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Relationship Between Integrated Science Pre-service Students' Performance in Microteaching and Teaching Practice in Teacher Training Institutions

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Abstract

The purpose of this study was to examine the relationship between Integrated Science student teachers' performance in Micro teaching and Teaching Practice among the teacher training institutions in Nigeria. The population of the study consists of all the Colleges of Education that are Affiliated to University of Ado Ekiti, Directorate of Distance Learning Nigeria. A sample of Two (200) hundred pre-service teachers and Ten (10) Lecturers of Integrated Science were drawn using stratified sampling technique. Scores of 2014/15 Integrated Science Students teacher on Micro teaching and Teaching Practices as well as a structured interview conducted on integrated Science Lecturers constituted the instrument used. The means and standard deviation was calculated while the students' scores are analyzed using Pearson Product Moment Correlation coefficient to determine the significant level at .05. The results showed that there is a positive significant relationship between the scores in the two exercises. The researcher recommend among other things that: adequate arrangement is required in the Planning of the two exercises; more attention needs to be paid to the students lesson delivery particularly during Micro teaching; the feedback for the students should be given immediately as corrective measure and all the necessary teaching materials like video recorder should be made available for use in all the institutions.

1. Introduction

The importance and role of Integrated Science in all human activities cannot be over emphasised. This because the knowledge derived from it are used by the individuals on daily basis and most of the time serve as foundation for advancement and growth in the area of Science and Technological Development of all nations. While the industrialised countries focus more on technology to make Science learning more effective and are having enough supply of trained and qualified teachers, Nigeria like other developing nations is still trying hard to have enough trained teachers to handle different science related subjects in most schools. In short it must be noted that professional pedagogical skills that can be learned in Micro teaching class are enormous, just as the exercise has been used successfully in medical profession.

Micro teaching class is meant to increase pre-service or student teachers' self confidence, mastered necessary professional skills along with the classroom management

skills. In India, Japan and Britain, this training (micro teaching) technique has been used to provide student teachers with the opportunity to improve on their teaching skills following skinner's theory of operant conditioning.

2. Theoretical Frame Work

2.1. Micro Teaching and Teaching Practice

What is Micro teaching? It is a modern approach developed by Allen in Stanford University California in the early 1960s for training Prospective teachers. Since year 2000 many Colleges of Education and the University training Institutions in Nigeria have adopted the use of Micro teaching to provide a training environment as a prerequisite for participation in Micro teaching exercise.

The basic assumption or philosophy behind Microteaching is that "Teaching" consists of different skills which can be learned by Practice (Ibrahim 2010). This microteaching can be used to teach certain skills or techniques such as: Questioning, use of Instructional materials, response to silence or non verbal cues, classroom management sets of behaviour or acts of the teacher that facilitate learning. It should be noted that the exercise started out with recognition of only 20 identified teaching skills which are now been expanded to 30 different skills.etc. This skills form the essential component of behaviour among the criteria used in the assessment during teaching practice supervision. It is expected that micro teaching will offer new and different opportunities to pre-service teachers in the area of lesson planning, used of instructional materials and lesson presentation among their peers or mates.

This approaches to teaching is characterized by having students in a group usually not more than ten (10), with each students given between 10-15 minutes to present a lesson. During the lesson presentation, the students colleagues are instructed to make observation and offer feedback inform of assessment. It is an approach which have contributed a great deal to the understanding of teaching process and its complexities.

On the other hand, Teaching practice exercise is a Six(6) credit course conducted for a period of 26 weeks and assessed by a teacher or a Supervisor before a student teacher is certified as a trained and qualified professional teacher.

According to Daramola (1991) & Hamilton Ekeke (2015) Teaching practice in teacher training Institutions is intended to provide prospective teachers with the opportunity to practice what is learned theoretically in the classroom and have their lesson assessed or evaluated by supervisor(s). They argued that no professional training in education is complete without a teaching practice.

Integrated Science as a course in Higher institutions is offer in terms of factual knowledge to be acquired, showing the interrelationship between Biology, Chemistry, and Physics. In most cases the teachers of integrated Science are

expected to teach the Subject to the Students at Junior Secondary School Level (Grade levels 7-9).

According to kooi (1977)

If evaluation of any programme is to become meaningful and effective it should take cognizance of the extent to which intended as well as unintended objectives have been attained (P. 184).

2.2. Purpose of the Study

In countries like Scotland, Brazil, Malaysia and Japan integrated Science teaching and Training Programme had been effectively handled with good results (Jeffrey, 1977). Of course in Nigeria there are evidences showing that the science teachers are not handling their teaching effectively (Stahl, 2004) and that despite the introduction of micro teaching at Colleges of Education and Institution of Education at the university level, the student teachers are still not performing credibly well after graduation as Science teachers (Mustapha, 2001). Besides that no research appeared to have been carried out comparing the students performance in Microteaching and teaching practice in sciences as well as seeking Integrated Science teachers perception on the subject matter. This study therefore is aimed at finding out whether or not there is a relationship between Integrated Science Student teachers' performance in Micro teaching and teaching practice exercise.

2.3. Research Questions

1. Is there a correlation between the scores in micro teaching and teaching practice?
2. Are the supervisors handling the two exercises, qualified and experienced to handle it?
3. Is Microteaching and teaching practice properly handle and coordinated in schools?
4. Are there adequate instructional materials for use during Micro teaching exercise?

2.4. Research Hypothese(s)

1. There is no relationship between the performance of Integrated Science Students' score in Micro teaching and teaching practice.
2. There is no significant differences between the scores in micro teaching and teaching practices

2.5. Research Methodology

Descriptive research design of correlation type along with an interview for the supervisor were the two instrument used in this study. The population of the study consists of all the four colleges of Education which are offers or are having NCE and Degree programme in their Institutions, in the western part of Nigeria. affiliated to the Degree Programmes of the University of AdoEkiti, Nigeria. They are chosen because they are known to have both NCE and Degree Programmes. All together using stratified sampling technique, a total of Two (200) hundred pre-service teachers

and ten (10) integrated Science handling the course constituted for the study.

The student's score for 2014/15 Academic Session for the sample are collected from the Examination Unit of each Institution while the structured interview items which was subjected to face and content validity before the

administration and constitute the instrument used. Students scores are analyzed using Pearson Product Moment Correlation coefficient statistics while the summary of the interview recorded separately. The two hypotheses generated for the study were used to determine the level of significance of the relationship.

3. Results and Data Analysis

Table 1. Relationship between Scores obtained on Micro teaching and Teaching practice.

Variables	No of cases	X means	SD standard deviation	Degree of Freedom	Calculated value	Critical value	Decision
Micro teaching		112.5	5.06				HO rejected
Teaching practice	200	126.0	4.99	199	0.751	0.195	

As shown in Table 1 above, the mean score for teaching practice is higher than that in the micro teaching showing that the micro teaching exercise do have influence on the pre-teachers performance during teaching practice exercise. In addition to that the calculated value of Pearson Product Moment (0.751) is greater than the Table value (.195) at .05 level of significance (199 degree of Freedom). Therefore Ho is rejected meaning that there is a significance relationship between score or performance in Microteaching and Teaching Practice students who performed very well in microteaching equally did well in teaching practice.

for micro teaching was used for Teaching practice and the two major problems mentioned by the respondent include

1. Lack of teaching materials or video tape.
2. Excess teaching load given to them.
3. Proper coordination of Microteaching exercise.

They recommended that the institutions should endeavour to make more funds available for the instructional materials and for the management to take care of the staff welfare for efficient staff productivity.

5. Discussion

From the available data, there is a positive relationship between the scorers obtained in microteaching and Teaching Practice exercise (Table 1). It is expected that students who obtained high marks in microteaching will equally performed well in microteaching for the simple reason that it shows the potential of individual student. Even where a student didn't do well enough initially, the exposure to microteaching, as expected will eventually assist the individual student teacher during the actual teaching practice (Yoloye, 1975 & Odubunmi, 1981). Unlike it was in 1976 there are now more trained and qualified integrated science across the institutions in Nigeria (Hamilton-Ekeke, 2015).

Expectation of success is characteristics of all human being but its attainment is limited by the antecedent of individual differences in the way that the reinforcement is perceived. That is to say that an individual teacher who received low marks in Micro teaching can decide to work hard to achieve better grade in the teaching practice while those who received higher score will loved to maintain it (Yilmaz, & Cavas, 2008). That been the case can the score obtained in microteaching be used in place of teaching practice where a student is absent in the later?

As observed in separate reports of Okwhawere, (1996), Yilmaz & Cavas (2008) & Ibrahim (2014) teachers who are exposed to preliminary training in any form did performed better in Education courses and Teaching Practice when compared to pre-service teachers who are not opportuned to have any prior knowledge of education or teaching practice.

From the responses of the Lecturers or supervisors on the interview conducted, the planning or organization of Micro teaching for the student teachers need adequate organization,

1. Name of institution
2. Your Academic/Professional Qualifications
3. For how long have been teaching integrated science
4. (Teaching experience) 0-2 years/ 3-4 years/ over 5 years.
5. Do you participate in Micro teaching and Teaching practice exercise in your school Yes/No.?
6. Have seen a situation where marks are inter change when a student is absent during teaching practice exercise?
7. Mention two major problems affecting micro teaching/ teaching practice in your institution.
8. What are your recommendation for improvement in the two exercises?

Figure 1. Structured interview items for Integrated Science Teachers.

4. Integrated Science Teachers' Responses

For how long have you been teaching Integrated Science In the area of teachers interview, of all the integrated science teachers in these institutions 70% indicated having been teaching the course in the past five years, while 60% revealed that they have been participating both in the Micro teaching and Teaching practice supervision.

Only 20% reported ever seeing a situation where the marks

monitoring and provision of adequate Instructional Materials to make it a task oriented programme. Although less than 20% of the respondents reported having used Microteaching scorers for the students who were absent for teaching Practice. It is advisable that such a practice should not be encouraged as many people can abuse the usage. Besides, there is every possibility that students who obtained lower mark will learn from their mistakes and possibly would score higher in the actual Teaching practice.

6. Recommendations

As a result of the findings from this study the following recommendations are suggested for improvement in the planning of both Micro teaching and Teaching Practice exercises, particularly on Microteaching:

1. For a meaningful standard to be developed among the lecturers within the institutions there must be opportunities for the serving teachers to attend workshops, seminars, and conferences from time to time, in order to update their knowledge, skills and to improve on their Job.
2. Pre-service teachers should be adequately and regularly be groomed towards the use of instructional materials particularly during lesson presentation.
3. Adequate instructional materials and learning facilities should not be a barrier for poor performance during microteaching and teaching practice, therefore adequate materials should be made available to most if not all the students teachers.
4. Students and staff orientation programme should be accorded greater priority to allow both the students and the lectures to perform as expected.
5. Adequate instructional materials such as Videotape, Camera, Poster, etc. should be made readily available for use during the Microteaching exercise and some students Lessons or presentations should be recorded for other colleagues to learn from in the future.
6. Where studentteachers colleagues are to provide feedback during lesson presentation, all the comments should be constructive criticism, a sort of motivation for improvement during the exercise.
7. Methodology course, be it in Sciences, Arts or Vocational should be handled by competent lecturers, on department basis, to bring out uniqueness in methodology of teaching in different subject areas.
8. There should be a uniform assessment format for used in the micro teaching among the students colleagues and the present teaching practice format should be adequately looked into where there is duplication in criteria used most especially, in the area of language usage and instructional delivery section.

7. Conclusion

The emphasis on the need to reinforce adequate training in all the teacher training institution in Nigeria or across the

world is evident in this study not only must the lecturers handling the courses should be qualified but must be adequately trained in their teaching subject to handle science teaching more effectively.

In addition to that the coordinators of both micro teaching and teaching practice should be and experience individual who is capable of handling the exercise with all seriousness and commitment.

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