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## THE SURVIVAL OF SCIENCE EDUCATION IN NIGERIA A CASE STUDY OF THE UNIVERSITY OF UYO

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### ABSTRACT

This study aimed at observing the production of graduate science teachers as an index of the survival of science education programme in Nigeria. Data were collected from the University of Uyo in relation to the manpower need of Akwa Ibom State Teaching Service for the period, 1988-1993. The results showed that for the period of six (6) years only (125) science teachers were produced by the University for schools totalling two hundred and thirty-seven (237) in Akwa Ibom State. A breakdown of this showed, four (4) in physics, thirty-six in chemistry, sixty-two (62) in biological science and twenty-three (23) in mathematics. Considering this finding, a limited chance of survival was observed for science education. To enhance its survival it was recommended that universities be encouraged to vigorously pursue remedial programmes in science education while government should give full scholarship to students to study science education.

### INTRODUCTION

Science education is a field of study that stands in between the Faculty of Natural and Applied Science and the faculty of Education. Although the programme is often housed in the Faculty of Education, it also qualifies to be in the faculty of Natural and Applied Science. Where the latter is the case, the programme is considered as an area of applied science.

According to Bajah (1982), science education means education through the study of science. This definition is also favoured by Ikponwosa (1984). Generally, science education is a field of study that educates in science. Its major goal is therefore that of scientific literacy. A science teacher is one that is capable of educating one in science. This implies that he must not only know much of science but also ways of imparting scientific knowledge.

It is often debatable whether or not a teacher's poor knowledge of science is worse than his poor knowledge of teaching strategies. An analytical consideration tends to support the views that a poor knowledge of science coupled with a good knowledge of teaching strategies is more harmful than a good knowledge of science coupled with bad teaching strategies. This is because the good strategy will facilitate the assimilation of wrong facts.

There has been a shortage of science teachers with good knowledge of science as well as good knowledge of ways of imparting scientific knowledge, in Nigeria (Ogundimu, 1972; and Gravenir, 1982). This shortage makes it difficult to fulfil the purpose of science education which according to American Association for Advancement of Science,

as quoted by Mackey (1971) include:

- (i) to foster in every way possible scientific literacy;
- (ii) development of an understanding of the nature of science among school students;
- (iii) to develop in citizens attitudes such as curiosity, open mindedness, intellectual, honesty, objectivity, suspended judgement, logical thinking, among others; and
- iv) to develop in learners a scientific culture.

The problem of lack of enough science teachers and generally, scientists, is observed by government. It emanates from the fact that the number of students who qualify to read science or science education considering their Senior Secondary Certificate Examination (SSCE) and Joint Admission and Matriculation Board Examination (JAMBE) results is consistently too small. Aghenta (1981) observed that out of the number of science candidates who enrolled for SSCE, only less than twenty percent (20%) on the average qualify to seek admission into the Universities. Government's directive specifying 60:40 ratio in favour of science for admission into higher institutions of learning in Nigeria has therefore been difficult to implement. Some factors responsible for this are poor staffing (resulting from inadequate number of science teachers), poor state of the laboratories, mass failure in mathematics (Aghenta, 1981).

### PURPOSE OF STUDY

The purpose of the present study is to see whether or not the situation regarding the availability of science teachers has improved over the years. The researcher intends to assess the survival of science education programme in terms of the number of graduates produced in this field of study.

### METHODOLOGY

This study uses the university of Uyo as a case study. There are about two hundred and thirty-seven (237) secondary schools in Akwa Ibom State. Grouped under the former ten (10) Local Government Areas, the breakdown is as follows: Abak - 23; Eket - 23; Uyo 38; Estinan 30; Ikono - 19; Ikot Abasi - 22; Ukanafun - 16; Oron - 20; Itu - 19 and Ikot Ekpene - 27. The study intends to assess the production of science teachers in the university of Uyo (being the only higher institution of learning that produces graduate science teachers in the state) as needed in the 237 schools.

Graduating students are used because they actually went through the programme. Admission list is defective here because of the possibility of withdrawal or change of course that often occur among students. The science education programme considered in the study is delimited to the following: Physics, Chemistry, Biological Science and Mathematics.

The main instrument used in the proceeding of three university convocation (1989 - 1991). To supplement this, senate approved result sheets of the Department of Science education for graduating students, from 1988 - 1993, were used.



## RESULTS

From the instruments, the following data were obtained as shown in the table below:

**Table 1: Summary of the Number of Graduates in Science Education from 1988 - 1993 in the University of Uyo**

Year	Physics	Chemistry	Biology	Mathematics	Year Total
1988	-	4	16	2	22
1989	-	5	4	7	16
1990	1	1	2	1	5
1991	1	-	7	2	10
1992	-	4	9	2	15
1993	2	22	24	9	57
Total	4 3.2%	36 28.8%	62 49.4%	23 18.4%	125 100.0%

As shown in table 1, the university of Uyo can only produce four (4) physics teachers; thirty-six (36) chemistry teachers, sixty-two (62) teachers in biological science and twenty-three (23) mathematics teachers during a period of six (6) years. The table also shows that twenty-two (22) science teachers were produced in 1988, sixteen (16) in 1989, five (5) in 1990, ten (10) in 1991, fifteen (15) in 1992 and fifty-seven in 1993.

Considering the number of schools (237) in Akwa Ibom State, a careful analysis shows that the ratios of schools to science teachers produced in the University of Uyo from 1988 - 1992 are: 1988 - 11:1; 1989 - 15:1; 1990 - 47:1; 1991 - 24:1; 1992 - 16:1 and 1993 - 4:1. The worst situation occurred in 1990 where forty-seven schools had to struggle for one science teacher. The best was, however, found in 1993 when only four (4) schools vied for one science teacher; granted that all the graduates went into Akwa Ibom State Teaching Service.

Further analysis shows that for the period of six (6) years the university of Uyo only produces an average of twenty-one (21) science teachers yearly. This shows the average of school to science teacher ratio as 11:1. Specifically, average number of subject teachers produced were six (6) for chemistry, ten (10) for biological science, and four (4) for mathematics. The university was unable to produce an average of one teacher in physics throughout the period considered in the study. Based on these averages, the average ratios of schools to subject teachers in science are given as: 40:1 for chemistry; 24:1 for biology and 59:1 for mathematics.

## DISCUSSION AND CONCLUSION

From the results obtained in this study, the situation regarding the shortage of science teachers is very alarming. This, perhaps, is not peculiar to Akwa Ibom State and the University of Uyo. It is a common phenomenon all over the nation. The situation has been consistently bad. The only improvement in the production of science teachers in the university was observed in 1993. This, of course is attributed to the remedial science education programme of the university.

The survival of science education in Nigeria rests upon two factors; firstly, availability of students, and secondly, availability of science teachers. These two factors are mutually related and inseparable. If science education programme must survive deliberate attempts must be made to train science teachers. Government should give special concessions and incentives to science teachers. There should be ways of motivating students to choose science education in the university. One of which could be providing full scholarship (boarding, tuition and books) to science education students. Laboratories in schools should also be sufficiently equipped. Moreover, all universities should be encouraged to mount remedial science education programme as a matter of urgency. Those who have the programme already should increase their yearly intake.

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