

Effectiveness of video-tape recorder on micro-teaching on student teachers practice of stimulus variation skills

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Abstract. Micro-teaching is one of the recent innovation in teachers training and improvement technique in teaching and learning process. A video-tape recording on micro-teaching on student teachers practice is made and played back for the intern to benefit from the immediate feed-back and to participate in self evaluation. This is done when a short lesson of about five to ten minutes is recorded and played back making a critique of it, and repeating the operation to improve certain components of the micro-lesson. This paper is on the effectiveness of video-tape recording on micro-teaching on student teacher's practice of stimulus variation skills. Two research questions and two null hypotheses were used for study. A total of 24 students (14 males and 10 females) registered for the course education 323, formed the population. Micro-teaching students in the school of industrial and technology education, Federal University of Technology, Minna were used as cumulative. The instrument used for data collection was a checklist which was constructed by the researcher for the purpose of the study. The data were collected through observation according to sex and ability levels. The data was analyzed using t-test statistic by showing the frequencies occurrence of stimulus variation behaviors demonstrated by students within each of the variable. The result revealed that the experimental group had higher frequencies of the stimulus variation then the control group due to their active participation in the exercise and peer criticism received. The control group had low frequencies of the stimulus variation as they indirectly observed and then make changes. The result therefore confirms that a direct learning experience is often more effective in bringing about desirable behavioral changes in learners than indirect experience.

Keywords: Variation skills, stimulus, micro-teaching, video-tape recorder, teachers' practice.

INTRODUCTION

Micro-teaching is a method of teaching on a small-scale whereby the various skills involved in teaching are analyzed and isolated or practiced singly. These skills are specific teacher behaviors designed to make classroom instruction more effective. This skill include the set induction, use of examples stimulus, various questioning, re-enforcement, planned repetition, non-verbal communication and closure (Williams, 2010). The idea behind micro-teaching is that when the student teachers succeed in mastering each of those component skills, they should in the actual teaching and learning situation be able to integrate what they have learned in each skills for effective teaching. Boredown is one of the major problems both the teacher and the students usually

experiences in the classroom during a lesson period.

According Sambo (2011), the instructional styles of many teachers especially the inexperienced ones do little to relieve student boredom. Many teachers remain stationary at a desk or lectern. Many speak in dull flat monotonous voice. The pattern of micro-teaching student teachers interaction is always teacher-to-students. A teacher in a classroom is a stimulus, and he is expected to provide the students with stimulus variation skills so that learning can take place effectively (Sanda, 2012).

According to Elvis (2011), the effectiveness of microteaching through the use of video-tape has promoted teaching and learning theory into practice. He went further say that micro teaching can be applied to the

teaching technique associated with any school subject. The research of Desmond (2011) revealed the value of micro teaching approach to teaching specific technique for effective foreign language was effective. He further said that the specific skills that can be used for foreign language could be simulation involvement, recognizing non-verbal behaviors.

According to Oscar (2012), in a micro-teaching setting, good student teachers practices can demonstrate their skills and be recorded on video-tapes. He went further to say that a micro-teaching student teachers practice has a basic structure and built-in flexibility. These characteristics have made it a natural setting in which to develop instructional methods of stimulus variation skills and techniques.

Instructional skills well modeled have many uses. They can be used as an examples to be imitated, and can be used to show the instructional alternatives available to student teachers practices (Ahmed, 2011). Kudu (2010) stated that video-tape recorder on micro-teaching on student teachers practices can be used as a research tool. Research in education has always been a very tedious task because of the many variables involved in the teaching learning process. The effectiveness of video-tape recorder on micro-teaching reduces the complexities of classroom teaching, thus allowing the student teachers practices to analyze specifics more closely. Student's teacher's practice on micro-teaching has great control over the learner as the supervisor can more easily make the student teacher aware of distracting idiosyncrasies.

Effectiveness of micro teaching when compared with the conventional method in training elementary school teachers revealed great performance among the teachers (Ekon, 2011) some researchers Zikas (2010), Cooper (2010) reported that their teacher trainees who received micro-teaching experience performed significantly better than those that did not.

Statement of the problem

Micro-teaching process and the continued development of Nigerian teachers is currently facing a number of challenge. As a result of these challenges, video-tape recorded can hardly be used by teacher training institution. Peer evaluation of students' micro-teaching practices has been proposed as an alternative cheaper approach. The question is how effective can this approach be in the effort to train student teachers to demonstrate the skills of stimulus variation when they have to undertake actual classroom teaching in a school setting?

Purpose of study

The purpose of this study is to determine the effectiveness

of video-tape recorder on micro-teaching student teachers practice of stimulus variation skills. The study will specifically aim at determining the following:

1. Whether micro-teaching teachers practice exposed criticism lessons in stimulus variation would performed better than their colleagues who did not experience direct practice of the same skill.
2. The demonstration of stimulus skills when micro-teaching teachers practice and non micro-teachers practice are engaged in actual teaching.
3. To determine the effects of the experimental treatment on performance with regard to ability level and sex as variables.

Research questions

Two research questions guided this study and they are:

1. Does the amount of stimulus variation influence the behavior of micro-teaching student-teachers practice given the experimental group?
2. Does the amount of stimulus variation behavior skills on video-tape influence the ability level of micro-teaching student-teachers teaching practice in the experimental group?
3. Is there any difference in the amount of stimulus variation skill/behavior on video-tape recorder of micro-teaching student teacher practice in the male and female experimental and control groups?

Hypotheses

Two null hypotheses were also propounded to guide the study, thus:

1. There is no significant difference in the amount of stimulus variation on video tape as determined by the frequency of stimulus variation behaviors demonstrated during teaching practice by the experimental group.
2. There is no significant difference in the amount of stimulus variation behavior skills on video tape as regard to ability level of student teachers teaching practice in the experimental and control groups.
3. There is no significant difference in the amount of stimulus variation skills/behavior on video-tape recorder of micro-teaching student teachers practice in the male and female experimental and control groups.

MATERIALS AND METHODS

This was an experiment research, a total of 24 students registered for the course education 323 in science education department federal university of technology were used for the study. They were made of 14 males and

Table 1. Provide legend.

Groups experimental control	N	o	e	o-e	t-cal	t-cnt
	12	76	62	14	6.331	3.841
	12	48	62	14	210.25	3.391

10 females. Cumulative grade points averages (GPA) of the students in their previous years result were used. They were classified into two ability level groups, such as above average ability level group falls between a GPA of 3.00 with 13 subjects and below average ability level groups falls between 2.00 with 11 subjects.

The stratified random sampling technique was used to assign the subjects into the experimental and control groups based on their sex and ability levels. There were 12 subjects in the experiment group 12 also in the control group respectively.

Instrumentation

The instrument used for data collection was a check list which was developed by the researcher for the purpose of the study. It consisted of ten behaviours reflecting a variety of stimulus that could be demonstrated in the course of the lessons or topics chosen to be taught for the purpose of the study. The behavioural stimuli included exposition/lecture, oral explanation teaching aids, call students to respond to tasks, teacher demonstration without involving students. Teacher demonstrations involving students, teachers praises and encouragement and so on. It was validated by the experts in the field of social studies and technology education in the school of technology education. They found the instrument effective.

Data collection

The data were collected through observation. The researcher arranged to observe the experimental and control groups students in the course of the teacher practice exercise in the schools within Minna metropolis. The student-teachers posted to various schools on teaching practice knew that they would be supervised by the researcher but did not know that the data for the study was to be collected for the purpose of testing the hypotheses. This was planned in order to have a common basis for judging the effectiveness of their performance. During the data collection, the researcher physically observed all the subjects and coded the frequencies of occurrence of various stimuli employed by the student teachers during their teaching practice. The experimental group and control group were taught at the same time but those in experimental group carried out direct practice exercise in the stimulus variation skills

while the control group observed. Both groups were taught the meaning of the skills with some examples but experimental group were selected to demonstrate the skill after practicing the skill for about 10 min, the rest of class members criticized or evaluated their performance and thereafter they repeated the performance based on peer evaluation.

The experimental and control groups were finally observed and data were collected using the checklist. The data were analyzed by showing the frequency of occurrence of stimulus variation behaviors demonstrated by the students within each of the variables and collected based on the hypotheses.

RESULTS

The results from findings were presented as follows:

Research question 1:

Does the amount of stimulus variation on video-tape recording influence the behaviors of micro-teaching student teacher practice in the experimental groups and control groups?

The calculated t-cal value of 6.331 is greater than that of t-crit value of 3.841 required for significance at 0.05 level of confidence. The result revealed that experimental groups exposed to the micro-teaching practice recorded greater incidence of stimulus variation skills than the control group (Table 1).

Research question 2:

Does the amount of stimulus variation behavior skills on video-tape recording influence the ability level of micro-student teachers teaching practice in the experimental and control groups?

The result in Table 2 showed that t-cal value of 5.761 is greater than the t-crit value of 3.841 required for significance at 0.05 confidence level, therefore the hypothesis was rejected. The average skills and ability in the experimental group had a significantly greater stimulus variation behavior than their counterparts in the control group.

The result also revealed that there was difference average ability was really differ in the incidence of stimulus

Table 2. Provide legend.

Group	N	o	e	o-e	t-cal	t-crit
Above average experimental	6	45	34.62	10.39	5.76	3.841
Below average exp.	6	31	126.73	4.27	0.532	-
Below average control	5	18	22.27	-4.27	22.75	1.022

Table 3. Provide legend.

Group	N	O	e	o-e	Cal X^2	Table X^2
Male Experiment	7	45	35.5	9.5	81.00	2.282
					5.099	3.841
Female Control	7	26	35.5	-9.5	100.00	2.817

variation skills they demonstrated during the practice teaching exercise with the value of t-cal 22.75 and t-crit 1.022 respectively.

Research question 3:

Analysis of the difference in the amount of stimulus variation skill or behaviour demonstrated by the male and female.

The calculated X^2 value of 5.090 is greater than the table value of 3.841, required for significance at the level of confidence (Table 3). Therefore, the null hypothesis of the different experiment concluded that the male in the group demonstrated a significantly greater incidence of stimulus variation skills/behaviours than the female in the control group.

FINDINGS

The findings of this study revealed that the micro-teaching practice exercise can be effectively carried out with video-tape recording and then achieve of desirable results. The observed frequencies in the stimulus variation demonstrated greater response behaviors in the experimental group. In general, the experimental group had higher frequencies of the stimulus variation probably because they participated actively in the exercise and received peer criticism. This result is in line with finding of Oscar (2012) that video-tape recorder is a powerful tool that promotes effective teaching and learning in schools.

The result also revealed that below average ability members in the control groups also differ and the reason may be that they did not bother very much about their scores in the teaching practice exercise. They were probably satisfied with a more pass, so even the members of the group did not put into serious practices what they had learnt. Males in the group performed better than the females in the group. This was a natural

outcome of their direct participation in the practices exercise. Again the findings revealed the superiority of direct experience over indirect experience in the teaching practices.

Finally, the study revealed that in the period of economic hardship when the funds are hard to come by for procuring experience micro-teaching gadgets, the criticism lesson can be very effective. Peer evaluation and criticism provide similar feedback to the video recorder although the student teacher cannot see himself. Therefore, this innovation needs to be tried out for a number of other micro-teaching skills. The finding from this research is in support of the result of Saboo (2011) that revealed that when there is a criticism among learners, it promote effective learning outcome and build learners confidence towards the understanding of the task.

Summary

It has been observed that a video-tape recording of student teachers practice of stimulus variation skills is made and placed back for the in term to benefit from the immediate feedback and to participate in self evaluation. The use of video-tape recorder is effective as has revealed in the result of this research. The result of this revealed that peer evaluation and criticism provide similar feedback to the learners.

CONCLUSION

The effectiveness of micro-teaching when compared with the conventional method in training students on teaching practice revealed positive results. From the result of the study, it showed that it is difficult to procure expensive micro-teaching equipment due to inadequate funds; a well criticized lesson can be very effective in the promotion of micro-teaching student teaching practices. Peer evaluation also provides feedback to the video

recorder although the student teacher cannot see himself.

RECOMMENDATION

Micro-teaching as one of the recent innovations in teacher training and improvements of teaching and learning process, more attention should be given to student teacher on practice. Adequate technological materials should be provided to schools by the government so that student can gain access to such equipment.

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