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UTILIZATION OF TEACHING AND EVALUATION METHODS FOR EFFECTIVE IMPLEMENTATION OF UPPER BASIC EDUCATIONBASIC SCIENCE CURRICULUM IN ENUGU STATE, NIGERIA

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ABSTRACT

Introduction: The main purpose of this study was to evaluate the different teaching and evaluation methods teachers utilize to implements Basic Science curriculum in Upper Basic Education in Enugu State, Nigeria.

Methodology: The design of the study is a descriptive survey design.The study was guided by two research questions and two null hypotheses. The population for the study consisted of all the teachers in the Upper Basic Education in Enugu State. Using purposive sampling techniques, a total of 212 teachers comprising of four (4) teachers each were selected from 53 schools in Udi educational zone. Basic Science Curriculum Implementation Questionnaire (BSCIQ) was used for data collection. The instrument was face-validated by three experts from Science Education Department all from Alex Ekwueme Federal University Ndufu Alike Ikwo (AE-FUNAI). The research questions were answered using mean rating scores while the hypotheses were tested using one way analysis of variance (ANOVA) at 0.05 level of significance.

Results: Results from the study showed that level of qualification can make a difference in the teachers who teach Basic Science and most importantly on the implementation of Basic Science curriculum in Upper Basic Education. The result of the hypotheses revealed that the methods adopted by teachers for teaching Basic Science differ significantly.

Conclusion and Recommendations: The findings of the study revealed the qualifications of Basic Science teachers as well as the various methods used to implement the Basic Science curriculum in the classroom learning environment. The study recommended that the ministry of education should organize workshops and seminars to re-train teachers on the proper implementation of Basic Science curriculum in Upper Basic Education.

Keywords: Basic Science, Curriculum, Implementation, Teachers, Upper Basic Education

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PUBLIC INTEREST STATEMENT

The public interest in evaluating the implementation of the Basic Science curriculum centers on improving educational outcomes and ensuring that students acquire critical scientific knowledge and skills. This evaluation is crucial for identifying gaps and challenges in the curriculum, enhancing teaching methods, and ultimately equipping students with the knowledge needed for future academic and career success. By delving into these aspects, stakeholders aim to achieve the ultimate goal of a more effective and responsive education system.

INTRODUCTION

Education is an aged-old concept that has existed since man inhabited the universe. It is a process of transmitting what is worthwhile from generation to generation. The primary purpose of education is to produce effective members of the society whose three '*Hs*' – head, heart and hands have been well developed to enable them live as effective and acceptable human beings. An effective education should be one that prepares members of the society to be able to fulfill their personal needs and to perform their civil obligations. Education is generally acknowledged as a vital tool for sustainable development. This position is clearly supported by the National Policy on Education (NPE) which perceives education as an "instrument per excellence for effecting national development in Nigeria. (Federal Republic of Nigeria, 2014). Thus, the propriety of Education as a vital tool for development in predicated on its relevance to the needs, problems and aspirations of human society.It can be considered as a process of acquiring knowledge, skills, attitudes, interests, abilities, competencies and the cultural norms of a society by transmitting it tothe coming generations so as to enhance perpetual development of the society. To actualize the above mentioned educational benefits, curriculum is developed for every school subjects in various educational levels.

The word curriculum was derived from the Latin word "Curere", which means to run a race. It is a race course, which implies that the moment a child starts school; the race begins and stops at the end of the child's educational career. Curriculum in a formal setting can be seen as the planned learning experiences offered to the learner in the school (Agugoesi, Inweregbuh, Mbonu-Adigwe, Ofot, 2022); Adeyalemi, 2008). Curriculum is the set of courses and their contents offered at a school. According to Kelly (2011), curriculum is all the learning which is planned and guided by the school, whether it is carried out in groups or individually, inside or outside the school. In other words, curriculum specifies in advance what we are seeking to achieve and how we are to go about it. Offorma, (2006) defines curriculum as a body of knowledge contents and or subjects. That is, curriculum is the process by which knowledge and skills are transmitted or delivered to learners by the most effective methods that can be devised. Jeffs and Smith (2013) argued that the notion of curriculum provides a central dividing line between formal and informal education. Considering curriculum as the course of experiences that form human beings into persons.

Curriculum could be seen as a body of knowledge to be transmitted;as an attempt to achieve certain ends in students; as process; and as praxis. To achieve any curriculum instruction, effective implementation of a well-planned curriculum cannot be over-stretched. Ekpo, and Osam, (2009) noted that curriculum implementation is a network of varying activities involved in translating curriculum designs into classroom activities and changing people's attitudes" to accept and participate in these activities. Recognizing the role of teachers in the implementation of any educational policy, Ukeje in Ebiringa (2012) observed that education may unlock the door to modernization but it is the teacher who holds the key. It is the teacher who determines what happens in the classrooms especially in the classroom. Successful implementation of Basic Sciencecurriculum can only be assured

through teachers who have acquired necessary competencies in terms of knowledge, skills, values and attitudes.

Basic science formerly known as Integrated Science is the first form of science a child comes across at the secondary school level. Basic science is a core subject in the National Curriculum at the upper basic level. All students from upper Basic I to III classes must offer and study the subject. Basic Science is considered the bedrock of all science subjects at the senior secondary school (SSS) level (Ibeh & Nwosu, 2012). The subject prepares students at the upper basic level for the study of core science subjects (biology, chemistry and physics) at the senior secondary school level (Chukwuneke & Chikwenze, 2012). That is why further emphasised that for a student to be able to study single science subjects at the senior secondary level successfully, such a student has to be well grounded in Basic Science at the upper basic level. Based on this, it is generally taught as a single science subject, until in the SSS level, and then split into specialized science subjects (Biology, Chemistry and Physics). It is expected that those students who achieve well in Basic Science should be given the opportunity to study the separate science.

According to Blenkin, (2000) and Bobbit (2000), the 9-year Basic Science and Technology Curriculum is the product of re-alignment and restructuring of the revised curricula for Primary Science and Junior Secondary School Integrated Science. In selecting the contents, three major issues shaping the development of nations worldwide, and influencing the world of knowledge today were identified. These are globalization, Information and Communication Technology (ICT) and entrepreneurship education. The curriculum of the basic is unique in several aspects. This therefore calls for the preparedness of Science, Technology and Mathematics (STM) teachers towards effective reform of STM education and basic science teaching in junior secondary schools. Basic Science properly evolved from Integrated Science. Some relevant themes in integrated science are still maintained in the Basic Science Curriculum (Ishaya, 2014). Integrated Science is a science presented to child in such a way that the child gains the concept of the fundamental unity of science, the commonality of approach to problems of scientific nature and an understanding of the role and function of science in everyday life and the world in which they live (Federal Republic of Nigeria, 2013).

The desire of Nigeria to be identified with contemporary development worldwide, called for the infusion of relevant contents of four non-school curriculum innovations in the areas of; Environmental Education (EE), Drug Abuse Education (DA), Population and Family Life Education (POP/FLE) and Sexually Transmitted Infection (STI) including HIV/AIDS. Infusion of content occurred in every class from basic 1 to 9 (Igbokwe, 2015). Some introductory technology topics have been introduced at the lower and middle levels, while leaving the upper level with purely science topics. The overall objectives of the new Basic Science Curriculum outlined by Adeniyi (2007) are to enable the learners to:

1. develop interest in science and technology;
2. acquire basic skills in science and technology;
3. apply their scientific and technological knowledge and skills to meet societal needs; take advantage of the numerous career opportunities offered by science and technology; and
4. become prepared for further studies in science and technology.

The Basic Science curriculum which is in use in Nigeria for science teaching and learning in the upper basic level had built-in strategies where the learners are required to be involved in inquiry and related activities that can develop critical thinking skills (Igbokwe, 2015). Basic Science on the other hand is basic training in scientific skills required for human survival, sustainable development and societal transformation. Basic Science combines science and technology. The general goal of the curricular reform was to reflect depth, appropriateness and inter-relatedness of

the curriculum contents. Emerging issues which covered value orientation, peace and dialogue including human right education, family life, HIV/AIDS education, entrepreneurial skills etc. were infused into the 9-year Basic Education curricula. Additionally, the curricula planners agreed that major issues shaping national and global development such as globalization, information/communication technology were the rhetoric of Basic Education curricula. Basic Science curriculum contents are arranged in particular order of thematic and spiral pattern. Thematic arrangement means that the contents, principles, facts, concepts are organized in themes that is, broad themes and sub-themes taking into account the learners needs, interest and overall societal problems and demands in the present age of science and globalization.

In the area of environmental education, students are meant to study and understand the environment in which they live, in other to words, the development of the society is inter connected with man's physical environments. In summary, one may be right to conclude from the above that the rationale for introducing Basic Science in schools is to have a single and robust subject discipline whose content is concerned with development of science and technology for sustainable development.

The importance of Basic Science in everyday life can never be over emphasized. It serves as the bedrock which provides the required training in scientific skills to meet the growing needs of the society. It is the fundamental knowledge acquired through Basic Science at the upper basic level that leads to the transformation of the world through dramatic advances in almost all fields including medicine, engineering, electronics and aeronautics among others. Basic science is of great importance because early experiences in science help students to develop problemsolving skills that empower students to participate in an increasingly scientific and technological world (Ishaya, 2014). Basic Science enables students to be systematic and enables them to form an objective judgement. Basic science, if taught according to its philosophy, equips students with the necessary introductory scientific and technologicalknowledge and skills necessary to build a progressive society. This forms the bedrock on which scientific and technological studies rest. Obodo, Ani & Ozomba (2019) observed some of the challenges facing the implementation of this curriculum to include:the teacher factor, inadequate funding of the programme, inadequate classroom block, inadequate instructional materials, ill equipped library, ill equipped laboratories, non availability and use of instructional materials, inadequate qualification of teachers, poor method of teachingamong others as factors militating against the effective teaching of Basic Science at this level.

Chukwuneke and Chikwene (2012); (Ogungbesan, (2012); Ogundele, Okunlola, Damilola and Godfrey 2020) noted other problems affecting the effective teaching and learning of Basic Science include: poor attitude of the public towards the subject, restriction of the subject at the basic education level, threat of disarticulation, lack of career prospect of the subject, poor evaluation of the implementation of the Basic Science curriculum. The major problems remain as how the Basic Science teachers could be groomed not only to teach the content but also to use appropriate teaching and evaluation methods to put this subject matter across to the students.

STATEMENT OF THE PROBLEM

Basic Science is the type of science which providesunique training of students in observation, reasoning and experiment in the different branches of science; it also helps students to develop a logical mind. One of the major problems facing Basic Science today is the inadequacy of the implementation of the Basic Science curriculum in upper basic education. This has led to incessant demand for textbooks by both Basic Science teachers and students, excessive dependence on textbooks for Basic Science instruction. In terms of the teaching methods and instructional materials, teachers often use lecture

method in the classroom,thereby neglecting other methods of teaching like dramatization, role-playing, construction, creative activity, inquiry, discovery, simulation, expository, questioning method. Creative activities and learning experience develop not only the creative abilities of the learner but also their intellectual skills. It also arouses the interest of students, sustains their attention and motivation to learn. The lecture method is often in cognitive domain, thereby neglecting the other two domains which are very important in the implementation of Basic Science curriculum in upper education level. Poor implementation of Basic Science curriculum has led to poor performance of students, with specific reference to the output of Basic Science both internal and external examinations. For effective implementation of Basic Science, there is need to conduct a period evaluation in order to encourage and reward effective teaching practices on the basis of the students' learning outcome. Against this background, this study embarked upon the evaluation of implementation of Basic Science curriculum in upper basic education in Enugu State, Nigeria.

PURPOSE OF THE STUDY

Specifically this study seeks to:

1. determine the teaching methods and evaluation methods adopted for effective teaching Basic Science.
2. achieve the objectives of this study, two research questions and two null hypotheses have been raised to guide the study.

RESEARCH QUESTIONS

1. What are the teaching methods used by teachers to implement the Basic Science curriculum in Upper Basic Education?
2. What are the evaluation methods used by teachers for effectiveimplementation of the Basic Science curriculum?

HYPOTHESES

1. There is no significant difference between the teaching methods teachers utilized in the implementation of Basic Science curriculum.
2. There is no significant difference between the evaluation methods teachers utilized in the implementation of Basic Science curriculum.

METHODOLOGY

Design

The descriptive survey research design was employed for this study. Survey research design requires a collection of a wide variety and large volume of data that are quantitative or that are quantifiable (Nworgu, 2015). The design was appropriate for this study because information were solicited from the directly from respondents on the instructional methods utilized for the effective implementation of Basic Science curriculum.

Population and Sample

The population for the study consisted of all the teachers in the Upper Basic Education in Enugu State. Using purposive sampling techniques, a total of 212 teachers in upper basic education in Enugu State were selected.The 53 schools were purposively selected on the averageof four teachers from each school.

Instrument for Data Collection

A 27-item instrument titled Basic Science Curriculum Implementation Questionnaire (BSCIQ) was used for data collection. The instrument was face-validated by three experts from Science Education Department all from Alex Ekwueme Federal University Ndufu Alike Ikwo (AE-FUNAI). The reliability of the instruments were established by using Cronbach Alpha. The observation made were used to calculate the reliability coefficient. A reliability coefficient of 0.98 was established. This shows that the instruments are reliable and therefore appropriate to be used for the intended research.

Procedure for Data Collection

The researchers secured the services of five research assistants and they were trained by the researchers on

how to distribute and collect the questionnaire.

Method of Data Collection

The research questions were answered using mean rating scores while the hypotheses were tested using one way analysis of variance (ANOVA) at 0.05 level of significance.In analyzing the Basic Science Curriculum ImplementationQuestionnaire (BSCIQ) which were based on 4 point rating scale, the decision depended on the mean score of 2.50.

RESULTS

Research Question 1: What are the teaching methods used by teachers to implement the Basic Science curriculum in Upper Basic Education?

Table 1: Mean Rating of Teachers on the Teaching Methods Utilized in Implementing Basic ScienceCurriculum in Upper Basic Education

S/N	Teaching Methods	A	B	C	D	Mean	SD	Decision
1.	Simulation method	1.5	3.1	2.8	2.6	2.51	0.70	FU
2.	Group method	2.6	2.5	2.8	2.8	2.68	0.15	FU
3.	Project method	3.1	3.0	3.1	3.3	3.13	0.13	FU
4.	Discussion method	2.4	2.6	2.5	2.8	2.58	0.17	FU
5.	Textbook method	3.2	3.1	3.3	3.2	3.20	0.08	FU
6.	Lecture method	3.4	3.2	3.2	3.4	3.30	0.12	VFU
7.	Programmed Instructional method	2.7	3.1	3.4	3.2	3.10	0.29	FU
8	Demonstration method	3.3	3.2	3.5	3.5	3.58	0.15	VFU
9	Inquiry method	2.3	2.1	2.1	2.3	2.20	0.12	SU
10	Viewing -listening method	3.0	2.9	2.9	3.0	2.95	0.06	FU
11	Discovery method	2.6	2.9	2.6	2.8	2.73	0.15	FU
12	Individualized method	1.8	2.1	1.1	1.2	1.55	0.47	RU
13	Practice and drill method	2.9	2.7	2.4	3.0	2.75	0.26	FU
14	Field trip/Excursion method	1.1	1.2	1.8	2.1	1.58	0.48	RU
	Cluster Mean					**2.70**	**0.15**	**FU**

VFU = Very Fluently Used, FU = Frequently Used, SU = Sometimes Used, RU = Rarely Used

Table 1 shows that the mean rating scores of teachers on the teaching methods utilize for the implementation of Basic Science curriculum. The rate of utilization of the teaching methods was measured on a 4-point likert scale. Consequently, any teaching method with a mean score greater than the expected value of 2.50 on a 4-point likert scale is considered to be used for teaching Basic Science in Upper Basic Education in Enugu State, Nigeria. The Table also, revealed that the method mostly used for teaching Basic Science in the upper basic education level was demonstration and lecture methods with mean scores of 3.58 and 3.30 respectively. The teaching methods that were rarely used include field trip and individualized methods with mean scores of 1.58 and 1.55 respectively. The other teaching methods were often used or sometimes used by the teachers to implement the Basic Science curriculum.

Research Question 2: What are the evaluation methods used by teachers for effective implementation of the Basic Science curriculum?

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Table 2: Mean Rating of the Evaluation Methods Teachers Utilized in Implementing Basic ScienceCurriculum in Upper Basic Education

S/N	Evaluation Methods	A	B	C	D	Mean	SD	Decision
15	projects	2.9	2.9	2.7	2.9	2.85	0.10	FU
16	Quizzes	2.8	2.7	2.7	2.7	2.73	0.05	FU
17	Seminar Paper	2.7	2.4	2.5	2.6	2.55	0.13	FU
18	Seminar Presentation	1.3	1.3	1.3	1.1	1.25	0.10	RU
19	Assignments	2.9	2.9	2.8	3.1	2.93	013	FU
20	True/False	1.4	1.3	1.5	1.2	1.35	0.13	RU
21	Demonstration/Experimentation	3.1	3.2	3.0	3.1	3.10	0.08	FU
22	Essay writing	3.2	3.1	3.3	3.0	3.15	0.13	FU
23	Examination	3.2	3.1	3.2	3.2	3.18	0.05	VFU
24	Oral Questioning	3.4	3.1	3.2	3.2	3.23	0.13	FU
25	Completion of Blanks	1.2	1.3	1.9	1.2	1.40	0.34	RU
26	Multiple Choice	3.3	3.2	3.3	3.2	3.25	0.06	FU
27	Home Work	3.3	3.3	3.4	3.4	3.35	0.06	VFU
	Cluster Mean					**2.64**	**0.15**	**FU**

VFU = Very Fluently Used, FU = Frequently Used, SU = Sometimes Used, RU = Rarely Used

Table 2 shows that the mean rating scores of teachers on the evaluation methods utilize for the implementation of Basic Science curriculum. The rate of utilization of the teaching methods was measured on a 4-point likert scale. Consequently, any evaluation method with a mean score greater than the expected value of 2.50 on a 4-point likert scale is considered to be used for teaching Basic Science in Upper Basic Education in Enugu State, Nigeria. The Table also, revealed that the evaluation method mostly used for teaching Basic Science in the upper basic education level was home work with mean score of 3.35. The evaluation methods that were rarely used include completion of blanks, true/false and seminar presentation methods with mean scores of 1.40, 1.35 and 1.25 respectively. The other evaluation methods were frequently used by the teachers to implement the Basic Science curriculum in upper basic education in Enugu state, Nigeria.

Hypothesis 1: There is no significant difference between the teaching methods teachers utilized in the implementation of Basic Science curriculum.

Table 3: Summary of One-Way ANOVA Result on Difference in the Teaching methods Utilized by Basic Science Teachers

	Sum of Squares	df	Mean Square	F	P-Value
Between Groups	13.812	13	1.062	14.453	0.000
Within Groups	3.088	42	.074		
Total	**16.900**	**55**			

Table 3 displayed the analysis of variance (ANCOVA) conducted to test for significant difference in the mean ratings of the teaching methods utilized by the teachers to implement Basic Science curriculum in upper basic education in Enugu State, Nigeria. The result in table 2 shows that an F-ratio of 14.453 with associated probability value of 0.000. Since the probability value is less than

the level of significance of 0.05, the null hypothesis was rejected. Hence, there is significance difference on the teaching methods utilized by teachersfor the implementation of Basic Science curriculum.

Hypothesis 3: There is no significant difference between the evaluation methods teachers utilized in the implementation of Basic Science curriculum

Table 4: Summary of One-Way ANOVA Result on Difference in the Evaluation Methods Utilized by Basic Science Teachers

	Sum of Squares	df	Mean Square	*F*	*P*-Value
Between Groups	29.003	12	2.417	134.657	.001
Within Groups	0.700	39	0.018		
Total	**29.703**	**51**			

Table 4 displayed the analysis of variance (ANCOVA) conducted to test for significant difference in the mean ratings of the evaluation methods utilized by the teachers to implement Basic Science curriculum in upper basic education in Enugu State, Nigeria. The result in table 4 shows that an *F*-ratio of 134.657 with associated probability value of 0.001. Since the probability value is less than the level of significance of 0.05, the null hypothesis was rejected. Hence, there is significance difference on the evaluation methods utilized by teachersfor the implementation of Basic Science curriculum.

DISCUSSION

The findings of the study revealed that the teaching and evaluation methods stipulated in the new 9-year basic education curriculum (BEC) by the Nigerian Educational Research and Development Council (NERDC) are utilized by teachers for effective implementation Basic Science. The position of teaching and evaluation in teaching and learning is tremendously important. This agreed with the findings of Ochu (2002) whose findings revealed that evaluation is very necessary for teachers preparation. Agugoesi, Inweregbuh, Mbonu-Adigwe and Ofot,(2022) in a study, "Evaluation of teachers' implementation of curriculum content areas in junior secondary schools", revealed that that gender has no influence in teachers' implementation of Basic Science curriculum content areas.While Basic Science teachers' education qualifications and teaching experiences significantly influenced the implementation of Basic Science curriculum content areas in junior secondary school

From the findings of the study as shown implies that there is significance difference on the teaching methods utilized by teachersfor the implementation of Basic Science curriculum. In respect to the ANOVA on which showed that there is significant influence of qualification on teachers' coverage of Basic Science Curriculum content areas. However, the hull hypothesis was rejected. This finding agreed with the assertion of Ogungbesan (2012) who evaluated the implementation of Basic Science Curriculum component of Universal Basic Education Programme in South-west, Nigeria, found out that most teachers of basic science were not professionally qualified to teach the subject and many teachers prefer to use lecture method to other methods. The finding disagrees with the findings of Ishaya (2014) which indicates that there is no significant difference among the teachers of Integrated Science on account of their teaching qualifications.

The findings also indicated the significant significance difference on the evaluation methods utilized by

teachersfor the implementation of Basic Science curriculum. The findings were in line with the of works Ibe and Nwosu (2012) which revealed that years of experience influences teachers performance on difficult topics of the curriculum and that teachers do not engage students in performance of real world tasks in assessment of learning outcomes. This is in agreement with the study of Igbokwe (2015) that secondary schools lack specialist teachers for subjects like Basic Science, Introductory Technology and others. It was also found that the few available teachers are largely qualified with good level of experience. This is in contrast to the reports of Odetoyinbo (2004) that many Basic Science teachers were unqualified for the job and as a result find it difficult to utilize different evaluation methods for effective implementation of Basic Science curriculum.

CONCLUSION

The UBE Basic Science Curriculum in conception and disposition has the capability of developing the nation even beyond the vision 2020 if properly implemented. It will enable Nigerian teachers and learners and the entire society to adjust and adapt to such complex social, scientific and technological changes that would create a new Nigeria, capable of holding out in the emerging new world order. Teachers use various methods to implement the Basic Science curriculum in the classroom learning environment. Teachers' method of teaching and evaluation methods is a significant factor in the implementation of Basic Science curriculum in upper basic education. There is therefore the need for effective utilization of Basic Science curriculum by the teachers for good performance of the students. Based on the findings of this study, the conclusion wasthere is significance difference on the teaching and evaluation methods utilized by teachersfor the implementation of Basic Science curriculum.

RECOMMENDATIONS

For the effective delivery of the UBE Basic Science Curriculum to attain its noble objectives, the researchers made the following recommendations:

1. The ministry of education should organize workshops and seminars to re-train teachers on the proper implementation of Basic Science curriculum in upper basic education.
2. Curriculum planners should emphasis more on the use of interactive method of teaching and evaluation methods like student activities which will not only make the teacher's work easier but also boost students performance.
3. Basic Science teachers should endeavour to be learner-centered when teaching and use learner centered strategies in teaching and learning, so that students will contribute in the process and make learning more concrete.
4. The Basic Science laboratories should be adequately equipped to enhance learner centred activities which involve the acquisition of scientific, technological and entrepreneurial skills in order for student to capture the major elements during teaching.

CONFLICT OF INTEREST: The authorsdeclareno conflict of interest.

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DISCLAIMER STATEMENT

This document presents an evaluation of the implementation of the Basic Science Curriculum in Upper Basic Education in Enugu State. The findings and recommendations contained herein are based on the data collected and analyzed as of the date of this report.

AUTHORS' BIONOTE

Dr. Obodo Abigail Chikaodinaka is the Acting Head of the Science Education Department. She has a tracked teaching experience of over 20 years and has worked in various institutions in southwestern Nigeria. He has published many National and International Journals

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Ani Uchenna Chidubem is a graduate of the University of Nigeria, Nsukka (UNN), holding a Bachelor of Arts degree in German Language. She aspires to pursue a career in international relations, diplomacy, and language education, utilizing her expertise in the German language and her ability to navigate cross-cultural communication. With fluency in both German and English, she possesses strong interpersonal and communication skills, which she aims to apply in making meaningful contributions to society.

Authorships and level of contribution
The study was conceived by the lead author, introduction and parts ofthe literature were as well reviewed by her. The second author is the corresponding author that fine-tuned the study through literature review, coordinated the data collection while the third and fouth authors analyzed and wrote the discussion of findings. The research was funded by the three authors.

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