

Factors Constraining the Implementation of Chemistry Curriculum in Nsukka Education Zone of Enugu State

¹Nweze Bernadine Ngozi, ²Neboh Olive I. & ³Obodo Emmanuel C.

^{1,2&3}Department of Science Education, Faculty of Education, Enugu State University of Science and Technology, Enugu State, Nigeria

Email: ¹ngozi.nweze@esut.edu.ng | ²ifeyinwa.neboh@esut.edu.ng |

³obodo.2020070000141@esut.edu.ng

ABSTRACT

The study investigated factors constraining the implementation of chemistry curriculum in Nsukka Education Zone of Enugu State. The study was guided by two specific purposes and two research questions. A descriptive survey research design was adopted for the study. The population for the study consisted of 69 chemistry teachers in public senior secondary schools within Nsukka Education Zone. All the 69 chemistry teachers in the 61 public senior secondary schools in Nsukka Education Zone were used for the study because the population size was manageable. A 26-item structured questionnaire designed by the researchers was used for data collection. The instrument was face-validated by two experts from Science Education Department and one expert in Measurement and Evaluation in Mathematics and Computer Education Department, all from Enugu State University of Science and Technology. The data collected was analyzed using mean. The research results revealed that different factors significantly constrain the implementation of Chemistry Curriculum in Nsukka Education Zone of Enugu. Hence, the implementation in the State fell short of the recommended standard as documented in National Chemistry curriculum issued by the Federal Government of Nigeria. As an outcome of the investigation, it was identified that: lack of modern laboratory apparatus, overloading of curriculum contents, inadequate practical works, and poor financing of educational projects amongst others all significantly constrained the implementation of chemistry curriculum in Nsukka Education Zone. However, it was

equally found out that: certain measures as outlined could be employed to improve poor implementation of chemistry curriculum in Nsukka Education Zone of Enugu State. Based on the finding, it was recommended that Government should amongst others: provide functional Libraries, ensure that chemistry teachers are adequately employed, and motivate chemistry teachers through the increase in salary and allowances.

Keywords: Chemistry, Curriculum, Education, Implementation, Teaching and Learning,

Introduction

From the ancient time, human beings have experimented with materials in their environment to feed, clothe, transport and shelter themselves. What started as a satisfaction of man basic needs has now developed into the science of 'Chemistry. The word Chemistry has been derived from the Greek word 'Alchemy' which is concerned with the transmutation of matter. Its genesis can be traced to certain practices, known as 'Alchemy' which has been practised for several millennia in various parts of the world, particularly the Middle East. The concept of chemistry in the environment has tried to expose one's mind to the importance of chemistry to the society. One may have wondered how Diesel, kerosene, Gasoline and petrochemicals (Olefins and aromatics) are being fractioned from crude petroleum, why oil cannot dissolve in water (H₂O) even though water is termed the universal solvent, the active ingredients in drugs, how drugs work in the body or why certain water does not easily form lather with soap; the answers can be traced by using the fundamental principles of chemistry. Above all, chemistry is one of the core-subjects required for propagating scientific and technological innovations of the present age.

Chemistry is a branch of science that studies the structure, composition, properties and reactions of matter in its different forms (solid, liquid and gases) (Aniodoh, 2019). Chemistry is a branch of science that deals with the study of the composition and properties of matter, changes in matter, the laws and the principles that govern these changes (Ebbing, 2015). Ababio (2013) noted that chemistry is one of the three main branches of pure science which deals with composition, properties and uses of matter. Chemistry as a field of study is everywhere; it is life and can be described as the oracle and crowned prince of modern science (Adeyoke, 2013). It is a fascinating popular subject among senior secondary school students in Nigeria; it addresses the



need of majority through its relevance and functionality in content, practice, and application (Onwe, 2019). According to Eke (2022), Chemistry is relevant in all important areas in the school science curriculum. Eke noted that it serves as a pre-requisite to the study of science related courses like Medicine, Nursing, Pharmacy, Biochemistry, Neuroscience, Anatomy, Physiology, Physics, Aviation, Engineering, geology and agriculture. The knowledge of chemistry is very important and cannot be underrated as everything is made up of chemicals, hence the need for adequate exposure to chemistry learning through effective teaching of chemistry.

The contents of chemistry for the Nigerian Secondary Schools are contained in a well simplified teaching and learning guide called *curriculum*. The curriculum is a simplified manual from which every prospective learner is expected to learn from at a designated academic level.

The general objectives of senior secondary school chemistry curriculum as organized and revised by the Nigerian Education Research and Development Council (NERDC, 2017) are expected among other things to enable the students:

- develop interest in the subject of chemistry.
- acquire basic theoretical and practical knowledge and skills.
- apply skills to meet societal needs of creating employment and wealth.
- be positioned to take advantage of the numerous career opportunities offered by chemistry.
- be adequately prepared for further studies in chemistry.
- develop a smooth transition in the use of scientific concepts and techniques acquired in the new basic science and technology curriculum with chemistry.
- acquire basic knowledge in chemical concepts and principles through efficient selection of contents and sequencing.
- show chemistry and its inter-relationship with other subjects.

In order to ensure the achievement of the aforementioned objectives of senior secondary school chemistry curriculum, which will bring about some positive behavioural changes in the learners, chemistry curriculum must be adequately and carefully implemented. Curriculum



implementation refers to how the planned curriculum is translated by the teachers into syllabus, schemes of work and lessons to be delivered to students (Akubuilu, 2019). Akubuilu noted that implementation of curriculum refers to the stage when the curriculum itself as an educational programme is put into effect. It is pertinent to note that chemistry curriculum implementation cannot take place without the teachers and the learners (Akubuilu, 2014). The teachers and the learners are therefore the central figures in the curriculum implementation processes. Therefore, in order to ensure the effective implementation of chemistry curriculum in the classroom teaching, chemistry subject should be properly taught by the chemistry teachers.

In the pursuit to produce secondary school students who would develop high interest in chemistry, acquire basic theoretical and practical knowledge and skills in chemistry, and show chemistry and its link to industry and everyday life, the judicious and effective implementation of senior secondary school chemistry curriculum becomes imperative in the teaching and learning of chemistry. This goes further to elucidate that the basic reasons for the implementation of senior secondary school chemistry curriculum is to ensure the totality in the achievement of the general objectives of senior secondary school chemistry curriculum as stated earlier. Therefore, evaluation of the factors constraining chemistry curriculum implementation becomes very important to teaching and as a science educator once remarked “teaching is impossible without evaluation” (Aniodoh, 2019). Evaluation according to Aniodoh (2019) is a process of gathering information to make judgements and decisions about individuals, classes, schools or total populations. Aniodoh further explained that Evaluation involves the process of gathering information about teaching and learning for the purpose of making judgements and decisions about pupil’s performance and teacher’s effectiveness.

Secondary school chemistry students may have traditionally been taught chemistry by way of lectures, due to lack of qualified teachers, non-participatory demonstrations, inadequate equipment and poorly equipped laboratories. This assertion is supported by the report of Aniodoh (2018) which stated that lecture method is an old and didactic approach which does not encourage students' self-discovery, not activity-oriented and not child-centered. To this effect, Enebechi (2016) affirmed that the lecture method is the most common instructional strategy adopted by teachers in secondary schools. This may be because it saves time for the teachers. Hence, it is surprising that most students leave chemistry classroom with vague understanding of chemistry concepts and principles. Therefore, it is worthwhile to investigate factors constraining



implementation of chemistry curriculum. Therefore, for the chemistry teacher to make valid judgement and decision about the learners' outcome and performance, evaluation process of the implementation of secondary school chemistry curriculum becomes very necessary. Thus, the researchers investigated factors constraining the implementation of chemistry curriculum in senior secondary schools in Nsukka Education Zone of Enugu State.

Chemistry curriculum is a plan of learning opportunities meant for an identifiable population in a school so that broad and specific objectives in chemistry can be achieved. It can also be seen as a system of education intentions deliberately planned for a target population of chemistry students under educational system. According to Clement (2013), curriculum is the total package of what is to be taught or learnt. He described it as a process of translating national education objectives into within school do-able. Offorma (2019) sees curriculum as the planned learning experiences offered to the learners in the school. The chemistry curriculum used in Nsukka education zone is prepared by the Federal Ministry of Education, Abuja. The ministry used thematic approach for the curriculum to ensure compliance with national and global issue without necessarily overloading the content.

Unlike the existing curriculum which was structured with the conceptual approach to content selection, thematic approach is used for the new revised curriculum to ensure compliance with national and global issues without necessarily overloading the contents. The desire that Nigeria be identified with contemporary development World-wide has called for the organization of the contents of the curriculum around four themes. The four themes which have related concepts and topics are: Chemical World; Chemistry and Environment; Chemistry and Industry & Chemistry and Life. Like before, the spiral approach to content organisation has been used while guided-discovery method of teaching has been recommended, all in the effort to achieve the stated objectives of chemistry curriculum. The introduction of the theme; chemistry and industry provide an opportunity for the construction of workable devices as well as acquaintance with some products of modern technology, Nigerian Educational Research and Development Council (NERDC, 2017). All these aimed at ensuring an effective curriculum implementation. According to Ivowi (2016), if curriculum is not well implemented, all effort expended in the planning is waste. Ivowi also submitted that no matter how well syllabus is designed if there is no proper implementation, the question success will be a mirage. It is pertinent to note that curriculum is the vehicles through which educational objectives are attained (Offorma, 2019). Therefore, the



judicious implementation of chemistry syllabus contributes immensely to attaining technology advancement (Halima, 2016). Halima explained that inadequacy of good instructional materials; equipment and laboratory facilities in the secondary schools also negatively influence the effective implementation of chemistry curriculum in senior secondary schools.

In Nigeria, chemistry is taught as one of the science subjects at the senior secondary school level in order to familiarize them with the trend of modern developments which can be achieved if the chemistry syllabus is implemented effectively (Ben, 2013). Therefore, objectives of any level of education cannot be achieved if the planned programme for such level of education is not well implemented. Observing this, Ivowi (2016) asserted that “No matter how well a curriculum of any subject is planned, designed and documented, implementation is important”. This is because the problem of most programmes arises at the implementation stage. Recognizing this, Akubuilu (2019) remarked that it is at the implementation stage that many excellent curricula plans, and other educational policies are marred without any trace. The assessment procedure on how the chemistry curriculum contents is being implemented to achieve better goals and objectives is a major concern to tests experts. Thus, it then becomes imperative to investigate factors that constrain Chemistry curriculum implementation.

Several reasons can be identified to be accountable for the ineffective implementation of chemistry curriculum. Survey from schools reveal that inadequacy of good instructional materials, equipment and laboratory facilities in the secondary schools negatively affect the effective implementation of chemistry curriculum in schools (Radio, 2017).

According to Adebule (2014) in his research to study the extent of evaluation and implementation of senior secondary school chemistry curriculum using survey type of descriptive research design and a sample of 25 senior secondary school chemistry teachers in the state; the result from the teachers’ response revealed that none of content was fully implemented. The result also showed that most chemistry teachers introduce their students to chemistry practical works at the certificate class while they are preparing for senior secondary school chemistry examination. However, in the further research of Adebule, it was found out that laboratory materials for Acid-Base reaction, solubility and separation equipment for chemistry laboratory demonstrations were sparingly available while materials for qualitative and



quantitative analysis, and electrolysis laboratory demonstration are not available, based on these findings, some implications to sustainable development were highlighted.

Observing the importance of involving teachers in decision-making and planning of curriculum, Akubuilu (2019) observes that no government policy on education can be realized if it does not first perceive the problems and opportunities before initiating decision-making process. Ugwu (2015) observed that the relevance of a curriculum is determined only when it is implemented. Kanno (2014) recognized the fact that the success of any curriculum, significantly, depends on the extent to which the classroom teacher is able not only to interpret the curriculum but implement it. No wonder Ereh (2018) concluded that teachers' characteristics can make or mar curriculum implementation since the responsibility of interpreting and putting the curriculum into use solely rests with the teacher. Unfortunately, these teachers are not involved in decision-making and curriculum planning. This is a very big impingement to curriculum implementation and learning experiences. According to Stenhouse (2015), if curriculum is not well implemented, all efforts expended in the planning are a waste. Akubuilu (2019) submitted that the success of any curriculum depends on how it is implemented. Akubuilu also added that no matter how well a syllabus is designed, if there is no proper implementation, the question Success, will be a mirage. It is important to know that curriculum is the vehicle through which education is attained (Offorma, 2019). Offorma maintained that several authors have noted that national policy on education was well structured, and the contents were adequately defined but the implementation calls for question. Therefore, the judicious implementation of chemistry syllabus contributes immensely to the attaining technology advancement (NPE, 2014).

Ben (2013) revealed that the ignorance of the teacher grossly contributed to the poor performance of the students in chemistry. Ben maintained that inadequacy of good instructional materials; equipment and laboratory facilities in the secondary schools also negatively affect the effective implementation of chemistry curriculum. According to Grundskola, (2014) students' poor performance in chemistry globally is basically due to the inadequate involvement of students in the chemistry practical learning activities right from the beginning of any new concept to the time of implementation which could stimulate them to perform better. Also, Garba, (2014) noted that as ingredient is to soup, so is instructional materials in implementation of chemistry curricula. The impact of the teachers in the performance of the students is germane.



The teachers are the implementers who are to impact into the students the concepts expected to be learnt.

According to Angowo (2018), the possible factors constraining the implementation of chemistry curriculum in secondary schools amongst others are as follows: interface between chemistry and mathematics; lack of modern and adequate laboratory apparatus, inadequate finance, inadequate human resources, overloading of the curriculum contents, and unavailability of qualified chemistry teachers. The problem due to interface between chemistry and mathematics cannot be overemphasized in the teaching of chemistry. The above poses problems not only to the teachers but even also to the students who are the recipients of what is being taught by the teachers. In fact, chemistry teachers these days often complain that their students cannot estimate, calculate, read graphs and do not know how and when to make approximations. The difficulties of students in applying mathematics particularly to physical chemistry may not be solely the result of the 'new' mathematics. These difficulties may have grown worse in recent years for a variety of reasons, with the 'new' mathematics being only one of several. Human resources in education are the teaching and non-teaching staff. Due to lack of attractive salary, and adequate teacher training institutions and of students in external examinations for chemistry since there are few or no chemistry teachers. What exacerbates the situation is that among the few available teachers, many are unprepared to cope with growing curricula, which means that instruction becomes ineffective, inappropriate, and often inaccurate.

The problem of finance is a significant factor constraining the implementation of senior secondary schools Chemistry Curriculum. There are few schools receiving funds from government, mostly public schools only while private schools which have a higher number are malnourished. Again, the number of the population funds to the education sector is small compared to the numerous needs of the sector. This problem has led to various other problems which affect or hamper on the implementations of the curriculum (Olorok, 2016). Facilities in the school system include equipment, building furniture such as tables, chairs which enable the teachers to perform their work effectively. Olorok (2016) noted that the issues of instructional facilities enhance learning experience and leads to interaction between the learning environments. The issues at stake are to what extent are these facilities provided for effective implementation of secondary education curriculum? Facilities are not provided adequately because what is found in most secondary schools in Nigeria are dilapidated building, leaking roofs, lack of chairs and



tables for students and teacher use. Nwachukwu (2014) remarked that the public sectors of education (secondary and primary levels) have witnessed stagnation and decay. This problem is linked to inadequate funds to provide enough land to build schools which further affect the availability learning environment for the students and to aid teaching and learning of chemistry.

Curriculum overloading is one of the hallmarks of ineffective policy implementation (Omolewa, 2016). Grundskola (2014) affirms that the Nigeria curriculum covers too much information and suggests redesigning its contents to remove unnecessary and irrelevant facts. Grundskola further noted in his contribution to a report about introducing a new curriculum to African nations, also voices concern for an over-expanding curriculum due to additional and or integration of new materials, that what exacerbates the situation is that teachers are unprepared to cope with growing curricula, which means that instruction becomes ineffective, inappropriate, and often inaccurate. The rate of qualified chemistry teachers in Nigeria has declined in recent years due to several reasons ranging from good salary etc. teaching is gradually becoming a vocation rather than a profession hence an abundance of unqualified chemistry teachers teaching chemistry because of the use of the available “hands” in replace of qualified teachers as the profession has been made unattractive to many. Salami (2015) found that teachers who taught chemistry in the senior secondary could not teach some topics very well.

Problem Statement

Chemistry students in secondary schools often believe that chemistry is difficult and incomprehensive to a majority of the general population (Knight, 2016), this was the major reason students call chemistry hard science. The proof of these situations lies not only in the abstract nature of chemistry as it is traditionally presented via mathematical formalism, equations, symbols, and arrows, but lies mostly on the poor implementation of chemistry curriculum. Curriculum non-implementation or partial implementation of chemistry curriculum brings about some negative educational and social consequences among chemistry students such as high failure rates, high drop out in chemistry studies, examination malpractice both in internal and external examinations, truancy, and poor job performances, all these borders on the extent to which a particular curriculum is implemented. Hence the present study sought to investigate factors constraining the implementation of secondary school chemistry curriculum in Nsukka Education Zone of Enugu.



Research Questions

The following research questions guided the study.

1. What are the factors constraining the implementation of senior secondary school chemistry curriculum in Nsukka Education Zone of Enugu State?
2. What measures need to be adopted to improve poor implementation of senior secondary school chemistry curriculum in Nsukka education zone of Enugu State?

Methodology

A survey design was adopted for the study. A survey design, according to Nworgu (2015) is a design where peculiar characteristics of a known or identified population are studied through a sample, which is deemed to be representative of the population. The study was carried out in Nsukka Education Zone which has a total number of three (3) different Local Government Areas; the Igbo-Etiti, Nsukka and Uzo-Uwani Local government Areas. Igbo-Etiti has 16 secondary schools, Nsukka has 31 secondary schools and Uzo-Uwani, 14 secondary schools, giving a total number of 61 secondary schools in the entire Nsukka Education Zone (Data was collected from statistics unit, Post Primary School Management Board, PPSMB, Enugu Zone, 2018).

The population of the study consisted of all the 69 (sixty-nine) chemistry teachers in senior secondary schools in Nsukka Education Zone. The entire population was used due to the manageable size; therefore, no sample was drawn.

A 26-item questionnaire designed by the researcher was used for the data collection. The questionnaire consisted of two parts. The first part contained the respondent's personal data while the second part encompassed a list of the items raised to answer the research questions. The items of the questionnaire were structured to have four points' scales of: Strongly Agree (SA), Agree (A), Disagree (D). Numerical values of 4, 3, 2 and 1 were given to the options respectively in each line of scale. Copies of the instrument were subjected to face validation by two experts in the Department of Science Education, and one expert in Measurement and Evaluation, all from Faculty of Education, Enugu State University of Science and Technology.



These experts were requested to examine the items of the questionnaire based on the purposes and research questions to ascertain its appropriateness. Their corrections were effected before the final copies of the questionnaire were printed and finally used for the study.

The researchers adopted the spot delivery and collection in the administration of the copies of the questionnaire. This means that the questionnaire was distributed to the respondents who were chemistry teachers in public senior secondary schools within Nsukka Education Zone of Enugu State by the researcher.

The data were collected by the researchers and were analyzed using mean scores.

The decision rule for interpreting the results was based on the values of the calculated means. Items with mean scores of 2.50 and above were regarded as agree and those below 2.50 are regarded as disagree.

Results

Research Question 1

What are the factors constraining the implementation of senior secondary school chemistry curriculum in Nsukka Education Zone of Enugu State?

Table 1: Factors constraining the implementation of senior secondary school chemistry curriculum in Nsukka Education Zone

N= 69

S/N	Factors that constrain the implementation of secondary school chemistry curriculum	SA (4)	A (3)	D (2)	SD (1)	$\sum FX$	X	Decision
1	Lack of modern laboratory apparatus	30	25	20	15	250	3.62	A
2	Inadequate practical work	35	20	10	6	226	3.28	A
3	Poor financing of educational projects	25	15	13	10	181	2.62	A
4	Inadequate number of qualified chemistry teachers	23	18	14	12	186	2.69	A
5	Overloading of the curriculum contents	28	22	17	5	217	3.14	A
6	Inadequate provision of chemistry books in the libraries	35	15	8	3	204	2.96	A
7	Time limitation to cover chemistry syllabus	33	12	10	8	196	2.84	A
8	Lack of scholarships to motivate both chemistry teachers and students	26	22	10	9	199	2.88	A



9	Inconsistency in government educational policies	24	19	9	6	177	2.57	A
10	Poor mathematical foundation on both chemistry teachers and students	30	26	18	3	237	3.43	A
11	High number of auxiliary chemistry teachers	28	21	17	10	219	3.17	A
12	Teachers are not satisfied with their salaries	25	22	12	11	201	2.91	A
13	Lack of classroom facilities	27	23	7	4	195	2.83	A
14	Teachers are not given opportunities to attend chemistry workshops, conferences and seminars to improve their teaching effectiveness	23	19	14	10	187	2.71	A
Grand Mean							2.98	A

In Table 1 above, items 1-14 have mean scores of 3.62, 3.28, 2.62, 2.69, 3.14, 2.96, 2.84, 2.88, 2.57, 3.43, 3.17, 2.91, 2.83 and 2.71 respectively, which indicated that the respondents agreed on the listed factors as constraints to the implementation of chemistry curriculum in senior secondary schools in Nsukka Education Zone. Data computed in Table 1 were accepted because it had a grand mean of 2.98 which is above 2.50.

Research Question 2

What measures need to be adopted to improve poor implementation of senior secondary school chemistry curriculum in Nsukka Education Zone of Enugu State?

Table 2: The measures that need to be adopted to improve poor implementation of senior secondary school chemistry curriculum in Nsukka Education Zone

N = 69								
S/N	Measures that need to be adopted to improve poor implementation of secondary school chemistry curriculum	SA (4)	A (3)	D (2)	SD (1)	$\sum FX$	\bar{X}	Decision
15	Provision of modern laboratory facilities	25	20	19	15	232	3.36	A
16	Adequate practical work	30	25	16	12	239	3.46	A
17	Reduction of high cost of education	34	28	10	5	245	3.55	A
18	Consistent recruitment of qualified chemistry teachers	31	27	20	17	262	3.79	A
19	Adequate provision of sufficient chemistry textbooks in the libraries	24	20	17	15	205	2.97	A
20	Proper breakdown of the curriculum contents	29	22	19	18	238	3.45	A
21	Consistent provision of scholarships to motivate both chemistry teachers and	22	21	19	14	203	2.94	A



	students								
22	Consistency in government educational policies	25	23	20	17	226	3.28	A	
23	Adequate provision of mathematical foundation for both chemistry students and teachers	30	26	16	10	240	3.48	A	
24	Provision of opportunities for teachers to be retrained in chemistry seminars, workshops and conferences to improve their teaching effectiveness	21	18	16	13	183	2.65	A	
25	Prompt payment of salary and allowances to chemistry teachers	26	23	18	16	225	3.26	A	
26	Provision of classroom facilities	24	20	19	12	206	2.99	A	
	Grand Mean						3.27	A	

Data computed in Table 2 showed that items 15-26 have mean scores of 3.36, 3.46, 3.55, 3.79, 2.97, 3.45, 2.94, 3.28, 3.48, 2.65, 3.26 and 2.99 respectively, which revealed that the respondents were in agreement on the aforementioned measures that need to be adopted to improve poor implementation of chemistry curriculum in senior secondary schools in Nsukka Education Zone. The items in Table 4 above were accepted because it had a grand mean of 3.27 which is above 2.50.

Findings

1. Findings of the study revealed that different factors such as lack of modern laboratory apparatus, inadequate practical work, poor financing of educational projects, and lack of classroom facilities amongst others constrain the implementation of senior secondary school chemistry curriculum in Nsukka Education Zone.

2. Findings of the study indicated that adequate practical work, availability of classroom facilities, adequate provision of modern laboratory apparatus, and proper funding of educational projects amongst others, are all measures needed to be adopted to improve poor implementation of senior secondary school chemistry curriculum in Nsukka Education Zone.

Discussion of Findings

Findings in Table 1 showed the factors constraining the implementation of chemistry curriculum in senior secondary schools in Nsukka Education Zone of Enugu state. The finding therefore, indicated that all the factors listed in Table 1 constrain the implementation of chemistry curriculum in senior secondary schools in Nsukka Education Zone of Enugu state. The above finding is in agreement with the report of Angowo (2018), which opined that the possible factors constraining the implementation of chemistry curriculum in secondary schools are as follows:



interface between chemistry and mathematics; lack of modern and adequate laboratory apparatus, inadequate finance, inadequate human resources, overloading of the curriculum contents, unavailability of qualified chemistry teachers. In the same vein, findings of the study is in consonance with the report of Olokor (2016) which revealed that the availability of facilities in the school system such as equipment, building furniture like tables, chairs, etc. enable the teachers to perform their work effectively, hence enhancing curriculum implementation.

Table 2 revealed that all the measures listed such as provision of modern laboratory facilities, adequate practical work, proper breakdown of the curriculum contents, consistent provision of scholarships to motivate both chemistry teachers and students, consistency in government educational policies, and prompt payment of salary and allowances to chemistry teachers amongst others, could immensely improve poor implementation of chemistry curriculum in secondary schools in Nsukka Education Zone of Enugu State. The above notion is in agreement with the report of Knight (2014) which maintained that Educational policies should be consistent so as to positively affect the realization of the performance objectives. It also confirms to the work of Adeyemo (2014) which opined that chemistry teachers should also be sound in pedagogy since they are expected to use various methods of teaching chemistry.

Conclusion

The results of the analyzed data were used to answer the research questions. The answers to the research questions therefore gave a detailed report on the factors constraining the implementation of secondary school chemistry curriculum in Nsukka Education Zone of Enugu State. As an outcome of the investigation, it was identified that: lack of modern laboratory apparatus, overloading of curriculum contents, inadequate practical works, and poor financing of educational projects amongst others all significantly constrain the implementation of chemistry curriculum in Nsukka Education Zone. However, it was equally found out that: certain measures as outlined could be taken to improve poor implementation of chemistry curriculum in Nsukka Education Zone of Enugu State.

Recommendations

Based on the findings of the study, the researcher made the following recommendations:



1. Efforts should be made to ensure that professional chemistry teachers are employed by conducting a free and fair recruitment exercise and provide adequate in-services such as seminars, workshops and conferences etc. to chemistry teachers.
2. Government should make educational policies consistent so as to avoid overloading the curriculum contents and be resistant to unreasonable strikes; this will enhance poor implementation processes.
3. Government should provide functional libraries e.g. E-libraries and laboratories, scholarship scheme for chemistry teachers and students and adequate financing of educational projects to enhance poor implementation of senior secondary school chemistry curriculum.
4. Government should motivate teachers through increase in salary and allowances so as to encourage them in putting in their best in harnessing the potentials of our future generation.

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