



Challenges of Training Science Teachers Through National Teachers Institute In Niger State, Nigeria

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ABSTRACT

The study investigated challenges of training science teachers through national teachers institute in Niger State, Nigeria. A survey design, using a close ended questionnaire was used in the study. Data was collected from completed evaluation survey forms of thirty-two lecturers, 285 Students and 15 administrative staff involved in the programme and analyzed using percentages, frequency counts and bar charts. Findings of the study among others revealed that, the programme faces several threats from centre, lecturer, and student-related factors, which include limited resources, inadequate expertise in distance education, teaching mode, lack of adequate learning facilities and lack of well equipped study centres. The Study recommends that issues raised be addressed in order to produce quality science teachers in the State.

Keywords; National Teachers Institute, Distance learning institutions, students, teachers, Study centres and challenges

INTRODUCTION

Distance learning (DL) has become widely accepted as an alternative medium for the teaching and learning of many disciplines including science education. The use of multi-media for transactions has made distance learning effective in the delivery of courses requiring intensive practical and face- to- face interactions The Sustainable Development Goal (SDG) of Education For All (EFA) is a clear testimony that education is recognized as a key development concern. However, the realization of the EFA goal is threatened by several challenges faced by the education sectors across the globe. One of the major challenges facing the education sector is the shortage of science teachers, particularly in developing countries. UNESCO (2018) estimated that between 15 and 35 million new teachers are required globally by 2015; 25% of this global teacher demand is needed in Africa. This high teacher demand has been created mainly by out-of profession teacher migration (UNESCO, 2018).

In Nigeria, the economic challenges, corruption, and the Government attitude towards teachers welfare has triggered one of the worst episodes of technical skills drainage. Science teachers mainly have migrated to other professions in great numbers in search of better working conditions. This has exacerbated the major obstacle in science education in Nigeria and particularly Niger State, in an era when it has been recognized that teacher education lies at the heart of all development (Teferra and Skauge, cited in Thakrar, Zinn, and Wolfenden, 2012).

The need to train large numbers of science teachers has never been more critical than now. Many science teachers in Niger State have not measured up to the minimum international standard. This is because a large number of untrained and half-baked personnel are still retained in the system, leading to a scenario in

which career in teaching is not yet professionalized. Many unqualified teachers are still in the employment of the State Teaching Service Boards, while most higher education lecturers are yet to undergo training in education. Until Government makes this training mandatory and pursues the policy vigorously, teaching will continue to be open to anyone and this situation holds the potentials of further eroding professionalism in the teaching profession (Osokoya, 2012).

Challenges to university education include high cost of education: in an era which has undergone difficult economic times due to corruption. Distance learning programmes have been initiated at a time when every nation is in pursuit of Education for all (EFA) (Thakrar 2013), making it quite significant. The DLE programme is guided by the assumptions of taking education to the door step of the student at an affordable cost and factoring in the bridging aspect to students who meet the minimum entry requirements for degree programmes but without JAMB qualification.

National Teachers Institute (NTI) is one of the sole institutes whose names carry the mandate of education. The National Teachers' Institute which was established in 1976 in Kaduna Northern Nigeria where its headquarters is currently located is the sole distance learning teachers institution in Nigeria. This institute was established in the wake of the Universal Primary Education (U.P.E) project.

Though NTI has the potential of producing a good number of qualified science teachers for the nation, other functions like assisting and upgrading under qualified and unqualified teachers all over Nigeria has overtaken this function. NTI mode of operation includes Correspondence in which self-instructional linear programmed texts are used and weekly face to face meeting with tutors at study centres; (ie places where lectures go on). They are located in all states in Nigeria. And the programme employs basically conventional mode of teaching. (Bolaji, 2012)

But the objectives of Science Education which include: (i) Basic literacy for functional living in society, (ii) Basic concepts and principles as a preparation for further studies, (iii) Essential tools and attitudes as a preparation for application of science for development and (V) Stimulation of creativity cannot be achieved through traditional conventional teaching which is the teaching mode of most distance learning programmes in the country including NTI. It should therefore be acknowledged that unless something is done, a large number of well trained science teachers the nation currently needs cannot be achieved through teachers distance learning programmes in the country. (Bolaji, 2012)

National Teachers' Institutes are designed to contribute to the high demand of teachers In Nigeria by extending access to science teacher education. Despite the potentials of the media and the self- learning nature of the study materials/ practical manuals, many obstacles have been encountered in teaching practical based courses in science. Science teachers produced by this programme may have inadequate knowledge of practical works, and the implication of this is that, they teachers will only employ traditional teaching methods in the science classes which will lead to lack of interest in science, low retention and low achievement of Students in the external examinations. And the consequences is that many Students will not be qualified to study science courses in tertiary institutions which will aggravate the current situation of inadequate qualified science teachers in the state and the Nation at large. Although there have been previous studies on distance education in Niger State and Nigeria as a whole, the unique focus of this study calls for empirical evidence that explores the perceptions of students and lecturers of the programme in Niger State. This Study therefore discussed the National Teachers Institutes' challenges of training science teachers in Niger state, Nigeria

Research Questions

The study was guided by the following three questions:

1. What are the challenges faced by National Teachers' institutes in training Science teachers in Niger State?
2. What are the challenges of the lecturers of the NTI programme?
3. What are the challenges of NTI Science Students?

METHODOLOGY

A descriptive survey design research was adopted in this study. 18 administrative staff 32 lecturers and 650 students who were involved in the teaching and learning process in the semester participated in this study. A researcher made four point Likert scale questionnaire was administered on students, Lecturers and the administrative staff of the institute to elicit information on the challenges in the institute. The survey instrument consisted of thirty close ended questions with four options SA- strongly agree, A – Agree, SD strongly disagree and D disagree. The participants were asked to respond to each of the

questions in the four Likert scale using one of the options. Documents analyzed included the institution Act, programme regulations, programme minutes, supervision reports, centre reports, teaching timetable, and lecturers' and students' records. The data from the survey were analyzed using Statistical Package for Social Sciences (SPSS version 17). Interviews were transcribed and the resultant data was content analyzed to describe and interpret their meaning and then organized into emerging themes (Walliman & Buckler, 2012). All data from the questionnaire were compared, integrated, and pooled together to address the research questions. The findings are presented in a descriptive form supported by some descriptive statistics in the form of tables and charts,

RESULTS

Research Question 1: *What are the challenges faced by the National Teachers' Institute in training Science teachers in Niger state?*

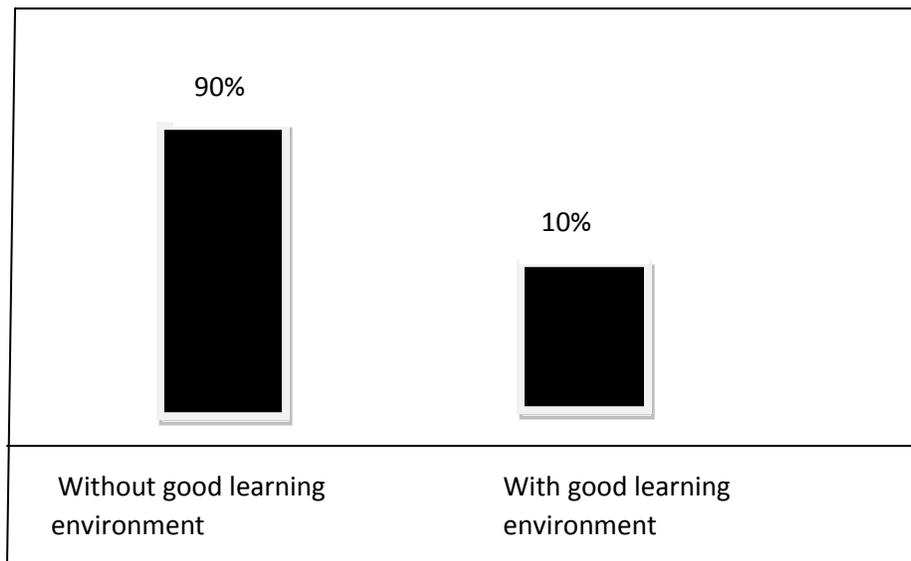


Fig. 1: Condition of Learning Enviroment in the study Centres

Figure 1 shows that 90% of the study centres do not have good learning environment like well equipped class rooms while only 10% of the study centres have well equipped class rooms. This shows that a greater percentage of the Centers are not convenient for effective teaching and learning.

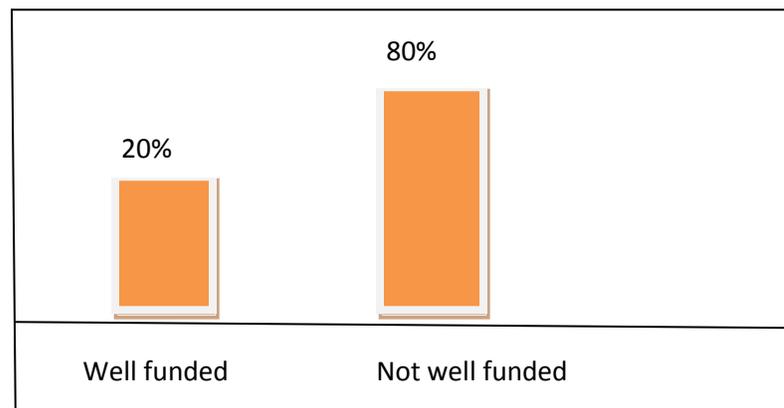


Fig. 3 The Funding of NTI projects

Fig. 2 shows that only 20% of the NTI projects are well funded by the Government while 80% of the institutions' projects are yet to be funded

Research Question 2: *What are the challenges of the lecturers of the NTI programme?*

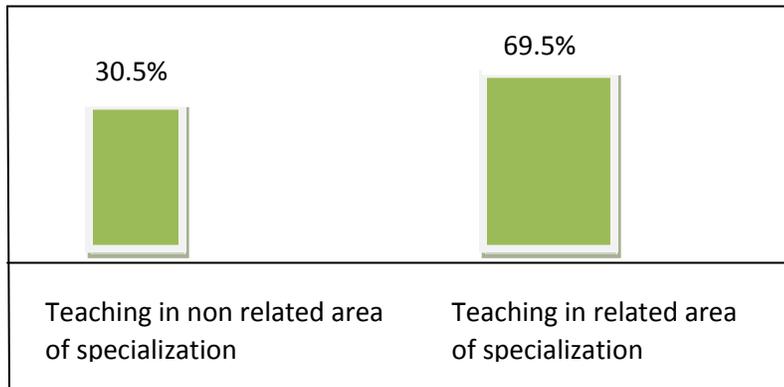


Fig 3 Relationship between Lecturers' area of specialization and courses taught in the NTI programme

Fig 3 shows that 30.5% of the Science Lecturers in the NTI programme teach courses not related to their area of specialization while 69.5% teach courses related to their Area of specialization.

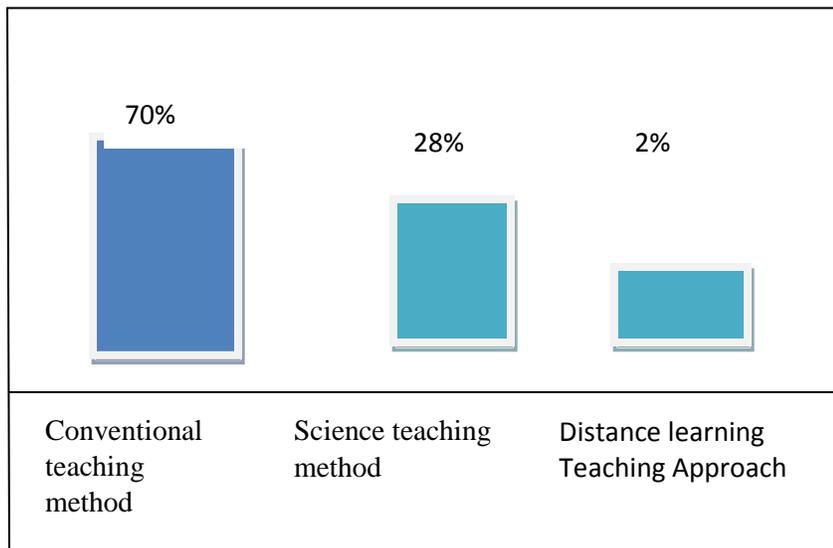


Fig. 4. Teaching experience in different instructional modes

Figure 4 shows that 70% of the Lecturers of NTI programmes only have conventional teaching experience and 28% of them have science teaching experience while only 2% of the lecturers have experience in distant learning mode of teaching.

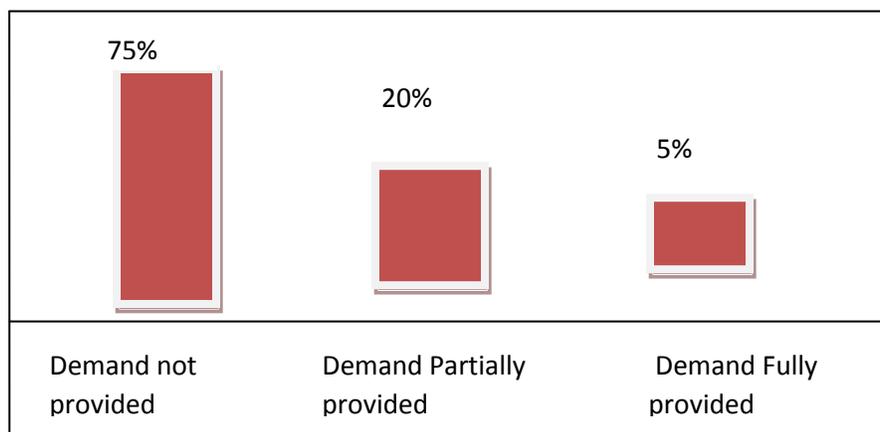


Figure 5. Lecturer’s motivation

Fig. 5 shows that only 5% of the NTI lecturers’ demands are fully provided, 20% of the demand are partially provided while 75% of their demands are not provided at all

Research Question Three: *What are the challenges of the NTI students?*

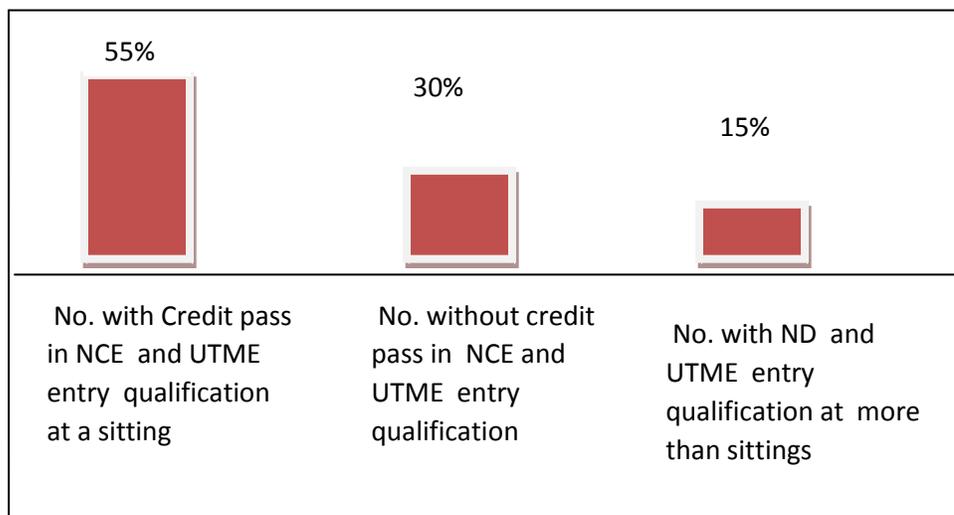


Fig 6. Students entry Qualification for Bachelor Degree Programme (BDP).

Fig 6 shows that 55 percentage of Students admitted into the pogramme passed NCE at Credit level and above in addition to UTME requirement at one sitting, 30% of the student admitted into the programme passed NCE with pass grades below credit level in addition to UTME requirements at more than one sittings. while 15 percentage of students admitted into the BDP had national Diploma at Upper Credit Level and above.

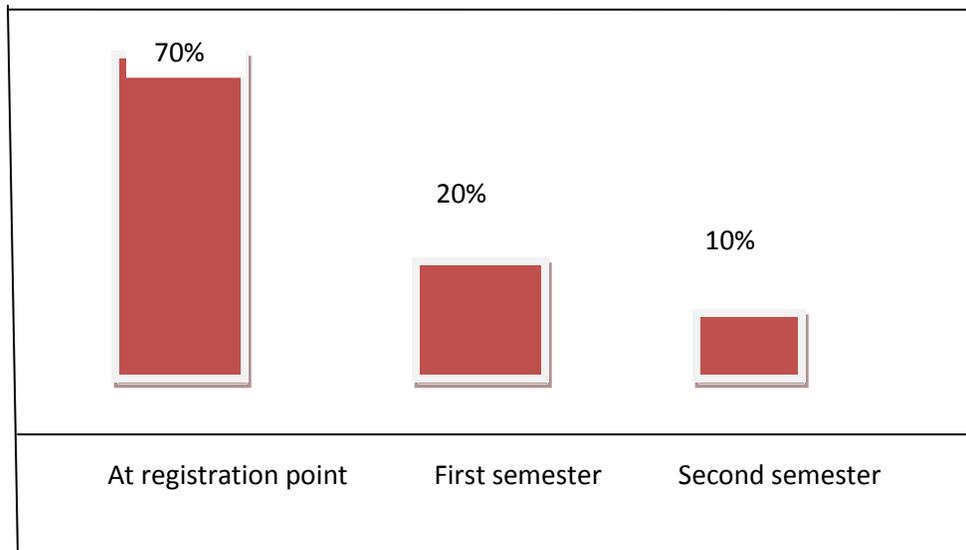


Fig. 7: Percentage of Available Course Materials for Students at Different Stages of the Session

Fig.7 shows that only 70% of the course materials were ready for the students collection as soon as they registered for the courses, 20% of the course materials they paid for were delivered to them before the end of first semester, while 10% were only available during the 2nd semester. This shows that students do not have all the study materials on time.

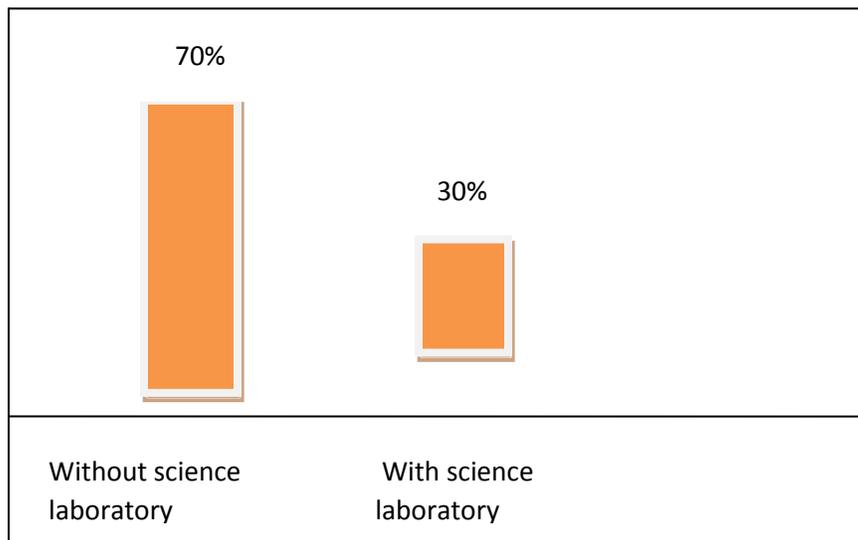


Fig 8. Availability of Science Laboratories in Study Centres

Figure 8 shows that 70% of the study centres do not have science laboratory while only 30% of the study centres have science laboratories. This shows that a greater percentage of the Centers are located where science laboratory cannot be accessed by the science students for effective teaching and learning of science.

DISCUSSION OF FINDINGS

The findings in this study among others revealed that there are numerous challenges associated with the NTI's programme, and were categorized into institution, Lectures and student- related challenges. The result shows that most of the study centres do not have good learning environment like well equipped class rooms. This means that a greater number of the Centers are located where both students and lectures do not have good class rooms for effective teaching and learning and this may be responsible for the challenges of producing well trained science teachers by the institution. This is also in agreement with Robert 2012 and Owolabi and Oginni (2012) which blamed the poor performance in science and technology subjects on the increase school enrolment without a corresponding increase in facilities. The result shows that one of the major challenges of the institution is that of poor funding. The problem of poor funding is a major problem as it is difficult for an institution to thrive well without being properly funded. This result is also in agreement with Bolaji (2012) which identified poor funding as a major challenge to effective implementation of the goals of distance learning programmes in Nigeria

The findings also show that some Lecturers in the NTI programme teach courses not related to their area of specialization, courses not taught by professionals can be so frustrating to both the teacher and the students making it difficult for effective learning to take place. This result is also in agreement with Mungo (2014), Ajaja (2009) Cited in Agu (2017), Knapper (2013) and Bolaji (2012) who concluded in their studies that most of the teachers teaching physics had no familiarity with physics concepts and had degree outside physics education, and were not fully trained in adequate methodology of physics and therefore stated in their respective studies that out-of-teaching syndrome, is not helping the system and as long as it continues there may not be any improvement in terminal examinations. Result shows that many Lecturers of the NTI programmes do not have experience in science teaching and in distant learning mode of teaching. The use of conventional mode of teaching in teaching science students does not give room for students to be actively involved in the process of learning as such students end up memorizing concepts which make it so difficult for them to utilize the processes of science, these type of students can never be good science teachers. This result is also in agreement with Wambugu and Changeiywo (2008), and Maigana (2016) who asserted that teaching method is a crucial factor that affect the academic achievement of students. The result shows that most of the NIT's lecturers demands are not met and this may affect their commitment to their job which may in turn affect the academic outcome. This result is also in agreement with Adeyemo A. Oladipupo A. and Omisore A (2013) which states in their studies that the condition of service of teachers have a direct impact on student's academic performance.

The findings of this study also reveal that there is no uniformity in students' Educational background at the admission point. Some students admitted into the programme did not have the entry qualification and were allowed to remedy the courses that made some of the students offer more courses than others. This shows the diversified Educational background of the NTI students. It is impossible for students with this type of diversified background to learn at the same pace. It creates learning gap for some students and this will definitely affect their learning outcome. This result is also in agreement with the study of Tyler (2016), Sikwibele and Mungoo (2014) which found out that students of diversified age and educational background did not learn at the same pace when taught together. From the study it was also revealed that some of the course materials were not ready for the students collection as soon as they registered for the courses and were only available during the 2nd semester. This shows that students do not have all the study materials on time. It is not possible to study in a distance learning without the study materials because the major mode of study is individualized mode, and without the study materials it is difficult for the students to access the learning contents, This result is in agreement with Simanson, (2013), Yusuf (2016), Tyler-Smith (2016) and Bolaji (2012) Which collectively asserted that distant learning programmes can be effective alternatives to conventional institutions if the study materials are comprehensively written and readily available. It was also revealed in the study that most of the study centres do not have well equipped science laboratory for practical works by science students. Learning science without having access to practical works is a major challenge to science students and always has a great impact in their academic outcomes. This is line with Rubanju (2015), Nyondu (2014), Kolawole and Oginni (2009), Agu and Iniodu, (2017) which discovered that inadequate exposure to science

laboratory at secondary school level causes students inability to comprehend and apply scientific knowledge.

CONCLUSION

The NTI programme has incredible potential to supply secondary schools in Nigeria and beyond with the much needed large numbers of qualified science teachers. However, the institution, lecturer, and student challenges identified in this study have serious draw-back on the quality of the programme and need to be checked.

RECOMMENDATIONS

Based on the findings of this study the following recommendations are made:

- 1) The Government should ensure that more funds are allocated to the programme
- 2) Stake holders of the programme should ensure that only schools with good learning environments like well equipped class rooms are considered as study centres
- 3) Stake holders should ensure that only qualified lecturers with relevant experience and expertise in distance learning teaching mode are considered for employment.
- 4) Stake holders should ensure that the demands of the NTI lecturers are provided to enhance their commitment to the programme
- 5) State Cordinators should ensure that only students who meet the entry qualification are admitted into the programme
- 6) Stake holders should also ensure that study centres are located where students can have access to science laboratory
- 7) Stake holders of the programme should also ensure that all course materials are made available to students at the registration points

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