based feedback mode. In essence, both modes (physical feedback and blog-based feedback) can be used to provide pre-service teachers with feedback in micro lesson effectively. Therefore, it can be concluded based on the findings of this study that physical and blog-based techniques have significant positive effect on the performance of preservice teachers in microteaching in Federal College of Education (Technical) Akoka, Lagos.

Recommendations

The following are recommended based on the findings of this study:

- i. The College of Education should adopt a blend of physical and blog-based feedback to maximise the strengths of both modes for developing communication skills among preservice teachers.
- ii. Teacher trainers should be provided with professional development on effective blog-based feedback strategy in addition to physical feedback mode to enhance acquisition of better questioning skills among preservice teachers.

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