TEACHING PRACTICE EXERCISE: SUSTAINING ITS IMPACT IN THE TRAINING AND DEVELOPMENT OF PRE-SERVICE CHEMISTRY TEACHERS

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Abstract
Education plays an important role in the development of an individual's competency in accomplishing being learned in a competitive era. The role of teachers in nation building cannot be overstressed, this is because teachers are professional educators who have the primary duty to impart, to teach, to guide, to direct, to train, and to evaluate students from early childhood to secondary education level. The study examined teaching practice exercise: sustaining its impact in the training and development of pre-service teachers in senior secondary schools in Atiba local government, Oyo. A self-developed students' questionnaire was used to access information from the students. A simple random sampling technique was adopted to select one hundred and twenty (120) chemistry students were selected from 300 level in the Department of Chemistry, School of Secondary Education (Science Programmes), Emmanuel Alayande College of Education, Oyo. The self-designed students' questionnaire was subjected to face, content and construct validity. Pilot test was conducted and data obtained was calculated using Cronbach alpha to obtain 7.2 reliability co-efficiency. Simple percentage was used to analyse the data. The findings of this study revealed that teaching practice has exposed the pre-service teachers to the problems and prospect of the teaching profession. It has also made training teachers learn how to plan, prepare and present their lessons. The study recommends among many others that Government should motivate students and teachers to be more committed and also that more attention should be paid to teaching practice as core aspect of teacher education.

Keywords: Teaching Practice, Chemistry, Performance, Education, Pre-service

Introduction

The development of any society is inseparable from the role of education. In other words, education plays an important role in the development of an individual's competency in accomplishing the being learned in a competitive era (Aglazor and Obi, 2016). Therefore, the implementation of education especially informal education should be given special attention and thus include the teacher factors. The roles of teachers in nation building cannot be overstressed, this is because teachers are professional educators who have the primary duty to impart, to teach, to guide, to direct, to train and to evaluate students from early childhood education to secondary education level (Aglazor and Obi 2016). The quality of teachers is proportional to the quality of education it produces. The effectiveness of learning process inside and outside the classroom is determined by teachers' competence (Azhar, 2009).

The teaching practice exercise is one of the most important aspects of teacher education. It is an exercise designed to expose the student-teachers to the practical aspect of teaching profession and to enable them put into practice the theoretical knowledge acquired during classroom interactions with their lecturers (Oluwatayo and Adebule, 2012). It refers to the preparation of student-teachers for teaching by practical training using teaching methods, teaching strategies, teaching principles, teaching techniques; and exercise of different activities

of daily school life. "The term teaching practice embraces all the learning experience of student-teachers in schools (Ashraf, 2009).

Teaching practice exercise occupies a key position in the programme of teacher preparation. Perhaps, in order to improve the teaching profession in Nigeria, the National Universities Commission (NUC, 2007) in its Benchmark Minimum Academic Standards for undergraduate Programmers in Nigerian Universities stipulates that all Faculty of Education students in the university should undergo a compulsory teaching practice exercise and it is a necessary condition for graduation. At the undergraduate level, the teaching practice is usually done in two phases, each phase spanning through six weeks during which the students are expected to take part in every aspect of school life including teaching, testing, examining, academic societies and co curricula activities.

Teaching practice has three major connotations, namely the practice of teaching skills and acquisition of the role of a teacher, the whole range of experiences that a student teacher goes through in schools and the practical aspects of the course as distinct from theoretical studies (Nwanekezi, Okoli and Mezieobi, 2011). Therefore, teaching practice offers student-teachers the opportunity to learn and develop as professional teachers along the dimensions of pedagogic knowledge, subject matter knowledge, pastoral knowledge, ecological knowledge, inquiry knowledge and personal knowledge (Mtetwa and Dyanda, 2003). Tillema, Smith and Leshem (2010) are of the view that during the teaching, student-teachers experience a learning situation that is unique and different from campus-based learning as they are called upon to respond to new circumstances.

According to National Universities Commission (NUC, 2007) Benchmark and National Commission for Colleges of Education (NCCE, 2015), the following sets of objectives have been established for why teaching practice is a mandatory component of teacher training.

i. To expose student-teachers to real life classroom experiences under the supervision of professional teachers.
ii. To provide the forum for student-teacher to translate educational theories and principles into practice.
iii. To enable student-teachers discover their own strengths and weaknesses in classroom teaching and provide opportunities to enable them address their weaknesses and enrich their strengths.
iv. To familiarize student-teachers with real school environment as their future work place.
v. To provide student-teachers with an opportunity for further acquisition of professional skills, competencies, personal characteristics and experience for full-time teaching after graduation.
vi. To help student-teachers develop a positive attitude towards the teaching profession.
vii. To serve as a means of assessing the quality of training being provided by teacher training institutions.

Education is a continuous process in life. It is the process of training and developing the knowledge, skill, mind and character of people. It is also the process by which the latent abilities of individuals are developed so that they may be useful to themselves and the society. Meaningful improvements in the quality of education that students receive are determined by the quality of teachers (Ewetan and Ewetan, 2015). Therefore, quality teaching and learning are sine qua non for students' academic performance.

Chemistry is that aspect of science that deals with the nature of matter, its properties, and its change in condition. It is very important to human life and is very essential for human survival. It is the core of every technology we enjoy today. The power of chemical science is what creates

an enabling infrastructure that delivers food, medicine, and materials that are the hallmarks of modern life. Its importance in modern societies is indisputably significant because of its requirements as a pre-requisite to the study of courses like medicine, pharmacy, and all fields of engineering (Paul, 2005). Furthermore, Chemistry is one of the science subjects upon which technological breakthrough is built and is the pivot on which the wheel of science rotates. Life is made more meaningful with chemical products such as drugs, cosmetics, paints, soap, fertilizers etc.

The role of teachers in the development of any nation cannot be underestimated. This paper therefore examines the teaching practice exercise: sustaining its impact in the training and development of pre-service chemistry teachers.

Statement of the problem

Observation and reports from examining bodies revealed that a high percentage of secondary school students continue to perform poorly in chemistry examinations. Albert Bandura (1997) identified inadequacy of in-service training for professional teachers, teachers' qualification experience and incompetence, inadequate utilisation of appropriate teacher strategies and poor attitude towards the teaching of chemistry are sure factors which led to poor performance in chemistry.

Objectives of the study

The main objective of the study is to examine teaching practice exercise: sustaining its impact in the training and development of pre-service chemistry teachers.

Research Questions

The following research questions were formulated for the purpose of this study:

1. What are the benefits of teaching practice to trainee teachers?
2. What are the challenges trainee teachers face during teaching practice?
3. What are the remedies to the problems faced by trainee teachers during teaching practice?

Methodology

The research design adopted for the study was a descriptive survey. A simple random sampling technique was adopted to select one hundred and twenty (120) from the Department of Chemistry, School of Secondary Education (Science Programmes). A well-constructed and self- developed students' questionnaire validated by three experts in the field of Chemistry education was used to access information from the students. Pilot test was conducted within two weeks among the students that were not selected for the study and the data obtained was calculated using Cronbach alpha to get 7.2 reliability co-efficiency. The questionnaire is made up of two sections. Section A focused on the personal data of each respondent while Section B elicited information on teaching practice and sustaining its impact in the training and development of pre-service chemistry teachers. The questionnaire utilized a 4-point scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). One hundred and twenty chemistry students were randomly selected within 300 level students from four departments in the School of Secondary Education, Science programmes, Emmanuel Alayande College of Education. The data were analysed using simple percentage.

Results

Demographic Analysis of the Respondents

Table 1: Distribution of Respondents by Gender

Gender	Frequency	%
Male	50	41.67
Female	70	58.33
Total	**120**	**100.00**

Table 1 indicated the distribution of respondents based on gender. The males selected were 50 (41.67%) while the females were 70 (58.33%). It is shown that females were more than their male counterparts.

Table 2: Distribution of Departments of the Respondents

Department	No. of Respondents Selected	%
Biology	30	25.00
Chemistry	30	25.00
Computer Science	30	25.00
P.H.E.	30	25.00
Total	**120**	**100.00**

Table 2 displays the distribution of respondents' departments. From each department, 30 (25%) respondents were randomly selected. This means equal selections were made.

Table 3: Age Distribution of Respondents

Age group	Frequency	%
17 – 19	22	18.33
20 – 22	78	65.00
Above 22	20	16.67
Total	120	100.00

Table 3 represents the age distribution of the respondents. Between 17 – 19 were 22 (18.33 %) respondents, between 20 – 22, there were 78 (65.00%) while above 22 years, 10 (7.50%) respondents.

Answering of Research Questions

Research Question 1:

Table 4: Benefits of Teaching Practice to Trainee Teachers

S/N	Items	SA (%)	A (%)	D (%)	SD (%)
1.	Teaching practice has made me decide (determine) to take teaching as a profession.	105 (87.50)	5 (4.10)	4 (3.33)	6 (5.00)
2.	Teaching practice developed in me the interest of working with children of school age.	95 (79.17)	10 (8.20)	2 (1.67)	3 (2.50)
3.	There is an opportunity of trying the ideas and theories being taught in a practical classroom situation.	80 (66.67)	20 (16.67)	15 (12.50)	5 (4.10)
4.	Teaching practice has made trainee teachers to learn how to plan, prepare and present their lessons.	120 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)

5.	It has made pre-service teachers to master professional skills.	120 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)
6.	Teaching practice has exposed one to the problems and prospects of the teaching profession.	115 (95.83)	3 (2.5)	2 (1.67)	0 (0.00)
7.	Teaching practice has made trainee teachers gain real experiences in academic profession.	120 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)
8.	Trainee teachers develop their memory in working effectively with children and colleagues.	100 (83.33)	10 (8.20)	6 (5.00)	4 (3.33)
9.	Trainee teachers has a vital factor in preparing students for future teaching assignments.	70 (58.33)	40 (33.33)	2 (1.67)	8 (6.66)
10.	Trainee teachers have learnt to adequately manage their classrooms situations with ease.	110 (91.67)	7 (5.83)	3 (2.50)	0 (0.00)

Table 4 displays the benefits of teaching practice to trainee teachers. The statement that says "Teaching practice has made me decide (determine) to take teaching as a profession" had 105 (87.50%) respondents strongly agreed, 5 (4.10%) respondents agreed, 4 (3.33%) respondents disagreed while 6 (5.00%) respondents strongly disagreed. Also, 80 (66.67%) respondents strongly agreed, 20 (16.67%) respondents agreed, 15 (12.50 %) respondents disagreed while 5 (4.10%) respondents strongly disagreed that there is an opportunity of trying the ideas and theories being taught in a practical classroom situation. All the respondents (i.e. 100%) strongly agreed that teaching practice has made training teachers to learn how to plan, prepare and present their lessons, made trainee teacher to master professional skills and that teaching practice had made trainees teachers to gain general experiences in academic profession. In addition, 115 (95.83%) respondents strongly agreed that teaching practice has exposed one to the problems and prospects of the teaching profession, 3 (2.50%) respondents agreed, 2 (1.67%) disagreed with the view. It was also found that 100 (83.33%) of the respondents strongly agreed that trainee teachers develop their memory of working effectively with children and colleagues, 10 (8.20%) respondents agreed, 6 (5.00 %) respondents disagreed while 4 (3.33%) respondents strongly disagreed. 110 (91.67%) respondents strongly agreed, 7 (5.83%) respondents agreed while 3 (2.50) respondents disagreed with the view that trainee teachers have learnt to adequately manage their classrooms situations with ease.

Research Question 2:

Table 5: Challenges Trainee Teachers Face during Teaching Practice

S/N	Items	SA (%)	A (%)	D (%)	SD (%)
1.	Teaching practice creates fear or inferiority complex among the trainees which could affect their future careers.	100 (83.33)	12 (10.00)	3 (2.50)	5 (4.10)
2.	Some schools reject trainee teachers for their assignment.	120 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)
3.	At times, permanent teachers are not friendly to trainee teachers.	95 (79.17)	5 (4.10)	15 (12.50)	5 (4.10)
4.	In some schools, teaching staff hoard professional advice from trainee teachers.	80 (66.67)	20 (16.67)	6 (5.00)	14 (11.67)
5.	Trainee teachers face accommodation problems in places they are posted to.	110 (88.33)	5 (4.10)	5 (4.10)	1 (0.83)
6.	Some schools lack instructional materials to give trainee teachers for effective teaching.	75 (62.50)	15 (12.50)	20 (16.67)	10 (8.20)
7.	Trainee teachers in some cases are not given subject in their area of study to teach, thus, they hardly perform.	100 (83.33)	7 (5.83)	3 (2.50)	10 (8.20)
8.	Trainee teachers sometimes come across bad-mannered students in schools they are posted.	106 (88.33)	4 (3.33)	5 (4.10)	0 (0.00)
9.	Some trainee teachers do not always respect the school rules and regulations.	60 (50.00)	40 (33.33)	11 (9.16)	9 (7.50)
10.	Trainee teachers lack good professional relationship.	50 (41.67)	20 (16.67)	40 (33.33)	10 (8.20)

Table 5 shows challenges faced by trainee teachers during teaching practice. To the statement that says "Teaching practice creates fear or inferiority complex among the trainees which could affect their future careers", 100 (83.33%) respondents strongly agreed, 12 (10.00%) respondents agreed, 3 (2.50%) respondents disagreed while 5(4.10%) respondents strongly disagreed. Also, all respondents, 120 (100 %) respondents strongly agreed that some schools reject trainee teachers for their assignment. Also, 80 (66.67%) respondents strongly agreed that: in some schools, teaching staff hoard professional advice from trainee teachers, 20 (16.67%) agreed, 6 (5.00%) respondents disagreed, while 14(11.67%) strongly disagreed. In addition, 110 (88.33%) respondents strongly agreed that trainee teachers face accommodation problems in places they are posted to, 7 (5.83%) respondents agreed, 5 (4.10%) disagreed with the view. It was also found that 75 (62.50%) of the respondents strongly agreed that some schools lack instructional materials to give trainee teachers for effective teaching, 15 (12.50 %) respondents agreed, 20 (16.67%) respondents disagreed while 10 (8.33%) respondents strongly disagreed. 100 (83.33%) respondents strongly agreed, 7 (5.83%) respondents agreed while 3 disagreed while 10 (8.20%) with the view that trainee teachers in some cases are not given subject in their area of study to teach, thus, they hardly perform. That the trainee teachers sometimes come across bad-mannered students in schools they are posted; 106 (88.33%), 4 (3.33%) agreed while 5 (4.17%) disagreed.

Research Questions 3:

Table 6: Remedies to the Problems Facing Trainee Teachers during Teaching Practice

S/N	Items	SA	A	D	SD
1.	Qualified teachers should be deployed to assess trainee teachers on teaching practice.	110 (97.67)	10 (8.20)	0 (0.00)	0 (0.00)
2.	Provision of good libraries in schools for effective preparation by trainee teachers.	120 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)
3.	For the curriculum to be effective, teaching practice must be included.	100 (88.83)	15 (12.50)	5 (4.10)	0 (0.00)
4.	The curriculum should be designed towards preparing teachers for effective teaching.	120 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)
5.	Teaching practice should be based on skills development and nation building.	115 (95.83)	0 (0.00)	5 (4.10)	0 (0.00)
6.	Teacher education should be regarded as the care of our education system in Nigeria.	115 (95.83)	5 (4.10)	0 (0.00)	0 (0.00)
7.	More attention should be paid to teaching practice as core of teacher education.	120 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)
8.	Teaching practice exercise can be more fruitful if students are encouraged to put theory into practice during teaching practice.	120 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)
9.	Government should motivate students and teachers to be more committed.	100 (83.33)	10 (8.20)	0 (0.00)	0 (0.00)
10.	Trainings should be organised for the teachers and related parties which are responsible for implementation of teaching practice either directly or indirectly.	105 (87.50)	5 (4.10)	10 (8.20)	0 (0.00)

Table 6 displays remedies to the problems facing trainee teachers during teaching practice. On the statement "Qualified teachers should be deployed to assess trainee teachers on teaching practice", 110 (97.67%) respondents strongly agreed while 10 (8.20%) agreed. 100 (83.33 %) strongly agreed, 15 (12.50%) agreed while 5 (4.17%) disagreed that "For the curriculum to be effective, teaching practice must be included". Majority of the respondents, 115 (95.83%) strongly agreed that teacher education should be regarded as the care of our education system in Nigeria while 5 (4.10%) agreed. All the respondents [120 (100.00%)] strongly agreed that the curriculum should be designed in such a way that it will produce teachers for effective teaching, practice should be based on skills development and nation building, more attention should be paid to teaching practice as core of teacher education and teaching practice exercise can be more fruitful if students are encouraged to put theory into practice during teaching practice.

Discussion of Findings

Table 4 identifies the benefits of teaching practice as the respondents responded to items on the instruments. Among the stated benefits were: Teaching practice has made me decide (determine) to take teaching as a profession, Teaching practice developed in me the interest of working with children of school age, Teaching practice has made trainee teachers to learn how to plan, prepare and present their lessons, Teaching practice has exposed one to the problems and prospects of the teaching profession, Trainee teachers develop their memory in working effectively with children and colleagues and that Trainee teachers have learnt to adequately manage their classrooms situations with ease, among others.

Table 5 brings to fore, the challenges faced by trainee teachers during teaching practice. It was revealed that teaching practice creates fear or inferiority complex among the trainees which could affect their future careers and that some schools reject trainee teachers for their assignment. At times, permanent teachers are not friendly to trainee teachers. Also, in some schools teaching staff hoard professional advice from trainee teachers, some schools lack instructional materials to give trainee teachers for effective teaching, Trainee teachers in some cases are not given subject in their area of study to teach, thus, they hardly perform and that Trainee teachers sometimes come across bad-mannered students in schools they are posted.

Table 6 presents remedies to the problems facing trainee teachers during teaching practice. Majority of the respondents submitted that qualified teachers should be deployed to assess trainee teachers on teaching practice. For the curriculum to be effective, teaching practice must be included and teacher education should be regarded as the care of our education system in Nigeria. Also, the curriculum should be designed towards preparing teachers for effective teaching, teaching practice should be based on skills development and nation building and more attention should be paid to teaching practice as core of teacher education.

Conclusion

The teaching practice exercise is one of the most important aspects of teacher education. It is an exercise designed to prepare trainee teachers for teaching through practical training by applying teaching methods, strategies, principles, techniques; and an exercise of different activities of daily school life. The focus of teaching practice is on cognitive, affective and psychomotor domains development of an individual and its essence is to ascertain that the basic principles of teaching as taught and learnt can be appropriately applied in all aspects of learning and teaching in the country. If teaching practice is well organised and accordingly carried out, trainee teachers will be prospective imparters of knowledge and agents of national development.

Recommendations

- Government should create enabling environment for the teaching practice exercise to aid commitment from trainee teachers and supervisors.
- Qualified teachers should be deployed to assess trainee teachers on teaching practice.
- Provision of good libraries in schools for effective preparation by trainee teachers.
- More attention should be paid to teaching practice as core of teacher education.
- Trainings should be organised for the teachers and related parties which are responsible for implementation of teaching practice either directly or indirectly.

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