A Comparative Study of Science Teacher Supervisors' and Science Teacher Trainees' Attitude towards Teaching Practice Exercise

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Abstract
This study is an ex – post facto research which compares the attitudes of some Nigeria university's teacher supervisors' and science teacher trainees' towards practical teaching. The study was carried out among the science undergraduate students who are pursuing career in Science education and teacher supervisors in the directorate of degree and part – time programme of Ekiti state university in affiliation with Emmanuel Alayande college of education, Oyo, Nigeria. One hundred {100) Science teacher trainees and one hundred (100) teacher supervisors selected from among lecturers in science and technology education participated in the study. One valid and reliable Teaching Practice Attitude Inventory (TPAI), criterion validity = 0. 67, and KR 20 value of 0.79 was used to collect relevant data for the study. Data analysis was by means of frequency count, percentage and statistics t – test. Result of findings revealed that, there exist a significant difference between the attitudes of teacher supervisors and science teacher trainees towards practical teaching. It also revealed that science teacher trainees' gender has no statistical significant effect on their attitudes towards practical teaching. Finally, it was found that female teacher trainees obtained higher attitude mean score, though not statistically significant, than their male counterparts, while some teacher supervisors exhibited negative attitude towards practical teaching. It was recommended that, efforts should be directed at mapping out strategies that would enhance the development of the right type of attitudes among university teacher supervisors and their students. It also recommended that all forms of gender bias should be avoided in the training of teachers.

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Key words' Teaching, Teaching profession, Teacher Trainees, Teacher Supervisors, Attitudes

Introduction

In Nigeria, colleges of education and faculties of education have the responsibility of training competent and professionally qualified teachers. This is in line with the mandate of the national policy of education (1981) reviewed in 2013, which stipulates that teacher education will continue to be given a major emphasis in all our educational planning because no "education system can rise above the quality of its teachers". In line with this policy statement, it is mandatory that, all teachers in Nigeria Educational institutions will be professionally trained. In order for any teacher to be a competent and professionally qualified, he must be versed both in content and pedagogy. The content, on the one hand, bothers on the teacher's teaching subject or area of specialisation. On the other, pedagogy has to do with the methodology which the teacher will employ in imparting the content for the learners to acquire. The expertise in pedagogical knowledge and skills are usually acquired during practical teaching exercise, which is a compulsory programme that all Teacher Trainees must participate in, and perform satisfactorily before being certified as professionally qualified as teachers.

Teaching practice is a prominent feature and an important aspect of teacher education programme in Nigeria. Consequently, teaching practice constitutes a major course to be taken by students in colleges of education and those pursuing their career in the faculties of education in the country. It is a compulsory professional training programme which all education graduates must take part in before they are certified as professionally trained and qualified. After being professionally certified as trained teachers who are ready to go into the field, there are other teacher characteristics that may influence the teachers' performance while discharging their duties as trained teachers. Such teachers' characteristics as may be found in past studies include teachers' self-esteem, teachers' motivation, teachers' attitudes towards teaching and indeed as a teaching profession (Adesoji and Raimi, 2004, Jubraj and Samjeet,2015). In this study, teacher trainees 'attitude and that of their supervisors were examined.

An individual's attitude towards a particular thing or an issue describes the person's interest or feelings towards that particular thing or issue. In relation to the present study, it refers to teacher trainees' and their supervisors' disposition towards practical teaching otherwise known as teaching practice exercise. The type of attitude expressed by an individual or a group persons towards a particular thing or an issue determines to a large extent, their conceptions and assessment as well as the value judgement regarding that thing or issue. This, in turn, may influence decision making regarding the issue. In order to enhance effective teaching and learning, the teacher in addition to being professionally trained and qualified, must possess other qualities or personality traits to achieve the desired goal of classroom interaction. One of these qualities is the teachers' attitude towards teaching as a profession. This idea was earlier supplied by Bernard (1967) and later supported by Raimi (1996}, Devi, (2005) and Suja, (2007) when they observed that the future of any nation was in the hands of its teachers for the qualities they possess today will inevitably reflect in the citizens of tomorrow. If this statement is true, then examining the attitude of pre -service or teacher trainees and their supervisors is a worthwhile venture. The trio also observed in their different studies that attitude towards a given profession, interest in the profession and experience influence the job commitment of the teacher. In another related study, Cornelius, (2000), observed that intelligence, attitude towards teaching and academic achievement of teacher trainees have influence on their competence. Considering the importance of these and many other related observations, carrying out studies that bother on teachers' pre – service teacher is discernible as this could impact positively on professional development of teachers, teacher trainees and indeed classroom practice.

Attitude of a person or group of persons towards a profession can either be positive or negative, neutral or sikken Baharagava & Parthy; (2014). Teaching, being a dynamic activity requires a favourable attitude and certain specific level of competences from its practitioners. Teacher's proficiency depends on the attitude he or she

possesses for the profession. A positive attitude helps the teacher to develop a conducive and learner friendly environment in the classroom. Development of positive attitude towards teaching profession is important because it helps the teacher in developing creative thinking and in motivating students in learning and development of pedagogical skills of teaching (Celikoz & Cetin; 2004)). The different learning environment, instructional materials and strategies adopted in initial training programme are also responsible for difference in attitude of student teachers towards teaching profession. Further review of some past studies on factors that bear influence on teachers' attitude include domestic environment, family background, socioeconomic background, beliefs, educational institutes etc, In addition, such other factors as school status, school infrastructures, safety condition in the school, social and professional status can impact either positively or negatively on teachers" attitude (Barros & Ela, 2008)

Other relevant literatures consulted on the influence of attitude on achievement in Science revealed that there appears to be some sorts of relationship between attitude and achievement in science. Some of the findings from these studies revealed a conflicting report on students' attitude and achievement at different levels of educational outcomes' Within Nigeria, studies such as those of Ogunleye, 1995, Raimi, 1999, Adesoji and Raimi, 2004, establish a relationship between attitude towards science and achievement in science. Outside Nigeria, researchers such as (Greenfield, 1995, Parker and Offer, 1996, Beaton, Martin, Muller, Gonzaln, Smith & Kelly, 1996); in their different studies found that, gender of a teacher, academic achievement and job satisfaction are some of the factors that could influence attitude towards teaching profession. The present study is in part, an effort to find out the interaction effect of pre – service teachers' and their supervisors' gender on their attitudes towards teaching especially teaching practice exercise. Review of other studies on attitude towards teaching revealed significant difference in the attitudes of male and female teachers towards teaching profession. Some of these studies indicate that, female teachers possess high degree of attitude than male teachers and that female teachers with positive attitudes tend to encourage their students. Such studies include those of (Poozhikuth, 1989; Poozhikuth, 1989, Naik and Parthy, 1997; Ghosh and Bairagya, 2010 & Benjamin, Saharayani & Stanly, 2011). Other studies such as those of Balan, (1996); Raimi and Adesoji, (2004) did not obtain similar result. They observed in their studies that significant difference occurred between male and female science student teachers in terms of their attitudes towards teaching profession while the direction of significance was in favour of male science student teachers. Whereas, Theresal and Benjamin, (2011), observed no significant difference based on gender in relation to their attitude towards teaching profession. A number of reasons have been given for the different attitudes that science students exhibit towards teaching, teaching profession, Science and science related subjects especially at different levels of education in Nigeria. The reasons as identified by past studies ranged from poor method of instruction, lack of basic infrastructures, to lack of professional competence by teachers. (Brotherton & Preece, 1996; Adesoji & Raimi; 2004,) With these in inconclusive findings on gender issues in relation to their attitudes towards teaching, there is need for more researches to be carried out in this area. . Of all the studies that were consulted only a few, have been carried out at the tertiary level, especially at the university level. The present study is an effort in this direction. Hence, there is practical need to continue researches that examine students' and teachers' attitudes, as they relate to practical teaching at the tertiary level of education in Nigeria. This is important given the importance attached to the products of this level of education.

It is also in consideration of the significant role which attitude could play in learning and learning outcome, Herzog, Labudde, Nevenschwarden,Vich,& Herber,1997,Raimi,2002, and Adesoji & Raimi 2004 developed and evaluated some strategies directed at improving students' attitudes towards Science subjects. They also recommended that, same could be extended to teacher supervisors as this has the potential of assisting the teacher trainees and teacher supervisors develop the right attitude towards teaching, especially practical teaching which is an important aspect of teachers' professional training.

In the same vein, further review of extant literature also revealed that a number of other researches have been carried out on attitude related issues of teachers and pre - service teachers. Some found that teachers have positive attitude at certain levels of learning outcome. Studies such as those of Raimi 2002; Jubraej and Samjeet (2015) found that teachers possess positive attitude towards teaching and teaching profession, especially when they operate under a conducive teaching and learning environment. . Other researchers such as Raimi (1996), observed that teachers and pre - service teachers have negative attitude towards teaching profession. With this conflicting results and findings, on attitudes towards teaching profession, there is need for more studies to be carried out on teachers and pre - service teachers attitude towards teaching and indeed teaching practice exercise. Further to this, the bulk of studies consulted on attitudes towards teaching and teaching profession had focussed on either student – teachers or teachers themselves. None had been carried out to compare the attitudes of teacher trainees (student – teachers) and their teachers (teacher supervisors), especially at the university level. The main objective of this study is directed at complementing research efforts in this regard. Therefore, this study sought to compare the attitudes of University supervisors and pre-service undergraduate science teachers towards teaching practice exercise. It also examined the moderating effect of gender on Pre-service teachers' attitude toward teaching practice exercise.

Research questions

The study provided answers to the following research questions

i. What are the attitudes of science teacher supervisors and pre - service science teachers towards teaching practice exercise?
ii. Is there any significant difference between the attitude of teacher supervisors and pre – service Science undergraduate teachers?

iii. What are the effects of pre-service teachers' gender on their attitudes towards teaching practice exercise?

Methodology

The present study employed a descriptive survey design of the *expost- facto* type. This design is considered most appropriate because, the study does not involve manipulation of variables. It only involved information collection gathering and analysis**.** The sample for this study were drawn from among the college academic staff ,who were qualified and participated in the supervision of pre - service undergraduate students of the Ekiti State University in affliation with Emmanuel Alayande college of Education Oyo, as well as pre – service science teachers. It comprised (100) one hundred teacher supervisors and (100) one hundred preservice undergraduate teachers. The teacher supervisors were drawn from among the most senior hierarchy of academic staff in the college. The teacher trainees were drawn from among the 300L undergraduate students who were on their second and final teaching practice exercise as at the time of carrying out this study. The students were those pursuing their career in science education viz; Physics, Chemistry, Biology, Health education. Integrated science and Mathematics. The two categories of sample involved in the study were adjudged as appropriate because both have the requisite experience to comprehend all the items on the instrument of study as well as the knowledge required to understand the rudiments about the essence of the study. Only one valid and reliable research instrument was used to collect relevant data for the study. The only instrument is a valid and reliable practical teaching attitude inventory (PTAI). It is a 30-item questionnaire arranged on a four-point Likert /Ordinal scale ranging from (strongly agreed to strongly disagree). The criterion related validity was 0.78. For reliability, the PTAI was first administered to another group of 300L science education undergraduates. Two weeks later the instrument was re - administered to the same set of students and reliability coefficient was determined; the re-test reliability value was found to be 0.82. Further reliability value of the attitude scale was later determined using Crobach alpha. This gave a reliability value of 0.86 these values were considered adequate for the present study. The PTAI was administered on the individual sample on the dot of the fifth week out of the six weeks for which the teaching practice exercise was held. This was to allow the sample especially the teacher trainees more exposure and to guarantee more exposure to the art of teaching such that adequate/appropriate responses to the items on the research instrument is ensured. Both the supervisors and the supervisees were given enough time to respond to the items on the questionnaire (i.e PTAI). The responses were collected back from the respondents after twenty four (24) hours for the purpose of collation and analysis**.**

Results

Table 1: Attitude of teacher trainees (pre - service undergraduate science teachers) towards teaching practice

S/N	Group	N	%
1	Pre service science teachers with positive attitude	42	42.0
2	Pre service science teachers with negative attitude	58	58.0
	Total	100	100.00

Table 1 shows the classification of teacher trainees (pre - service undergraduate teachers according to their attitude towards teaching practice exercise the result reveals that 42(42%) of the pre service teachers have positive attitude/disposition towards teaching practice exercise and indeed teaching while 58(58%) have negative attitude. The results were arrived at by pooling together all the attitude scores obtained by the student sample and obtaining the mean attitude value. Those who scored mean and above the mean value were adjudged as having positive attitude while those who scored below the mean have a negative attitude towards teaching practice exercise.

Table 2: Attitude of teacher supervisors towards teaching practice exercise

S/N	Group	N	%
1	Supervisors with positive attitude	61	61.0
2	Supervisors with negative attitude	39	39.0
	Total	100	100.00

Table 2 shows the result of classification of teacher supervisors according to their attitude toward teaching practice exercise. The result reveals that 61 (61%) of college supervisors were adjudged as having positive attitude towards teaching practice exercise while 39 (39%) of the teacher supervisors have negative attitude towards teaching practice exercise/

Table 3: Comparison of the attitude of teacher supervisors and teacher trainee towards teaching practice exercise

SN	Group	N	Mean attitude score	S.D	Cal t	Critical t
1	Teacher supervisors	100	22.1	1.5	2.19	1.96
2	Teacher trainees	100	18.3	1.1		
	Total					S

Results in table 3 compare the attitude of teacher supervisors and teacher trainees towards teaching practice exercise. Results of finding based on statistic t-test analysis reveals that there exist a statistical significant difference between the teacher supervisors and teacher trainees in terms of their attitude towards teaching practice exercise. This observation was arrived at because the observed- t value (1.96) was found to be slightly less than the calculated t – value of 2.19.

Table 4: comparison of teacher trainees' attitude based on gender

SN	Group	N	Mean attitude score	S.D	Cal t	Critical t
1	Female Teacher trainees	68	20.2	1.4	2.19	2.02
2	Male Teacher trainees	32	18.2	1.2		
	Total	100				

In table 4, the result of the comparison between teacher trainees attitude based on gender. The result reveals that, there exist a significant difference between male pre-service teachers and female teacher relative to their attitudes toward teaching practice exercise. The direction of significance is in favour of the female pre - service teachers.

Discussion and implication

One major finding of this study is that majority of the teacher trainees have negative attitude towards teaching practice exercise. It also revealed that more than half of the participating college supervisors possess positive attitude towards teaching practice exercise. However, the former finding is not unexpected perhaps because pre –service teachers are just having a feel of what teaching is all about, and it might take sometime for them to develop the right type of attitude towards teaching. This result is in line with earlier finding by (Schibeci & Riley, 1986; Mordi, 1991; Mckeachie ,1994; Raimi (1996), Suja , 2007) when they observed a similar result in a related study. It however negates the findings of (Adesoji and Raimi, 2004; Theresal & Benjamin, 2011) when they obtained a different results in terms of pre - service teachers attitude towards teaching practice. The finding that a significant difference existed between supervisors and teachers trainees was not unexpected because as teachers of teachers they are expected to have a more positive disposition towards teaching being their chosen profession by which they earn a living and indeed teaching practice which is a major component of teacher preparation. It is expected that as the teacher trainee (pre-service undergraduates) develop along their teaching career as well as acquisition of appropriate classroom experience, the need to develop the right attitude will be bought to the fore. This fact is also corroborated as the findings show a higher attitude mean score obtained by the teacher supervisors which is higher than that of the pre-service undergraduate teachers.

Another amazing finding of this study is that a significant difference that was obtained in the attitudes of male and female teacher trainees in favour of the female pre - service teachers. This finding is in line with earlier finding in other related studies as obtained by (Raimi 1996, Niak & Parthy, 1997; Raimi, 2002 and Benjamin et al, 2011), when they obtained similar results in favour of the female gender. The findings negates those of Onocha, Okpala and Offorma (1995) when they observed significant effect on favour of males. This finding however confirms the general belief,in some quarters, that teaching is best for females and negates the view that science and science education is masculine in nature. This might also not be unconnected with the fact that nowadays, females are delving into areas where men had hitherto excelled, such that serious competitions now occur between male and females in almost all fields of human endeavour. The implication of this for classroom practice is that practicing teachers should avoid all kinds of gender bias in treating male and female students during classroom interaction. Teacher trainers should therefore avoid any action that can impede learning by all categories of students, especially when it has the potential of affecting the female gender. After - all, people say 'what a man can do, a woman can do it and even better'. Conducive classroom environment should be created, such that all students irrespective of their gender could realise their abilities and good mastery of the professional skills due to be acquired during teachers' – students' classroom interaction; by so doing, a level plane ground would have been provided for the duo to develop their potentials without fear or favoiur.

The result of finding that revealed that almost fort percent (40%) of the teacher supervisors possess a negative attitude towards practical teaching; left much to be desired, as it calls for serious concern in the teaching profession and for classroom practice. This is because the teacher trainees are a product of this category of teacher supervisors who might have engaged the teacher trainees

at one time or the other especially during methodology classes. If it is true that one cannot give what he or she does not have, one wonders what kind of professional attitude this category of teacher supervisors would have been impacted on their students (Teacher trainees). This category of teacher trainers have the potential of infecting their students (i.e teacher trainees) with the kind of attitude which they possess. This no doubt, may have accounted for the observed negative attitude exhibited by majority of the sampled teacher trainees, because they are a product of trainers who possess low attitude towards teaching, the reason(s) for which still call(s) for further investigation. The implication is that, teacher supervisors should as a matter of fact put up the right type of attitude and try to inject same in their students in the course of their professional training

Conclusion and recommendation

This paper examined the attitude of pre-service undergraduate science teacher and their supervisors towards teaching practice exercise. Results of findings revealed that more of the pre-service science teachers have negative disposition towards teaching practice exercise, while a significant difference existed between male and female teacher trainees in terms of their attitudes towards teaching practice exercise. The direction of difference was in favour of female teacher trainees. It is also observed that teacher supervisors have better disposition to the exercise. Based on these findings it is recommended that practicing teachers should give male and female equal opportunity to learn during classroom interactions. They should also employ teaching strategies that will remove any form of gender bias in classroom interaction. They should as well device means by which student-teachers develop better attitude towards teaching practice exercise. Emphasis should be laid on the importance of the exercise as a major step in the process of teacher preparation and professional training. In – service training and seminars should be organised with focus on development of the right type of attitude towards teaching and teaching profession.

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