



GLOBAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY
INTERDISCIPLINARY

Volume 13 Issue 4 Version 1.0 Year 2013

Type: Double Blind Peer Reviewed International Research Journal

Publisher: Global Journals Inc. (USA)

Online ISSN: 0975-4172 & Print ISSN: 0975-4350

Integrating video Technology in Micro-Teaching Sessions for Teacher-Trainees' Self-Appraisal And Professional Growth

By Ekpo-Eloma, E. O, Arikpo, A. & Catherine N. Ebuta

Univesity of Calabar, Nigeria

Abstract- The study examined the relationship between the use of video technology and teacher trainees' self-appraisal for progressive professional perfectibility. Two null hypotheses were formulated to guide the study. The quasi-experiment involved 100 third year students of the Faculty of Education, Cross River University of Technology engaged in microteaching. Data was obtained through a well validated ten-item Teacher Trainee Affective Response Questionnaire (TTARQ) developed on a four point Likert-scale by the researchers. The analysis of data was done using Pearson product moment correlation coefficient and independent t-test analysis for the first and second hypotheses respectively at 0.05 level of significance and 98 degree of freedom. The result of the study shows that there is a significant relationship between the use of video technology and teacher trainees' self-appraisal and evaluation, gender notwithstanding. The study therefore canvassed for the patronage of multi-media technology application in microteaching to enable teacher-trainees objectively assess their performance and also by their instructors and colleagues.

GJCST-G Classification: K.4.0



Strictly as per the compliance and regulations of:



Integrating video Technology in Micro-Teaching Sessions for Teacher-Trainees' Self-Appraisal and Professional Growth

Ekpo-Eloma, E. O ^α, Arikpo, A. ^σ & Catherine N. Ebuta ^ρ

Abstract- The study examined the relationship between the use of video technology and teacher trainees' self-appraisal for progressive professional perfectibility. Two null hypotheses were formulated to guide the study. The quasi-experiment involved 100 third year students of the Faculty of Education, Cross River University of Technology engaged in microteaching. Data was obtained through a well validated ten-item Teacher Trainee Affective Response Questionnaire (TTARQ) developed on a four point Likert-scale by the researchers. The analysis of data was done using Pearson product moment correlation coefficient and independent t-test analysis for the first and second hypotheses respectively at 0.05 level of significance and 98 degree of freedom. The result of the study shows that there is a significant relationship between the use of video technology and teacher trainees' self-appraisal and evaluation, gender notwithstanding. The study therefore canvassed for the patronage of multi-media technology application in microteaching to enable teacher-trainees objectively assess their performance and also by their instructors and colleagues.

1. INTRODUCTION

Classroom pedagogy is an alluring exercise especially for trained teachers. It is equally inundated with technicalities and procedures. It is only professional teachers who possess the skills and competencies, through training and re-training, to effect a positive change in behavior in those they teach. Obviously, professional teachers do not fall down from the blues like meteorites into the school system. They undergo vigorous and rigorous, prolonged or short term, theoretical and practical training, induction and internship to be sufficiently equipped with the wherewithal of what, how, whom and when to teach. Therefore, a well-bred teacher-intellectually, psychologically, professionally and procedurally catalyses learning and propels the educational system to enviable heights.

On the other hand, untrained teachers (those bereft of appropriate teaching skills) merely gamble and ramble through the teaching-learning process each passing day at the peril of the learner and the entire educational system. They do not have the nitty gritty to cause big sparks at the sensory receptors of the learners (Ekpo-Eloma and Udosen, 2008). And, this of

course, contributes substantially to the falling standard of education. This is so because, teachers tend to replicate their kind. Good teachers produce good students and bad teachers, bad learners.

Thus, teachers perform enormous functions in society. As catalysts of human resource development, teachers stand in between the lesson and the learner. According to Eddie (2001), what a teacher knows and what he does in the classroom setting can have far reaching consequences on both the learner and society. The Federal Ministry of Education (2004) equally admits that no nation can rise above the quality of its teachers. It follows logically that teacher preparation for optimum performance, enhanced professional growth and quality service delivery should be given utmost concern. Besides being enrolled in formal teacher training institutions, and exposed to courses like educational technology, psychology, philosophy, measurement and evaluation, principles and methods of teaching, one practical way of enhancing initial teacher preparation and resourcefulness is through microteaching.

According to Esiobu and Maduekwe (2008), microteaching is a melting point of theoretical knowledge of teaching and its actual practice under a simulated classroom environment. Obi (1991), maintains that microteaching is a simplified training system designed to enable trainee-teachers to practice and acquire teaching skills under a supervisor, in a short lesson of five to ten minutes with a small group of few students, employing colleagues or videotapes for feedback, focusing attention on only one teaching skill at a time. Furthermore, Abifarin (2004) and Adewoyin (2007) describe microteaching aptly as a scaled down teaching technique in terms of class size, tasks, time and skills. It is simply teaching in miniature, with the sole aim of exposing these category of students to the actual art of teaching in the classroom setting.

Microteaching is a critical component of teacher education as well as an empowerment technique which provides prospective teachers with opportunities to link theories of teaching with practice thereby stimulating acquisition of teaching skills and competencies (Abifarin, 2004). It thus represents a major paradigm shift from the traditional method of teacher trainee preparation to a more objective approach to training

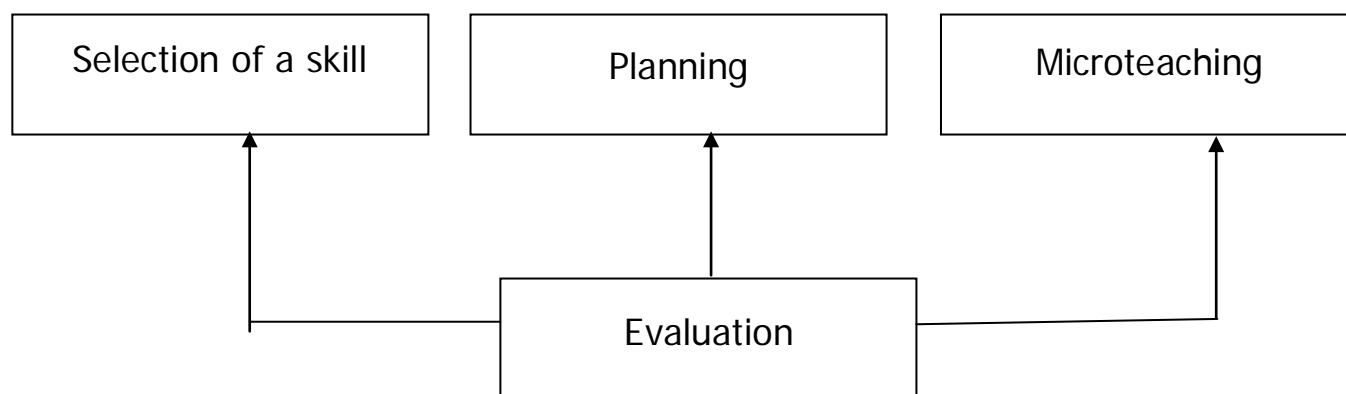
Authors α σ: Department Of Curriculum And Teaching, University Of Calabar, Calabar. e-mail: abamariikposfso@yahoo.com

Author ρ: Cross River State College Of Education, Akamkpa.

aimed at enhancing teachers' exposure and professional competence.

It was first developed in 1963 by Doright Allen, Frederick McDonald and Associates at Stanford University, USA with the aim of improving the quality of teacher training and service delivery (Abifarin, 2004; Adewoyin, 2009 and Federal Ministry of Education, 2007). Microteaching is an invaluable clinical teaching

experience that exposes teachers to the complexities of teaching by providing safe, interactive and fun environment they need to observe, interact, criticize and acquire skills of teaching (Al Methan, 2003; Karthagen, Loughrane and Rusell, 2006). The steps involved in microteaching include: selecting specific learning tasks, planning, teaching and evaluation as represented in the diagram below:



Microteaching cycle/process
(Source: Adewoyin, 2007:148)

The main essence of microteaching is to inculcate the values of reflective practice (Bento-Kuppa, 2001). And this enables trainees have an objective appraisal of themselves for the purpose of self-improvement and sustained professional growth (Adewoyin, 2007).

However, one thing that adds glamour to and makes the evaluation process more objective, highly reflective, realistic and more practical is the integration of video technology into microteaching. Heinich, Molenda, Russell and Smaldino (2002) describe video as any electronic media format that employs motion pictures to present a message. With the aid of a video machine, all the instructional activities/actions during the microteaching sessions are captured, highlighted and later displayed and replayed for observation, comments and criticisms by both the supervising teacher, the student and colleagues. It further aids the teacher-trainee to sit back, watch and assess his strengths and weaknesses after teaching using reliable guidelines such as the Stanford Teachers' Competence Appraisal Guide (STCAG). This guide shows, in a nutshell, what should be assessed during microteaching and how.

In the final analysis the trainee notes his weaknesses, makes corrections in subsequent teaching sessions and these promote the acquisition of the requisite skills and competences for sustained professional enhancement.

Video technology can be effectively integrated into microteaching first of all by replaying similar

recorded videotaped demonstrations of others. This is to enable the trainee teachers take a cue and acquaint themselves with the video skill(s) to watch and take a cue from it before the actual commencement of his teaching. While teaching, every bit of action or inaction is captured for playback and evaluation. Together with their peers and instructors, the trainees critically evaluate their teaching session.

This study, therefore, examines the potency of video recordings/ technology in the appraisal of teacher-trainees microteaching encounter for self-improvement, gradual acquisition and perfection of requisite teaching skills before going on teaching practice and the actual practice.

a) The problem

Teacher preparation for proficiency is gradually but systematically achieved through series of curricula activities in the school setting. This calls for harmonization of courses in educational theory and practice. The first practical step is subjecting teachers in training into microteaching after which they go out on 8-10 weeks teaching practice. The application of video technology in microteaching sessions captures every bit of the teacher-trainees presentation as well as minimizes the usual student-student and student-teacher arguments over performance. And, the knowledge of immediate feedback provides opportunity for improvement. The issue then is to what extent would the use of video technology enhance the objective appraisal of

teachers-in-making during this scaled down teaching encounter for sustained quality service delivery.

b) Purpose of study

The purpose of this study is to examine the effectiveness of video-technology in the appraisal of the performance of teacher-trainees for enhanced professional growth and development.

c) Research questions

The following research questions were generated to guide the study.

1. What is the relationship between the use of video technology and self-appraisal of teacher-trainees in microteaching?
2. Would the use of video technology have any significant difference between male and female teacher-trainees performance in microteaching?

d) Research hypotheses

This study is based on the following hypotheses.

1. There is no significant relationship between the use of video technology and pre-service teachers' self-appraisal.
2. There is no significant difference of the effect of use of video technology in microteaching for self-appraisal between male and female teacher trainees.

e) Methodology

Research design

The study is a quasi-experimental research using 100 students.

f) Population

The population of the study consisted of the 2007/2008 third year education students of Cross River University of Technology numbering 216. Who were engaged in teaching practice as a semester course requirement.

g) Sample/sampling technique

The researchers randomly selected 100 students, 50 each from the Departments of Primary Education (20 males and 30 females) and Educational Administration (27 males and 23 females). A toss of the Manchester United keyholder was used as the sampling technique in assigning the primary education students into the experimental class while those of Educational Administration as the control group.

h) Instrumentation

A ten-item Teacher-Trainee Affective Response Questionnaire (TARQ) was the only instrument used for data collection. It was developed on a four-point Likert-scale and administered to both the experimental and the control students. The contents of the questionnaire mostly covered issues like meaning of microteaching, microteaching skills and the use of video technology.

i) Validation of instrument

In order to ensure the face and content validity of the research instrument it was vetted by four experts (three in measurement and evaluation and one in curriculum and teaching) all of the University of Calabar.

j) Reliability of instrument

The Pearson product moment correlation coefficient was used in calculating the reliability index of the ten teacher-trainee affective response questionnaire and a reliability index of 0.80 was obtained.

k) Administration of instrument

The Teacher-Trainee Affective Response Questionnaire (TTARQ) was administered on the 100 teacher-trainees in both the experimental and control classes and analyzed using Pearson product moment correlational statistics and independent t-test respectively for h_{01} and h_{02} .

l) Results and discussion

The results of the study are presented hypothesis by hypothesis as follows:

Hypothesis one

This hypothesis states that there is no significant relationship between the use of video technology and pre-service teachers' self-appraisal. To test this hypothesis, data obtained from the questionnaire was analyzed using Pearson product moment correlation and the result as presented in the table below.

Table 1 : Analysis of the relationship between the use of video technology and pre-service teachers' self appraisal during microteaching (N=100)

	$\frac{\sum x}{\sum y}$	$\frac{\sum x^2}{\sum y^2}$	$\sum xy$	r-cal
Use of video technology	1221	257985	245956	0.99*
Pre-service teacher self-appraisal	1191	238283		

*Significant at .05; df=98; critical r=.195

From the result presented in Table 1 above, the data collected for hypothesis one were summed up under (X) and (Y) respectively. The calculated r-value of 0.99 compared to the critical r of .195 shows a significant high relationship between the use of video technology and self-appraisal for professional growth of teacher trainees. Hence the null hypothesis was rejected in favour of the alternate.

Hypothesis two

This hypothesis states that there is no significant difference of the effect of use of video

technology in microteaching for self-appraisal between male and female teacher trainees. The result is presented below in Table 2 below.

Table 2 : Independent t-test analysis of influence of video technology on male and female teacher-trainees' self-appraisal

Gender	N	\bar{X}	SD	t-cal	r-crit
Male	50	2.4	0.5	1	2.0
Female	50	2.39	0.5		

*Significant at .05 level; df=98; critical r=.195

From the analysis in the table above, the calculated t-value of 1 is lower than the critical t-value of 2.0, meaning that there is no significant difference between the effect of use of video technology on self-appraisal of male and female teacher trainees. Hence the null hypothesis is accepted.

As earlier noted, when video technology is integrated into microteaching sessions it will captivate the interest of teacher trainees. Besides, the use of this technology captures wholesale every action during microteaching for replay to enable the micro-teacher appraise and evaluate his/her performance. This agrees with the view of Eddie (2001), that videotape recordings of microteaching sessions is a necessary requirement for the stimulation of self-reflection for the student-teacher during microteaching. Esiobu and Maduekwe (2008) assertion further corroborates the findings of the study that the use of multi-media in the recording of microteaching performance is one of the most effective strategies that enhances the benefits of interaction and reflection, and provides student teachers and instructors the opportunity to review lessons taught, make observations as well as provide feedback and constructive criticisms.

The result of the second hypothesis also shows that there is no differential effect of the use of video technology during microteaching between male and female teacher trainees. This finding contradicts Abonyi and Eze (2007) who maintain that some instructional resources have been found to be gender sensitive. The use of this device to capture the activities of microteaching has a salutary effect in terms of promoting users' interest as well as enhancing their self-appraisal/evaluation, gender notwithstanding. This means that both male and female teacher trainees benefit maximally from the use of video technology especially in assessing their performances for enhanced professional growth development.

II. CONCLUSION AND RECOMMENDATIONS

Teacher grooming for his professional calling demands quality preparation. Teachers must be

exposed to the nitty-gritty of their career by undergoing series of training and induction of which microteaching happens to be the first practical step towards teacher preparation. Incorporating video technology in microteaching session would heighten participants' interest and afford them ample opportunity to assess their performance exactly as it is without a modicum of doubt.

Therefore, institutions statutorily committed to the training of teachers should ensure that attention – compelling instruction devices like video machines, closed circuit television etc are procured and effectively utilized during micro-teaching to capture the actions and inactions of those involved and thus minimize, to the barest degree, unnecessary arguments among instructors, teacher trainees and peers.

REFERENCES RÉFÉRENCES REFERENCIAS

1. Abifarin, M. S. (2004). *An insight to microteaching*. Lagos: Inter-Venture Publishers Ltd.
2. Adewoyin, J. A. (2007). *Fundamentals of educational technology*. Ota: Artitude Communications Inc.
3. Al-Methan, A. E. (2003). Merits of microteaching as perceived by student teachers of Kuwait University. *Journal Pendidikan* 28, 65-76.
4. Benton-Kupper, J. (2001). *The microteaching experience: Students' perspectives*. Education (4), 121, 830-835.
5. Eddie, G. A. (2001). *Elements of microteaching*. Owerri: Totan Publishers Ltd.
6. Ekpo-Eloma, E. O. & Udosen, N. I. (2007). Meeting the challenges of teaching and learning in the 21st century: Implication for stakeholders in education. *Journal of Professional Growth and Development* 2(2), 235-241.
7. Esiobu, G. O. & Maduekwe, A. N. (2008). *Interactive and reflective learning using multi-media: Insights from preservice teachers' microteaching experience*. Lagos: NAEMT Conference.
8. Federal Ministry of Education (2007). *Special teachers upgrading programme*. Kaduna: NTI Press.
9. Karthagen, F.; Longhrum, J., Russell, T. (2006). Developing fundamental principles for teacher education programmes and practices. *Teaching and Teacher Education*, 22, 1020-1041.
10. Heinich, R., Molenda, M., Russell, J. D. & Smaldino, M. (2002). *Instructional media and the new technologies of instruction*. New York: Wiley and sons.
11. Obi, T. E. C. (1991). *Theory and practice of microteaching in teacher education*. Lagos: African Educational Resources.