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AN EXAMINATION OF HUMAN RESOURCE PRACTICES AS AN INVESTIGATION OF THE PROBLEMS ENCOUNTERED BY CHEMISTRY STUDENT TEACHERS DURING teaching PRACTICE EXERCISE

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ABSTRACT

An integral component of teacher education, training and preparation is teaching practice. It affords student teachers experience in the actual teaching and learning environment. The major focus of teaching practice is for teachers to bring theories and ideas developed about teaching into practice in actual classroom settings. This qualitative study investigated the challenges encountered during the teaching practice by Chemistry student teachers. The study was conducted primarily to identify the challenges encountered by chemistry education students on teaching practice and to proffer possible solutions to these problems all in a bid to make the teaching practice exercise more effective. The research design employed for the study was cross-sectional survey research design while the sample was drawn by the use of purposive sampling technique. The instrument for data collection was a researcher-made questionnaire, validated by three experts in the department of science and technology and two other professionals in the Faculty of Education giving a total of five experts. A total of 40 students which comprised of over 80% of the entire population was used for the study. Six research questions were stated and analysed using simple mean, percentages and frequency. From the analysis, it was discovered that student teachers were faced with the problem of availability of instructional materials and laboratory facilities. It was also discovered that school managements did not assess the lesson plans written by student teachers prior to lesson delivery. The research however pointed out that student teachers enjoyed cooperation from, pupils, subject teacher and school management. Student teachers were also able to cope with the amount of workload given to them during the course of the exercise. It was also recommended that sufficient prerequisite courses be attached to the teaching practice exercise, the teaching practice supervision be made more comprehensive and exhaustive, and small stipends be given to the student teachers after the teaching practice exercise to encourage, reinforce and motivate them in the teaching profession.

Keywords: instructional materials, teaching, learning, chemistry student teachers.

INTRODUCTION

An educational process is said to be complete when it undergoes the act of teaching. Teaching is the process of imparting knowledge and skills from a teacher to a learner. It encompasses the activities of educating or instructing either formally or informally. It is an act of experience that has a formative effect on the mind, character or physical ability of an individual. According to Hornby (2000), teaching is the work of a teacher, or ideas of a particular person or group, especially about politics, religion or society that are taught to other people. National Teachers Institutes NTI (1990) also sees teaching as an activity associated with the homes, schools, churches, mosque etc and where someone who is more vast and knowledgeable in specific field (skills and understanding) tries to influence another person to acquire these skills, understanding, beliefs and thought, so that his life will change.

As stated by Saidu (2008), every profession has its practical side. The training of doctors, accountants, lawyers, engineers and other professionals in Nigeria, make adequate provision for practical work which forms a major part of the total training of the professionals. Comparing the practical aspect of teaching to other fields like medicine and the natural science, the natural

sciences undergo the SIWES for a period of six months where students are attached to various companies and firms that relate to their field of study in order to acquire practical knowledge of their field. In like manner, medicine students who have attained a medical degree embark on internship where they will have to practice medicine unsupervised. The exercise lasts for a period of one year. Hence, teaching practice is a period of time during which a pre-service teacher is assigned to a public or private school for supervised teaching experience to enable the teacher-trainee learn the actual work of the teacher in and out of the classroom, (Enem and Ugwu, 2011).

The importance of teaching practice in the certification of professional teachers cannot be over-emphasized because any student teacher who has not successfully satisfied the requirements of practical teaching cannot be certified as a qualified teacher irrespective of how excellently he has performed in the teaching subjects and in the theory of education. The purpose of teaching practice in education is both developmental and evaluative. The developmental aspect of teaching practice refers to its ability to impact the skills and techniques in teaching profession into a trainee in the field before being certified as a professional teacher, while the evaluative aspect refers to the process by which a supervisor measures and rates the performance of a student teacher during teaching practice.

Since teaching practice involves the use of wide body of knowledge about the subject being taught, it therefore, requires that trainee-teachers should apply the most effective way to teach their subjects to different kinds of learners. However, within the process of these teaching practice periods, the student-teachers of chemistry in the University of Jos encounter a lot of challenges and problems which negatively affect their performances.

Comparatively, problems of teaching practice is not peculiar to Nigerian students only. Thomas (2006) highlights cultural (diversity) and environmental barriers experienced by four American student teachers in Central Asia and how they coped and successfully managed in gaining valuable experience during their teaching practice. On the other hand, Pomeranntz and Pierce (2004: 55) contributed to this by exposing the challenges experienced by student teachers in the "real world", and to what degree the "courses prepared them for those challenges".

This is to suggest that the theory and micro teaching done in classroom context does not manifest itself as easy as it seems to be. That is, the actual thing lies in the teaching practice itselfIn addition, Chung (2002) examines the challenges of developing effective teaching strategies of student teachers through quality feedback from supervisors. She concludes that the dialogues that they have facilitate knowledge building and encourage collaborative reflection on individual teaching practice to improve the understanding of teaching. By using such dialogues, Chung (2002) insists that supervisors are able to assist the novice teachers in identifying and evaluating "the context of the problem or deficiency and establish developmental goals or standards" and "the personal strengths and resources of the student-teacher may be used to improve plans for teaching".

With the new knowledge gained and the reconstruction of existing knowledge, the teachers have the potentials and the power to be adept in confronting the challenges and eventually prevailing over them. And as for teacher education providers, it may assist in improving teacher preparation courses (Pomerantz and Pierce 2004). A recent nationwide evaluation study of teaching practice in the Malaysian teacher education program seriously suggests that it is very important and beneficial to identify and examine the challenges that the pre-service teachers face during their teaching practice (IPT et al. 2005).

The researcher however has decided to investigate those challenges faced by student teachers of Chemistry in the University of Jos during the teaching practice exercise. It is on this background that the researcher has based this studies.

Statement of Problem

Student teachers faced some problems during teaching practice (financially and materially) in schools because they are perhaps not well taught or made to realize the importance of this

programme and likely problems he or she might face during the exercise. In some situations it means that their interest in the teaching practice have not been motivated. For the goal of teaching to be achieved in Nigeria, It will be necessary for the ministry of education at all levels of government to find solutions to the problem being faced by the student teachers during the teaching practice exercise. Such problems include lack of instructional materials, incentives, accommodation and office facilities for the student teachers heavy work load given to the student teachers, lack of cooperation from their practicing schools attitude of the pupils towards the student teachers and difficulty on the part of student teacher to manage his class effectively etc. the extent to which these problems are being addressed and recommendation made constitute the problem of study.

Research Questions

This study is based on the following research questions.

1. Do the student teachers have the necessary instructional materials in the schools of practices?
2. Are there incentives given by schools to student teacher?
3. Are the student teachers given the amount of work load they can cope with in their practicing schools?
4. Does the lack of office facilities for the student teachers constitute a problem faced by them during teaching practice exercise?
5. Do student teachers enjoy cooperation from their practicing school?
6. Does lack of respect for student teachers by the students constitute a problem face by them during teaching practice?

Method

The study employed Survey Research Design. This implies that a few people were selected as sample to represent the larger population with regard to opinion, attitude and interest. The instruments for collecting data or information include: questionnaire, interviews and observation. However, for the purpose of this research, the questionnaire was used. The use of the cross-sectional survey undertook the study of the entire chemistry educational student population through a close study of a representative sample that shall be drawn the target population. The area of study in this research is the entire University of Jos community. The population constitutes an integral part of the entire University of Jos community;

The study is to cover the penultimate and final year students (300 and 400 level) students of the 2016/2017 academic session from the unit of chemistry education, department of science and technology education, faculty of Education University of Jos. From the entire population, the subject of study consisted of a purposive sample of 20 students from each level. Hence a total number of 40 students were selected from both levels. This implies that every respondent must be an undergraduate student of Chemistry education who has embarked on teaching practice.

The instrument used for study was designed by the researcher and was titled "Questionnaire on Challenges during Teaching Practice Exercise." These piece shall comprise of two sections, A&B. Section A sought to obtain personal information about the student-teachers (respondents), while section B shall contain four Likert Scale of Strongly Agree(SA=4), Agree (A=3), Disagree (D=2) and Strongly Disagree (D=1) which the student teachers are to respond to.

It was validated by three lecturers of the department of science and technology and two lecturers of the faculty of education. The internal validity of the instrument is assessed based on some sources of internal invalidity which may include selection bias, reliability or consistency of measuring instrument and interviewer's score, experimental mortality. Sources of external invalidity such as the interaction effect of selection bias can also be checkmated.

The reliability of the instrument was determined by a pilot test with 10 students who are not involved in the study. The data will be collected and the reliability co-efficient will be determined using Cronbach Alpha techniques. Collection of data was done using the structured questionnaire in which the respondents are allowed to respond to immediately.

The data collected was analysed with respect each of the research question using the frequencies, mean statistic and percentages. All research questions in this study was analysed using the said frequencies, mean and percentage statistics. A mean value of 2.5 shall be used as the cut-off (test-mean), so that any item that scores the mean and above will be considered a challenge faced by student-teachers.

Results

Research Question One: Do the student teachers have the necessary instructional materials in the schools of practice?

Table 1: Availability and Access of Student Teachers to Instructional Materials

SN	ITEM	SA	A	D	SD	MEAN
1	There was a functional chemistry laboratory in my teaching practice school	10	13	17	10	3.175
2	The chemistry laboratory had all the necessary equipment needed in a standard laboratory	5	15	9	11	2.650
3	Necessary reagents were readily available in the laboratory	6	18	6	7	3.200
4	I was allowed to conduct practical exercises when necessary	17	18	9	6	2.600
5	I was given full access to the school laboratory	9	18	6	7	2.275
6	I was able to improvise in cases where the actual instructional material was not available	10	22	6	2	2.000

From the table, based on the 2.5 cut off score, it can be concluded that items 1, 2, 3 and 4 were perceived as challenges while items 5 and 6 were not a challenge.

Research Questions 2: are there incentives given by schools to student teachers; and does lack office facility constitute a problem during the exercise?

Table 2: The Level of Motivation of Student Teachers Through the Use of Incentives and Good Working Condition.

SN	ITEM	SA	A	D	SD	MEAN
1	I was a beneficiary of incentives from the school at the end of the teaching practice exercise	6	7	11	16	2.925
2	I was provided with a comfortable office during the exercise	7	19	10	4	2.275
3	I was given a personal office space	6	13	13	6	2.375
4	All necessary office facility was made available	4	16	14	6	2.550

Respondents disagreed to items 1 and 4 while they agreed to items 2 and 3.

Research Question 3: Are the student teachers given the amount of work load they can cope with in their practices?

Table 3: The Level of Workload Given to Student Teachers during Teaching Practice

SN	ITEM	SA	A	D	SD	MEAN
1	All responsibilities of the school teacher was transferred to me on arrival for the teaching practice exercise	6	17	13	4	2.375
2	I was given additional subjects to teach during the exercise	4	11	12	13	3.150
3	I was able to cope with the work load given to me	13	18	6	2	1.875

Respondents disagreed to item 2 while the agreed to items 1 and 3**Research Question 4:** Do student teachers enjoy cooperation from their practicing schools?

Table 4: The Level of Motivation of Student Teachers Through the Use of Incentives and Good Working Condition.

SN	ITEM	SA	A	D	SD	MEAN
1	I was a beneficiary of incentives from the school at the end of the teaching practice exercise	6	7	11	16	2.925
2	I was provided with a comfortable office during the exercise	7	19	10	4	2.275
3	I was given a personal office space	6	13	13	6	2.375
4	All necessary office facility was made available	4	16	14	6	2.550

Respondents disagreed to items 1 and 4 while they agreed to items 2 and 3.

Table 5: Level of Cooperation Given To Student Teachers from Their Schools

SN	ITEM	SA	A	D	SD	MEAN SCORE
1	The school management was willing to provide assistance to me when I need help	6	20	9	5	2.325
2	The subject teacher was available in provision of assistance to the student teacher	11	20	6	3	2.025
3	There was a good working relationship between the student teacher and the subject teacher	14	17	6	3	1.950
4	I was permitted to attend staff meetings alongside regular staff of the school.	16	15	5	4	1.825

Respondents agreed to all items in the table above.

Research Question 6: does lack of respect for student teachers by students constitute a problem faced by them during teaching practice?

Table 6: Attitude of Pupils towards Student Teachers

SN	ITEM	SA	A	D	SD	MEAN
1	Students were willing to obey every instruction given by the student teacher	13	20	6	1	1.875
2	Students maintain orderliness during classes conducted by student teacher	13	20	6	1	1.875
3	I was respected by pupils just as the school teachers were respected	11	24	4	1	1.875

Respondents agreed to all items in the above table.

Table 7: Other Possible Challenges Relating to Lesson Plans

SN	ITEM	SA	A	D	SD	X
1	I endeavor to write my lesson plan before any lesson	14	20	6	0	1.800
2	Preparing lesson plans was always a problem for me	8	6	13	15	2.975
3	I adhere strictly to my lesson plan during lesson	5	21	9	5	2.350
4	The school management access my lesson plans before lesson delivery	5	12	17	6	2.600

Respondents agreed to items 1 and 3 while they disagreed to items 2 and 4

Discussion of Findings

From the findings, the respondents considered that there were no functional Chemistry laboratories in the schools, there were no necessary equipment and reagents in the Chemistry laboratories. The respondents were also allowed access to the limited laboratory facilities in the schools where they were available. Respondents also considered that conducting practical exercises was a major challenge but improvisation when necessary was not a challenge.

The respondents considered that stipends should be given to the student teachers at the end of the teaching practice exercise.

The respondents went further to agree that student teachers had personal and comfortable office space but the office facility was inadequate and that student teachers were able to cope with the amount of work load given to them during the teaching practice exercise. The respondents also considered that the cooperating school related well to the student teachers and that they enjoyed maximum cooperation and respect from their practicing schools.

Respondents finally considered that student teachers had no challenges pertaining lesson planning and delivery but assessment of lesson plans by management of cooperating schools was a challenge.

CONCLUSION

From the findings obtained from the study, it can be concluded that there was inadequacy in the availability of instructional materials in terms of standard chemistry laboratory, laboratory equipment and reagents. This implies that student teachers were not able to make learning as concrete enough as they should. Although there was room for improvisation, improvised materials might not be comparable in terms of application to the actual materials in chemistry.

It can also be concluded that student teachers were not beneficiaries of incentives of whatever form. This has a negative effect on the level of motivation of student teachers which will have a ripple effect on the effectiveness of the student teachers in their various teaching practice stations.

Findings also led to the conclusion that school managements did not meet up with the duty of proper weekly assessment of the lesson plans of the student teachers. This is not helpful to the teaching practice process because assessment of student teachers should be a continuous process so as to maximize learning. Also this would have been another method to ensure that student teachers are faithful to writing their lesson plans before every lesson. This would have enhanced the teaching-learning scenario.

However, findings from the study has led the conclusions that student teachers were adequately accommodated in their various school, there was good working relationship between the school subject teachers and the student teachers, the school managements were there to assist student teachers where help was needed and the pupils also displayed a positive attitude towards the student teachers.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are proffered to the student teachers, the cooperating schools and the Faculty of Education in a bid to aid the success of the teaching practice exercise;

i. The student teacher should make careful choice of the cooperating school for his/her teaching practice. He/she should take into consideration the proximity of the school, the learning opportunity provided to student teachers by the cooperating school, the facilities of the cooperating school, etc.
ii. The Faculty of Education should construct a list of schools that are eligible for the teaching practice exercise. This is because some schools do not serve as a "growing ground" for the young and upcoming teachers.
iii. Sufficient prerequisite courses to the teaching practice exercise should be made so that the student teachers go into the field with sufficient knowledge of the subject and also competence and ability in handling the teaching-learning process.
iv. The teaching practice supervision should be made more comprehensive. Log books should be provided for the student teachers where they fill in their daily routines during the teaching practice exercise. This should be supervised by the cooperating teacher, and used by the teaching practice supervisor in further/final evaluation.
v. Student teachers should judiciously manage the time given for the teaching-learning process, and exploit other available periods so as to gain the best and also give the best to the cooperating students and school in general.
vi. Small stipends should be given to the student teachers at the end of the teaching practice exercise. This will help to encourage the student teachers and serve as a reinforcement and motivation. Also, the teaching profession involves payment of teachers, so this will serve as a good exposure to the student teachers as a reward for labor.

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