

## Extent Of Curriculum Implementation Of Senior Secondary Schools Biology During The Era Of Insecurity In Anambra State.

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### Abstract

*The study investigated the extent of biology curriculum implementation during the era of insecurity in senior secondary schools in Anambra State. A descriptive survey research design was adopted for the study, which was carried out in Otuocha Education Zone, four research questions guided the study, population consisted of 46 biology teachers in all the area. No sampling was done because of small population size. The instrument for data collection was a 37 item questionnaire which was constructed by the researchers,. The instrument was validated by two experts in the department of Biology and an expert from Measurement and Evaluation Department, Nwafor Orizu College of Education, Nsugbe. The reliability of the instrument was established using Pearson Moment Correlation Coefficient which gave 0.63. The data was analyzed using mean and standard deviation. Results revealed among others, that biology teachers have the required competencies such as: Communication skills, human relation skills, computer literacy and ability to be creative and improve for the implementation of biology curriculum during the era of insecurity. Also, the study revealed that biology teachers used the required teaching strategies such as: Project method, demonstration method, and inquiry/discovery method for biology curriculum implementation in time of insecurity. Some problems such as: destruction of infrastructural facilities, disruption of school activities, exposure to physical harm and others were encountered by the biology teachers for implementation of biology curriculum in time of insecurity. The study revealed ways of enhancing these problems such as: educating the public on dangers of conflicts/communal crisis, and use of e-learning facilities. Based on the findings some recommendations were made among which that these government should ensure that conflicts, resolution are properly taught in schools.*

**Key Words:** Biology Curriculum implementation Insecurity, Senior Secondary Schools

### Introduction

Biology is one of the most popular science subjects offered by both Science – oriented and art-based students in the Senior Secondary Certificate Examination (SSCE) in Nigeria. Studies have shown that there is an increasing yearly enrollment in SSCE biology but each year candidates achieve poorly in the examination (Okoye, 2011). The teaching and learning of biology in Nigeria are face with many challenges such as: ineffective teaching methods, lack of competent teachers, vast, curriculum, lack of laboratory equipments and resources materials

(Okoye, 2011 & Okoli, 2013). All these factors contributed to the low achievement of students in biology. Biology curriculum exposes learners to biological nature (facts, principles and concepts), processes and attitudes as well as equip them through the professional skills of biology. Nwagbo (2015) opined that a biology teacher should have both biological knowledge as well as skills to impact knowledge to the students. This makes him/her the implementer of the curriculum, a role that places the biology teacher at a very strategic position in the entire educational and societal development programmes.

The Senior Secondary Biology curriculum as a teaching syllabus has four main objectives derived from the Nationally Policy on Education which was revised in (2013). These cardinal objectives are aimed to prepare students acquire the following:

- Adequate laboratory and field skills in biology.
- Meaningful and relevant knowledge in biology.
- Ability to apply scientific knowledge in everyday life in matters of personal and community health and agriculture.

Reasonable functional scientific attitudes  
The objectives are geared towards intellectual and socio-economic development of the individual and the society.

Therefore, adequate and meaningful implementations are desirable and necessary to achieve the effectiveness of biology curriculum.

A curriculum is the “bedrock” for the achievement of educational objectives. Curriculum is the brain of any educational process because it provides a clear understanding of the concepts aims, goals, objectives and expectations that transform them into concrete reality. Nwosu (2015) defined curriculum as the set of courses offered in an educational institution which constitute an area of specialization. Further, Chakma (2019) defined curriculum as the ground which pupils and teachers cover in order to reach the goal of education. It can be regarded as a total experience which the school deals with in educating young people. Kelly, (2020) saw curriculum as the whole of the educative process, that is the total environment, the child and the teacher, the subject content, the method, physical and psychological environment. These ideas are achievable only when the curriculum is properly implemented.

Curriculum implementation refers to the act of working out the plans and suggestions that have been made by curriculum specialist and

subject experts in a classroom or school setting (Offorma 2015) Teachers are the main curriculum implementers while at the same time students, parents, school administrators can directly or indirectly be involved in the implementation process. It is the dissemination of the structured set of learning experiences, the provision of resources to effectively execute the plan in the classroom setting where teacher and learners, interactions take place (Nwosu, 2015).

Nwosu went further to define curriculum implementation as the actual engagement of the learner with the planned learning opportunities. This means that curriculum implementation is where the learner through the guide of a teacher interacts with learning activities so as to maximize learning. The implementation of curriculum is faced, with so many challenges which include: lack of instructional materials, lack of adequate facilities, lack of trained personnel, and insecurity in some parts of the nation.

Insecurity is defined by Hornby, (2001) as the lack of safety or protection or the quality or state of being insecure. Ubong (2016), defined insecurity as where people have a feeling of self-doubt, or feeling vulnerable and susceptible to injury or harm particularly for a sustained period. Ogunode & Okolo (2021) opined that insecurity problems in Nigeria have lead to the poor realization of the academic objectives or goals. This has led to the reduced enrolment rate of students and increased rate of students and children drop-out in schools. Our nations today are greatly affected by high rate of insecurity and this has affected the educational sector, in most states of the country. This issue of insecurity has posed a great threat in the implementation of curriculum especially the biology curriculum precisely.

The role of the teacher remains instrumental in the success or failure of the biology curriculum implementation. If education is the door that opens modernization and

development, then the biology teacher holds the key to that door (Okoye, 2014). This is acknowledged in the National policy on Education (FRN, 2013), which states that no education system can rise above the quality of its teacher". Therefore, the biology teacher is a crucial element in biology curriculum implementation. Alsubiosu (2016), asserted that the quality of any education depends on the teachers. As a curriculum user and implementer at the classroom level, the biology teacher should adequately understand and the curricular content, its objectives, concepts, and stipulated teaching strategies to help the students acquire meaningful knowledge, a pre-requisite for scientific literacy and development of both individual and nation (Alsubiosu, 2016).

Maris (2020), asserted that no matter how well planned a curriculum is, its success and effectiveness depends on how prepared the teacher is, in both ability and willingness to allow students to participate in the activities enshrined in the biology curriculum. Thus, most curricular have failed to bring positive and desirable changes in the learners not because they were deficient but due to ineffective methods adopted especially in the time of insecurity. Nwagbo (2015), opined that even a good curriculum and well equipped biology laboratory would still not give the desired results if the implementation of curriculum is left in the hands of incompetent biology teachers during the era of insecurity. This study therefore, investigates the extent of biology curriculum implementation during the era of insecurity in Senior Secondary schools in Otuocha Education Zone.

### **Research Questions**

The following research questions were asked to guide the study:

1. What competencies are required of biology teachers for effective implementation of Senior Secondary School Biology Curriculum during the era

of insecurity in Aambra State.

2. To what extent do biology teachers use the required teaching strategies in Curriculum implementation Secondary Schools Biology during the era of insecurity in Anambra State.
3. What are the problems biology teachers encountered in Curriculum implementation of Senior Secondary School Biology during the era of insecurity in Anambra State.
4. What are the various ways of enhancing the problems biology teachers encountered in Curriculum implementation of Senior Secondary Schools Biology during the era of insecurity in Anambra State.

### **Method**

The study was a descriptive survey research design, which was carried out in Otuocha education zone of Anambra State. Four research questions guided the study. The target population consisted of 46 biology teachers in all the area. No sampling was done because the whole teachers were used.

Instrument for data collection was a questionnaire developed by the researchers, titled Insecurity Biology Curriculum implementation Assessment (IBCIA). The instrument consisted of two sections "A and B" Section "A" consisted of respondent's personal data, while Section "B" were questionnaire items which was constructed on 4 point likert scale and weighted as follows: strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, Strongly Disagree (SD) = 1.

The instrument was face validated by three experts two from Department of Biology and one from Measurement and Evaluation Department of Nwafor Orizu College of Education, Nsugbe. The instrument was modified using their suggestions to ensure face and content validity.

The questionnaire was administered to few biology teachers outside the area of study.

Data Collected was used to compute a reliability coefficient of internal consistency using Pearson product moment correlation, coefficient which gave a reliability index of 0.63.

The method of administration of the instrument was on the spot administration with the help of two research assistants to ensure a 100% return. Mean and Standard deviation were used to answer the research questions. A mean of 2.50 and above was accepted while a mean of less, than 2.50 was rejected.

## Results

The findings of the study were presented sequentially, according to the research questions.

**Research Question One:** What competencies are required of biology teachers for effective implementation of Senior Secondary Schools Biology Curriculum during the era of insecurity in Anambra State.

**Table 1: Mean ratings and Standard Deviation on the Competencies required of Biology Teachers for Biology Curriculum Implementation of S.S.S Biology during the era of insecurity Anambra State**

| S/N | Questionnaire          | $\bar{X}$ | SD   | Decision |
|-----|------------------------|-----------|------|----------|
| 1.  | Communication skills   | 3.91      | 0.30 | Accepted |
| 2.  | Human relation skills  | 3.74      | 0.44 | Accepted |
| 3.  | Computer literacy      | 2.93      | 0.73 | Accepted |
| 4.  | Be creative or improve | 3.86      | 0.43 | Accepted |
| 5.  | High achievement drive | 3.73      | 0.44 | Accepted |
| 6.  | Technical competence   | 3.26      | 0.62 | Accepted |

Table 1 above shows that items 1 to 6 have their mean scores above the cut-off point of 2.50, therefore were all accepted as significant.

Their means scores include: 3.91, 3.74, 2.93, 3.86, 3.73 and 3.26 respectively. This implies that Biology teachers should possess all the competencies required for effective Senior Secondary School Biology Curriculum implementation, during the era of insecurity in Anambra State.

**Research Question Two:** To what extent do biology teachers use the required teaching strategies in curriculum implementation of Senior Secondary School biology during the era of insecurity in Anambra State

**Table 2: Mean ratings and Standard Deviation on the extent Biology Teachers used the required Teaching Strategies in Curriculum implementation of Senior Secondary School biology during the era of insecurity in Anambra State**

| S/N | Questionnaire items            | $\bar{X}$ | SD   | Decision |
|-----|--------------------------------|-----------|------|----------|
| 7.  | Project method                 | 3.84      | 0.36 | Accepted |
| 8.  | Field-trip excursion method    | 1.97      | 0.77 | Rejected |
| 9.  | Expository method              | 2.21      | 0.51 | Rejected |
| 10. | Laboratory/Experimental Method | 2.91      | 0.62 | Accepted |
| 11. | Problem-solving method         | 2.69      | 0.63 | Accepted |
| 12. | Inquiry/Discovery method       | 2.60      | 0.79 | Accepted |
| 13. | Demonstration method           | 3.76      | 0.47 | Accepted |
| 14. | Discussion method              | 3.89      | 0.31 | Accepted |

Table 2 on Above indicates that items 7, 10, 11, 12, 13 were properly used by biology teachers as teaching strategies required for Curriculum/implementation, of Senior Secondary School biology during the era of insecurity. This was because their mean scores are: 3.84, 2.91, 2.69, 2.60, 3.78 and 3.89 respectively. They have their mean scores above the cut-off mean of 2.50, while items 8 and 9 with their mean scores 1.97 and 2.21 were not used because their means scores are below 2.50. This implies that Biology teachers used the required teaching strategies for Curriculum implementation of Senior Secondary School biology during the era of insecurity in Anambra State. While items 8 and 9 were not used by the biology teachers in implementation

**Research Question Three:** To what are the problem biology teachers encountered in Curriculum Implementation of Senior Secondary Schools Biology during the era of insecurity in Anambra State.



**Table 3: Mean ratings and Standard Deviation in the Problems Teachers Encountered in Curriculum Implementation during the era of insecurity in Anambra State.**

| S/N | Questionnaire items                            | $\bar{X}$ | SD   | Decision |
|-----|--|-----------|------|----------|
| 21. | Destruction of infrastructural facilities      | 3.32      | 0.66 | Accepted |
| 22. | Disruption of School programme/activities      | 3.17      | 0.67 | Accepted |
| 23. | Internal displacement of teachers and students | 3.17      | 0.56 | Accepted |
| 24. | Loss of manpower                               | 2.86      | 0.75 | Accepted |
| 25. | Discouragement of Educational pursuit          | 1.97      | 0.5  | Rejected |
| 26. | Exposure to physical harm                      | 3.28      | 0.66 | Accepted |

Table 3: Shows that items 21, 22, 23, 24, and 25 have their mean scores as follows: 3.32, 3.17, 3.17, 2.86, and 3.28 respectively. They have their means scores above the cut of 2.50. Therefore were all accepted while item 25 was rejected because the mean score was below 2.50. This implies that biology teachers encountered problems like: exposure to physical harm, destruction of infrastructural facilities, disruption of school activities and others in Curriculum implementation of Senior Secondary School biology during the era of insecurity in Anambra State.

**Research Question four:** What are the various ways of enhancing the problems biology teachers encountered in Curriculum implementation of Senior Secondary Schools biology during the era of insecurity in Anambra State.

**Table 4: Mean ratings and Standard Deviation on Enhancing the Problems Biology teachers Encountered in Curriculum implementation of Senior Secondary School Biology during the Era of Insecurity in Anambra State.**

| S/N | Questionnaire items   | $\bar{X}$ | SD   | Decision |
|-----|---|-----------|------|----------|
| 27. | Educating the public on dangers of conflicts/ communal crisis | 3.93      | 0.25 | Accepted |
| 28. | Employment of trained security to guard the school activities | 3.52      | 0.71 | Accepted |
| 29. | Use of e-learning facilities                                  | 3.41      | 0.50 | Accepted |
| 30. | Training of teachers to Acquire computer and technical skills | 3.84      | 0.47 | Accepted |
| 31. | Teachers salary and allowance to be paid when due             | 3.73      | 0.44 | Accepted |
| 32. | Teachers to be creative and improvise                         | 3.76      | 0.52 | Accepted |
| 33. | Provision of infrastructure to schools by government          | 3.76      | 0.52 | Accepted |

Table 4: Shows that items 27, 28, 29, 30, 31, 32 and 33 have their mean scores as follows: 3.93, 3.52, 3.41, 3.84, 3.73, 3.76 and 3.76 respectively. They have their mean scores above the cut-off mean of 2.50. Therefore all the items were accepted and significant. This implies that all the items enlisted as measures for enhancing the problems biology teachers encountered in curriculum implementation of Senior Secondary School biology were above 2.50 and are all accepted as remedies to the problems of implementing biology curriculum during the era of insecurity in Anambra State.

## Discussion

The findings of the study showed that biology teachers have the required competencies for biology curriculum implementation during the era of insecurity. Such competencies include: Communication, skills, human relations skills, high achievement drive, ability to be creative and improvise, computer literacy among others. This finding corroborates with the findings of Nwagbo

(2015) who discovered that biology teachers who are the implementers of the curriculum at classroom level should be intellectually and professionally competent and dynamic enough to adapt to the dynamic world of today's scientific and technological development.

The findings also revealed that most biology teachers to a great extent used the required teaching strategies such as: Project method, demonstration method, Discussion method, and inquiry/discovery method in biology curriculum implementation, during the era of insecurity. This findings was in line with Udaegbe (2020) who suggested that good discussion method arouse students' curiosity and increase the critical thinking of the students.

The findings also revealed that during the time of insecurity that biology teachers encountered problems such as: destruction of infrastructural facilities, disruption of school activities internal displacement of teachers and students, exposure to physical harm and loss of manpower. This finding was in line with Human Right Watch, (2016) which observed that school building and facilities are destroyed during insurgency or crisis.

Finally, the finding revealed the various ways of enhancing the problems biology teachers encountered in biology curriculum implementation during the time of insecurity as follows: Educating the public on dangers of conflicts/communal crisis, employment of trained security to guard the school activities, use of e-learning facilities, teachers to be creative and improvise, provision of infrastructure to schools by government and so forth. This finding was in line with Abbah and Ogunode (2022) who revealed various ways through which government can enhance the problem of insecurity such as: educating the public on dangers of conflict and communal crisis and the use of E- learning facilities.

## **Recommendations**

Based on the findings of the study the following recommendations were made:

- Biology teachers should attend seminars, workshops and conference to acquire more knowledge which seems to be lacking in the present teacher education programme.
- Biology teachers should make use of visual learning, power point and other e-learning facilities; this will improve the student knowledge in computer and the dynamic world technology.
- Biology teachers should resort to improvisation of some biology teaching aids, equipment and instruction materials.
- Government should ensure that conflict resolutions are properly taught in schools.

## **Conclusion**

The finding of the study revealed that biology teachers have the competencies required for biology curriculum implementation during the era of insecurity. They applied the require teaching strategies such as: project method, discussion method inquiry or discovery method were all used during the time of insecurity in teaching biology.

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