# EFFECTS OF FLIPPED CLASSROOM INSTRUCTIONS AND TEACHING SELF-EFFICACY ON PRE-SERVICE TEACHERS' PRACTICE IN MICROTEACHING IN LAGOS STATE

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**Abstract**
*Microteaching practice is an innovation in teacher education employed in the preparation of pre-service and in-service teachers for the acquisition of specific teaching skills which enable them to discharge their duties effectively and efficiently. It plays an indispensable role in the preparation of quality teacher for the school system. Experience has shown that pre-service teachers have difficulties in mastering the required teaching skills as a result of limited exposure to laboratory and classroom interaction time coupled with large class size. It is expedient to introduce active learning and activity-based classroom strategy that is capable of correcting these. This study, therefore, investigated the effects of flipped classroom instructions and teaching self-efficacy on pre-service teachers' practice in microteaching in Lagos State. Factorial research design was adopted. Three government owned colleges of education were purposively selected in Lagos state and assigned to experimental and control groups. 200 level pre-service teachers were randomly assigned to Group Flipped Classroom Instructional Strategy (GFCIS) (250), Mobile Personalised Flipped Classroom Instruction (MPFCI) (250) and Conventional Instructional Strategy (CIS) (220). Instruments used were Micro teaching practice skill assessment rubric (r=0.70), Micro teaching flipped video evaluation rubric (r=0.87), Pre-service Teachers' Teaching Self-efficacy Skill Scale (r=0.83) and instructional guides. Data were analyzed using Analysis of Covariance and Sidak post-hoc test at 0.05 level of significance.* $Treatment$ *had a significant main effect on pre-service teachers' practice in microteaching* ($F_{(2,692)}$ *= 6.07; partial* $\eta^2$ *=0.17). Pre-service teachers exposed to GFCIS had highest mean score* (77.04) *followed by* MPFCIS (74.13) *and CIS* (70.49) *groups. GFCIS was more effective in enhancing pre-service teachers' practice in microteaching. Therefore, it should be adopted in microteaching practicum course at College of Education. The study recommends that flipped classroom instructional strategy should be adopted in teaching microteaching practice course. Also, access should be allowed to the repository of videos for pre-service teachers to strengthen different skills practice.*

**Keywords:** Flipped classroom instruction, teaching self-efficacy, Microteaching skills, Pre-service teachers Lagos State

## Introduction

The success of any nation's educational system rests largely on the quality, level of commitment and amenability to training of its practicing and pre-service teachers. Especially in this age where the application of modern technology is an integral part of the proceedings of teaching and learning. Teachers' role in providing quality education at all levels is predicated upon planning and development, and the intellectual and professional training received to discharge their duties and make them adaptable to changing situation (FRN, 2013). The acquisition of skills and teachers' practice are the most significant factors that determine the educational standards and its contributions to the growth of the nation. The quality of teacher education programme is an indispensable component of a well-planned and implemented microteaching programme (Paulley & Benwari, 2014). Salawu, Job and

Samuel (2012) attribute the ineptitude of the teaching force to the low level of training or competence acquired by the pre-service teachers during the microteaching courses and the teaching practice.

Microteaching practice is an integral part of teacher education programme with emphasis on the sound knowledge of the teaching skills and their subsequent demonstration to the competency level by the pre-service teachers. Microteaching practice is a teacher training technique where the pre-service teachers review a recording of a teaching session in order to get constructive feedback from peers. It is a teacher training technique for learning teaching skills. Microteaching practice is effective in preparing teachers for classroom experiences and reducing the anxiety they experience at the beginning of their professional life (Abakay, Alincak & Demir, 2015). It employs real teaching situation for developing skills and helps to get deeper knowledge regarding the art of teaching (Remesh, 2013). Microteaching is a technique designed to equip pre-service teachers for the real teaching experience by giving them the opportunity to undertake real teaching experience.

Microteaching is a course that brings in group way of engaging pre-service teachers in a collaborative and democratic process of lesson planning, use the lesson plan and analysis of performance. It is quick, enterprising and collaborative method of building teachers in training in a realistic manner, also to examine every facet of teaching with a view to entrench boldness in student teacher, listen to critique session from his/her colleagues and educator in order to gain mastery of teaching skills and cope before future learners (Arsal, 2014). The quality of their outcomes is the most significant parameter to measure the essence of teacher preparation. Microteaching practice is the strategy that is used in bringing the connections to knowledge, skills and pedagogical requirements which student teachers require to work during teaching-learning activity for learners' benefit. It is a form of practice-based learning by the pre-service teachers from both the model teacher and their colleagues in learning and developing the requisite skills that will assist them in discharging their professional duties. This is also a form of professional rehearsal for future performances by pre-service teachers under the supervision of qualified and professional supervisor (Becavich, 2010). The use of video clips for observation and review of previous microteaching practice sessions and appraisal (self-appraisal) of pre-service teachers is a necessary feature in microteaching practice. Pre-service teachers are active participants in assessing their colleagues as observations and comments are generated first from them before the teacher educator's final comment on the performance of the pre-service teacher. Microteaching practice is one of the factors that influence teacher preparation. It is an important component that determines the quality of the courses required for completion of a teaching certificate programme.

Adeosun (2012) remarks that in the 21$^{st}$ century, student teachers make efforts to develop the right strategies and acumen where rapid technological development of knowledge is no longer a 'once- in- a- lifetime experience for the individual, but rather an asset which constantly has to be updated. It is expected of a 21$^{st}$ Century teacher to possess requisite skills and competencies relevant to this age to discharge their duties well. In a quest to sharpen and improved on the existing method of training and empowering teacher with appropriate acumen and competences informed the evolution of microteaching flipped classroom (Strayer, 2007; Adedapo, 2013).

EDUCAUSE (2012) defines flipped classroom as an instructional strategy that permits learners access to classroom instruction before classroom interaction, and during class lead the interaction with contributions from learners. Flipped classroom concept refers to a form of classroom where the content had been taught in a recorded video which students watch before classroom interaction. But during classroom interaction, application of the content

earlier studied in the content of the flipped video takes place. Flipped Learning Network (FLN) (2014) sees flipped classroom instruction as a form of pedagogical strategy which reverses direct classroom instruction individualised learning and provides interaction among learners with educator as guide and monitor to learners during practice exercises by engaging them constructively during the classroom lesson. The Flipped classroom instructional strategy shifts more of the learning responsibility on the students while giving them greater opportunities to experiment with the content of the video. Brame (2013) note that students are doing the earlier and weaker parts of mental skills (recall and ability to demonstrate grasp of content) before teaching and learning activities, and dwelling on the stronger levels of cognitive domain (applying, analysing, evaluating and creating) in class, with the support of their colleagues and teacher educator.

Today, teachers are not expected to transmit knowledge to learners, but to help them create, construct, and explore their knowledge independently through interactions with the environment in accordance with social constructivist theory (Vygotsky, 1978). In a bid to bring constructivist teaching to microteaching practice in colleges of education, the teacher educator has pre-packaged each of the eight teaching skills approved by the NCCE into different modular video packages showing vital demonstration and information on each skill. Pre-service teachers then watch either as a Group Flipped Classroom Instruction Strategy (GFCIS) or Mobile Personalised Flipped Classroom Instruction Strategy (MPFCIS) ahead of class. Jottings on all observable features and relevant information are done based on each pre-service teacher's experience. This is followed by classroom discussion and interactions based on the content of the video watched on each skill. The teacher educator then asks each pre-service teacher to plan his/her lesson and then watches how the pre-service teachers perform each skill in succession. The appropriate instruments for evaluation designed for this purpose was used to measure the skill. Therefore, various skills are required by the teacher to make his/her teaching effective. Teaching is dynamic in nature; it should be an inherent desire of every teacher to make his/her teaching effective and result oriented.

Tweed (2013) defines teaching self-efficacy as the beliefs that an individual teacher carries in their respective acumen to plan, organise and implement in the right order the objectives set for teaching and learning. Teachers who have great confidence in themselves will try new things and experiment more with educational innovations in the classroom. Teaching self-efficacy is related to student teachers' learning and practice, also learners' attitudes and achievement (Hoden, Groulx, Bloom & Weinburgh, 2011). Gowie (2010) views teaching self-efficacy from two perspectives. They are general teaching confidence in one's ability and personal confidence in one's ability. The most ideal way to undertake training of pre-service teachers in this age is what Becavich (2010) refers to as "practice-based teacher education". This form of education will prevent pre-service teachers from experiencing a disconnect between what they perceive as "theory" (the principles and ideas taught in microteaching theory during the first semester) and what they perceive as "practice" (the knowledge and skills learnt through work with experience teachers and a model microteaching classroom demonstration) such "practice-based" teacher education places the enacted work of teaching at the heart of the curriculum and as the context for pre-service teachers' learning opportunities.

**Statement of the Problem**

The present level of societal outcry against the perceived ineptitude of the teaching force as a result of weak performance in practice of teaching has been attributed to the low level of training or competence acquired by the pre-service teachers during the microteaching courses and the teaching practice. In a rapidly changing world, the old system of teacher

training, which is teacher dominated, rigid and non-interactive no longer seems to meet the requirements of our schools and the society in the 21st century. Experience has shown that pre-service teachers have difficulties in mastering the required teaching skills because of inadequate exposure to laboratory and large number of pre-service teachers at this level of education. It has therefore become imperative to introduce active learning and activity-based classroom strategy as flipped classroom as a way out of this problem. Technology-based learning in microteaching practice has recently become a promising alternative to the traditional classroom learning for pre-service teachers, helping society move towards a vision of lifelong and on-demand learning. Every society invests in teacher education by developing the teachers' potentials in teaching skills methodologies and strategies that can promote the learners' needs in this technology driven era. Therefore, this study investigates the effects of flipped classroom instructions and teaching self-efficacy on pre-service teachers' practice in microteaching in Lagos State, Nigeria.

## Hypotheses

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

**$HO_1$:** There is no significant difference in pre-service teachers' practice in microteaching when exposed to flipped classroom video package, group flipped classroom instructional strategy and mobile personalized flipped classroom instructional strategy.

**$HO_2$:** There is no significant difference in pre-service teachers' teaching self-efficacy in microteaching when exposed to flipped classroom video package, group flipped classroom instructional strategy and mobile personalized flipped classroom instructional strategy.

## Methodology

Pretest-posttest, control group quasi -experimental design was adopted for the study. The target populations for this study comprised all the 200 level students Nigeria Certificate in Education (NCE) in Lagos State. The justification used for selecting institutions were: it is a college of education; NCCE curriculum is used as guide for the course; microteaching is taught at 200 level and is compulsory and it has microteaching laboratory and in use. The total samples for this study were 720 pre-service teachers in all using intact classes in the selected institutions (Adeniran Ogunsanya College of Education, Ijanikin (AOCOED) = 250, Federal College of Education (Technical) Akoka (FCETAkoka) = 250 and Michael Otedola College of Primary Education, Epe (MOCOPED) = 220) for this study.

## Research Instruments

The following instruments were used to collect the data for this study:

(i) Microteaching Flipped Classroom Video Package (MFCVP).
(ii) Instructional Guide on Group Flipped Classroom Instructional Strategy (IGGFCIS)
(iii) Instructional Guide on Mobile Personalised Flipped Classroom Instructional Strategy (IGMPFCIS)
(iv) Instructional Guide on Conventional Instructional Strategy (IGCIS)
(v) Microteaching Practice Skills Assessment Rubric (MPSAR)
(vi) Pre-service Teachers' Teaching Self-Efficacy Questionnaire (PSTTSEQ)

## Microteaching Flipped Classroom Video Package (MFCVP)

This instrument was designed by the researcher based on the eight teaching skills approved by the NCCE. Each skill was briefly taught and packaged separately in different modular forms in CDs or posted via their different WhatsApp groups where the pre-service teachers had access before the classroom interaction. The skills are: Set induction; Stimulus variation; Planned repetition; Reinforcement; Questioning; Non-verbal communication; Evaluation; and Closure (FRN, 2012).

**Instructional Guide on Group Flipped Classroom Instructional Strategy(IGGFCIS)**
The researcher developed this instrument based on the approved content for microteaching course (EDU 213) by the National Commission for Colleges of Education (NCCE). The entire eight (8) skills approved by NCCE were taught and put to different modular video tracks. The following were done:

(i) Agreed on a convenient venue and time where the participants watched the video.
(ii) Got a functional projector to project the skills already packaged in a compact disc to the screen for the audience.
(iii) One teaching skill was shown per contact.
(iv) Participants were free to interact and exchange ideas and views on the skills watched.
(v) The lecturer had prepared a short quiz on Power Point to ascertain the number of those who have already watched the video, jotted points and understood the lesson.
(vi) Further clarification, interaction and question were provided when the lecturer met the learners for internalization on the concept during the class on the details of each skill.
(vii) Participants were divided into different groups of ten (10) each for demonstration based on the content watched.

**Instructional Guide on Mobile Personalised Flipped Classroom Instructional Strategy (IGMPCIS)**
The researcher developed this instrument based on the approved content by the National Commission for Colleges of Education (NCCE). The entire eight (8) skills approved by this body were taught and put to different modular video tracks. The following were done:

(i) Each pre-service teacher in this category used his/her mobile phone to receive the flipped video on teaching skills posted by research assistant based on their grouping to their respective WhatsApp groups.
(ii) Participants were free to access the content and watch at their respective time and place on their respective devices.
(iii) One teaching skill was sent to the participant per contact.
(iv) Lecturer had prepared a short quiz on Power Point to ascertain the number of those who have already watched the video, jotted points and understood the lesson.
(v) Further clarification, interaction and question were provided when the lecturer met the learners for internalization on the concept.
(vi) Participants were divided into different groups of ten (10) each for demonstration based on the content taught.

**Instructional Guide on Conventional Instructional Strategy (IGCIS).**
The researcher developed this instrument based on the approved content by the NCCE, the regulatory body for colleges of education in Nigeria. The entire eight (8) skills approved by this body were taught. The following were done:

(i) General classroom teaching on content of the lesson.
(ii) One skill was taught per contact.
(iii) Participants were free to have face-to-face interaction for clarifications from the lecturer.
(iv) Participants were divided into different groups of ten (10) each for demonstration based on the content taught.

**Microteaching Practice Skills Assessment Rubric (MPSAR)**

This instrument was designed by the researcher to rate appropriately the microteaching skills of the pre-service teachers (participants) as they will be performing microteaching practice one after the other. This instrument was designed based on the content and scope of each of the eight skills. The instrument has a broad section with little bio-data requesting for the following: name, gender, department, school and institution. This is followed by the key in the Likert scale-like rubric: excellently well skilled (EWS), well skilled (WS), skilled (S), not well skilled (NWS) and totally unskilled (TU).

**Validity and Reliability of MPSAR**

This instrument was given to five lecturers who offered suggestions based on their vast experiences in the supervision of microteaching and teaching practice programmes. 20 pre-service teachers were requested to teach, and this instrument was used with two different raters. This was subjected to analysis using Scott's π formula and the r-value of 0.70 was obtained.

**Microteaching Flip Video Evaluation Rubric (MFVER)**

This instrument was adapted from other similar evaluation rubrics. The researcher adjusted the instrument to suit this purpose. This instrument was filled by the two experimental groups only to show ease of use in presentation, content and technical aspects of the video posted via WhatsApp for learners to watch. The calibration takes the following formats from excellent (5), very good (4), good (3), fair (2) and poor (1). The summation of all the points is 100%. The rating shows the level of acceptance by the learners on flip video's usability in teaching and learning process.

**Validity and Reliability of MFVER**

This instrument was given to three lecturers for the content and face validity of the instrument. Useful suggestions were carefully considered and integrated as appropriate to give the instrument a reliable standard. Two groups' inter-raters rated 40 students outside the participants for this study. A reliability coefficient index of 0.87 was obtained using Scott's π formula.

**Pre-Service Teachers' Teaching Self-Efficacy Questionnaire (PSTTSEQ)**

This instrument was adapted from Bakir, (2014). PSTTSEQ has two parts: A and B. Part A contains personal information like name, gender, department and institution. Section B consists of twenty-five (25) items questionnaires to get responses from pre-service teachers on their teaching self-efficacy. This instrument is scaled as follows: low, medium and high.

**Validity and Reliability of PSTTSEQ**

Four lecturers preview PSTTSEQ for content and face validity. Importantly, this instrument had to be re-validated because it was adapted. To ascertain its current value, it was given to 20 student teachers that were not part of this research work. The value read 0.83 Cronbach Alpha co-efficient.

**Research Procedure**

There were three levels of treatment. They are: Experimental Group 1 (Group Flipped Classroom Instructional Strategy (GFCIS), Experimental Group 2 (Mobile Personalised Flipped Classroom Instructional Strategy (MPFCIS) and Control Group (Conventional Instructional Strategy (CIS)). The participants for this study were 200 level students of the three selected colleges of education in Lagos State. The researcher employed the services of five research assistants who served as guides and coaches in their respective institutions. Each college selected was exposed to different treatment conditions since the content taught was the same as prescribed by the National Commission for Colleges of Education

(NCCE) minimum standard (FRN, 2012). The research assistant(s) for each of the treatment groups were person(s) who had the experience of microteaching. They were trained on the mode of operation of this research. Also, the microteaching lecturer in each of the selected institutions was readily available to give any required technical assistance.

The duration of the treatment for this study was twelve (12) weeks as stated below: 1st week- Institutional consent and familiarization, 2nd week –Training of research assistants and administration of pretest, 3rd - 10th week – Treatments, 11th week – Posttest and 12th week – Microteaching practice. Data were analysed using Analysis of Covariance of the posttest scores with pretest scores as covariates. The Scheffe-post-hoc analysis was equally carried out for explanation of the direction of significant main effects.

**Treatment Procedure for the Experimental Group 1- Group Flipped Classroom Instructional Strategy (GFCIS)**

Selection of participants from EDU 213 examination results was used to allocate groupings to each student based on his/her performance. One teaching skill was watched per contact time. Attendance was taken at the beginning of contact session to ascertain the level of participation. Research assistants operated the devices to view the chosen skill per contact. They monitored the process of learning during the period.

The following steps were followed:

(i) The group meets to watch the flipped video.
(ii) Pre-service teachers took jottings on the skill watched and noted action and demonstration of skill displayed by the media teacher.
(iii) There were replay opportunities, at most twice, for clarity sake.
(iv) Classroom interactions followed the next day after the pre-service teachers had watched the flipped video.
(v) A short quiz on Power Point comes first to ascertain those who have watched the flipped video during classroom interaction.
(vi) Immediate evaluation after the classroom interaction on the skill took place, which was compared with the posttest result.

**Treatment Procedure for the Experimental Group 2-Mobile Personalized Flipped Classroom Instructional Strategy (MPFCIS)**

Selection of participants from EDU 213 examination results was used to allocate groupings to each student based on his/her performance. Each group member that did not have a middle-end phone was allowed to borrow for the purpose of this study. Each participant registered his/her mobile phone number with the research assistants who were sending the chosen microteaching skills to the participants based on their respective WhatsApp groups.

The following steps were followed:

(i) The flipped video was sent a day before the classroom interaction to their different WhatsApp groups.
(ii) Each pre-service teacher acknowledged the receipt of flipped video on their phone by sending back to the research assistant "received" via their respective WhatsApp groups.
(iii) Pre-service teachers are told to take jottings of all actions and demonstrations of skills displayed by the media teacher.
(iv) Replies received by the research assistants were compared with the class attendance.
(v) A short quiz on Power Point comes first to ascertain those who have watched the flipped video.
(vi) Immediate evaluation after the classroom interaction on the skill took place, which was compared with the posttest result.

**Results**

**Hypothesis 1:** There is no significant main effect of treatment on pre-service teachers' practice in microteaching.

### 1.1 Analysis of Covariance of pre-service Teachers' practice in Microteaching by treatment and teaching Self-Efficacy

| Source | Type III sum of Squares | Df | Mean square | F | Sig. | Partial Eta squared |
|---|---|---|---|---|---|---|
| Corrected Model | 315634.914[a] | 27 | 11690.182 | 1.968 | .003 | .071 |
| Intercept | 130345.552 | 1 | 130345.552 | 21.943 | .000 | .031 |
| Pre-practice in | 44758.339 | 1 | 44758.339 | 7.535 | .006 | .011 |
| microteaching | 72048.823 | 2 | 36024.411 | 6.065 | .002 | .017 |
| Treatment | 8917.871 | 2 | 4458.935 | .751 | .472 | .002 |
| Teaching self-efficacy | 4110605.051 | 692 | | | | |
| Error | 36062845.000 | 720 | | | | |
| Total | 4426239.965 | 719 | | | | |
| Correlated Total | | | | | | |

R Squared = .071 (Adjusted R Squared = .035)

* Denote significant difference at 0.05 level of significance

**Table 2: Pairwise Comparison of Practice in Microteaching Posttest Mean Score by Treatment**

| Treatment | Mean | N | GFCI | MPFI | MCS |
|---|---|---|---|---|---|
| Group Flipped Classroom Instructional Strategy (GFCIS) | 77.04 | 250 | | * | * |
| Mobile Personalised Flipped Classroom Instructional Strategies (MPFCIS) | 74.13 | 250 | * | | |
| Conventional Instructional Strategy (CIS) | 70.49 | 220 | * | | |

Table 1 reveals the level of significance of main effect of treatment on pre-service teachers' practice in microteaching ($F_{(2,692)}$ = 6.065; P< 0.05; $\eta^2$ = 0.17). This implies that treatment has a significant main effect on pre-service teachers' practice in microteaching posttest mean score with an effect size of 1.7%. Therefore, the null hypothesis 1 is rejected. To determine the direction of the main effect of treatment, Sidak post hoc analysis and estimated marginal means were computed and presented in the pairwise comparison table.

Table 2 shows that the practices in microteaching posttest mean score (229.29) of pre-service teachers exposed to (GFCI) is significantly different from that of those exposed to MPFCI (202.72) and Control (195.49) respectively. The Table 1.2 also shows that the practices in microteaching posttest mean score of pre-service teachers exposed to MPFCI has slightly different scores from the posttest mean scores of the teachers exposed to Conventional Instruction which is not significant. The table also shows that the performance of student teachers exposed to GFCI had the highest mean score in microteaching practice followed by that of those exposed to Mobile Personified Flipped Conventional Instructional Strategy. Therefore, the significant main effect is solely attributed to the practices in microteaching posttest means scores of pre-services teachers exposed to GFCI.

**Hypothesis 2:** There is no significant difference in pre-service teachers' teaching self-efficacy in microteaching when exposed to flipped classroom video package, group flipped classroom instructional strategy and mobile personalized flipped classroom instructional strategy.

Table 1.1 reveals the main effect of teaching self-efficacy as not significant on pre-services teachers' practice to microteaching ($F_{(2,692)}$ = .75; P> 0.05). As a result of this, the teaching self-efficacy has no significant main effect on pre-service teachers' practice in microteaching therefore the null hypothesis 2 is not rejected.

**Discussion**

The results of this work reveal that pre-service teachers' microteaching practice treatment, has a significant main effect. The significant effect was found to be solely due to the posttest mean score of pre-service teachers exposed to group flipped classroom instructional strategy. This implies that the group flipped classroom instructional strategy enhanced the practices of pre-service teachers in the classroom compared to mobile personalised flipped classroom instructional strategy which scarcely provides the pre-service teacher opportunity to watch the flipped instruction with their peers. It can be deduced that watching a flipped instruction in a group setting allows pre-service teachers to develop better practice in microteaching. Considering the nature of the practices which often need to be rehearsed/mimicked before mastery, the pre-service teachers after watching a flipped instruction on set induction can demonstrate it to the members of their group who will serve as students and assessor. This finding is in line with Jim-Hyounk (2014) and Ahmad (2016) who view learning activities in flipped classroom in two divisions. Activities before class and activities during class. The activities before class involve three components: self-learning, online interactive training and pre-class exercise. The in-class activities comprised of a quiz, a summary lecture and an in-class exercise. This implies that the group and mobile Personalised flipped classroom instructions enhanced the practices of pre-service teachers in the classroom compared to conventional instructional group.

Considering the nature of the practices which often need to be rehearsed before mastery, the pre-service teachers after watching a flipped video on set induction can demonstrate it to the member of their group who will serve as students and assessor. This findings buttress Lampert (2010), Remesh, (2013) and Abakay, Alincak and Demir, (2015) who point to the many ways the term 'practice' is used in reference to the teaching profession: as that which contrasts with theory, as a collection classroom activities that pre-service teachers do ("teaching practice"), as rehearsal for future performance ("practicing"), as a profession. Similarly, the most ideal way to undertake training of pre-service teachers in this age is what Becavich (2010) refers to as "practice-based teacher education". This form of education will prevent pre-service teachers from experiencing a disconnect between what they perceive as "theory" (the principles and ideas taught in microteaching. Theory during the first semester) and what they perceive as "practice" (the knowledge and skills learnt through work with experienced teachers and a model microteaching classroom demonstration) such "practice-based" teacher education places the enacted work of teaching at the heart of the blueprint and the expected learning outcomes from pre-service teachers.

The results here show that there is no significant difference in pre-service teachers' teaching self-efficacy in microteaching when exposed to flipped classroom video package either as group flipped classroom instructional strategy or mobile personalised flipped classroom instructional strategy. This is contrary to Gibbs (2002) and Bakir (2014) who remark that teaching self-efficacy is a predictor of practice in microteaching as it is referred to as the ability possesses by individual to control self in the area of cognitive, affective and psychomotor domains. Also, the results negate the findings of Mergler and Tangen (2010) who summarise from a compendium of researches on microteaching practice that microteaching practicum is employed to boost student teachers' teaching self-efficacy as regards teaching by making classroom interactions result oriented based on their confidence to discharge their duties effectively. This could be as a result of self-reflection/feedback

from colleagues and teacher educator will cover different sources of teacher efficacy beliefs as: mastery experiences, vicarious experiences, verbal persuasion and arousal.

**Conclusion**

Based on the findings of this study, it can be concluded that flipped classroom instructions (both groups flipped and mobile personalised flipped classroom instructions) have effects on pre-service teachers' practice in microteaching in Lagos State. This is to substantiate that there were problems the way microteaching courses were being handled before. The pre-service teachers enjoyed the use of technology, anywhere and anytime features of flipped classroom instructions because it placed more responsibilities on them to conceptualise their learning.

**Recommendations**

The following recommendations can be drawn based on the findings of this study:

(i) Flipped classroom instructions should be adopted to teach microteaching practice to effectively proffer to the problems associated with it like class size, inadequate time and lack of practice.

(ii) Lecturers handling microteaching courses should be made to see the importance and advantages inherent in flipped classroom instructional strategies thereby avail them the opportunities to be trained through workshops and conferences.

(iii) Each institution should make available portals or repository where videos of previous microteaching practices can be accessed by pre-service teachers for self-development.

(iv) Each pre-service teacher should be encouraged to possess relevant devices like mid-end phone internet compliant with good camera for use during microteaching practice.

(v) The national Commission for Colleges of Education being the regulatory body should strengthen each institution in this regard, since microteaching practice is a compulsory course and pre-requisite for teaching practice.

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