

*Article*

# **Influence of Selected Variables on the Implementation of Science Curriculum in Upper Basic Schools in Taraba State Nigeria**

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**Abstract:** This study assessed the influence of some selected variables on the implementation of science curriculum in Upper Basic Schools in Taraba state, Nigeria. The study adopted descriptive survey design. The population of the study consisted of 987 Basic Science teachers which comprises of 612 males and 375 females from the 359 public secondary schools in Taraba state. A sample of 278 Basic Science teachers was selected using convenience sampling technique. Basic Science Curriculum Implementation Questionnaire (BSCIQ) was used for data collection. The questionnaire was validated by two experts in Curriculum and Instruction, two experts in Science Education and one expert in Measurement and Evaluation from Faculty of Education, Taraba State University, Jalingo. The BSCIQ was trial tested on 40 Basic Science teachers in Adamawa state which is outside the study area. The responses obtained from BSCIQ was subjected to Cronbach Alpha internal consistency test which yielded a reliability coefficient of 0.83. The data collected in the study were analyzed using both descriptive and inferential statistic. The research questions were answered using mean and standard deviation, while the hypotheses were tested using Chi square. at 0.05 level of significance. The study found that there is significant influence of teachers' qualification on implementation of Basic Science curriculum in Upper Basic schools in Taraba state, Nigeria (  $\chi^2 = 2577.594$ ,  $df = 3$ ,  $p < .000$ ). There is significant influence of teachers' teaching experience on implementation of Basic Science curriculum in Upper Basic schools in Taraba state, Nigeria (  $\chi^2 = 1380.223$ ,  $df = 3$ ,  $p < .000$ ). Based on the findings of the study, it was concluded that the implementation of the Science curriculum in Upper Basic schools in Taraba State is influenced by teachers' qualification and experience. The study recommends among others that teachers should be given the opportunity to obtain higher qualification.

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**Keywords:** Qualification, Teaching Experience, Science, Curriculum Implementation

## **1. Introduction**

Education is the major key for sustainable development of any society. Every nation designs its education for a purpose. According to Ichazu and Omoregie (2020), education and its benefits can never be over emphasized as the root of economic, industrial, political, scientific, technological, and even religious development. All aspects of development are centered on education. Education is one of the vital instruments for development in any nation. The philosophy for Nigeria's education is based on the integration of the individual

into a sound and effective citizen and providing equal educational opportunities for all citizens of the nation at primary, secondary and tertiary levels (Federal Republic of Nigeria FRN, 2014). The National Policy on Education outlines the broad aims of the Upper Basic Education to include; preparation for useful living within the society and preparation for higher education. Therefore, one of the ways to measure the level of education and development index of a country is the level of science and technology education present in such country.

Science and technology are very important to national development for any nation. Any society without science and technology education risks being alienated from critical factors of economics and social development (Ankeli, 2019). Ajayi and Ogbaba (2017) defined Science as the knowledge obtained from the systematic study of the structure and behavior of the physical world, especially by observation. According to Agugoesi, et al., (2022), science in its very simple term, is seen as the attempt by humans to gain better understanding and clearer interpretation of human beings and of the environment. Science is the knowledge about the physical and natural world based on facts which can be proven experimentally. Science has three interrelated aspects which are content, articles and process (Bowale & Ogundipe, 2022). Also, science is an act of inquiry, which includes empirical observation and experimentation. Anugwo et al. (2023) defined science as an integrated part of human activities. The four main branches of science are mathematics and logic, biological sciences, physical sciences and social sciences. The most important benefit of science and technology, however, is the immeasurable comfort it has brought into human lives. It also prepares students for the world of works as it inculcates the right entrepreneurial attitudes in them (Reed, 2016). Science is rapidly driving the socio-economic and technological development in most countries of the world today. Scientific development is now the yardstick for assessing national development. Purposeful science education is responsible for national development (Ajayi, 2017; Enemarie, et al., 2019). Functional knowledge of scientific concepts and principles are required to explain simple and natural phenomena and to provide the child with educational tools for further educational advancement including preparation for trades and craft of the locality. For these objectives to be achieved there is usually a means to that and that means of achieving the Basic Science educational objectives is the curriculum.

Curriculum can be broadly defined as the planned and guided learning experiences and intended outcomes formulated through the systematic reconstruction of knowledge and experiences under the auspices of the school for the learners' continuous and willful growth in personal-social competence (Akari, 2024). This definition highlights the multifaceted nature of curriculum, encompassing not only the content to be taught but also the experiences and processes that contribute to the educational development of students. Mirici and Uzel, (2019) see the curriculum as a document, plan or blue print for instructional guide for teaching and learning, to bring about positive and desirable learners behavioural change. With the adoption of the National Policy on Education, the Basic Science programme was introduced as core subject at the Upper Basic School level to introduce students to the world of science and to prepare them for higher education in science and technology which can be achieved through proper curriculum implementation.

Curriculum implementation is a process of bringing the designed curriculum in contact with the learners. According to Nkok and Chukelu, (2025), curriculum implementation refers to the process of putting into practice the officially prescribed courses of study, syllabuses, and subjects. It involves the execution of the curriculum as designed and ensuring it is effectively taught in schools, which includes adapting teaching strategies, assessments, and resources to meet the educational goals outlined. This means that, curriculum implementation is a process of translating the objectives of the National Policy on Education into activities or experiences that will promote students towards learning and practicalizing the objectives. The importance of secondary education made

the Federal Government to state the broad aims of education as the preparation for useful living within the society and higher education (Duchi, 2023). Thus education at this level is an instrument as well as an investment that can be used to achieve a more rapid political, socio-economic, technical, cultural and scientific development in the states and the nation at large. In order to achieve this broad aims, teachers who are responsible for the attainment of the curriculum must possess must be qualified and possess experiences that will foster proper implementation of the curriculum.

Teacher's qualification refers to the kind of professional education for teaching that the teacher has received while qualification relates to the acquisition of relevant knowledge, skills, competence and creativity needed for quality productive engagement in the teaching profession, (Agbor, *et al.*, 2023). A qualified teacher has a good classroom control, effective communication skills and adequate knowledge of the subject matter and can utilize varieties of teaching strategies in order to enhance students' performance. It is not an over statement to say that teaching is a profession of the experts and therefore should not be left in the hands of non-qualified, half-baked teachers or hire laborers. The teacher is the major instrument in the implementation of any curriculum not only Basic Science as a subject. The teachers therefore should be knowledgeable enough to understand the subject matter and the best way of implementing the curriculum. Nearly, all issues whether related to goals, learning, achievement, organization of programme or performance of the educational system involves an analysis of the roles of teachers, their behavior, performances, remuneration, incentives, skills and how they are used by the system. That is why the National Policy on Education emphasized that Nigeria Certificate in Education (NCE) shall be the minimum qualification for teachers in the country since is the lowest level of education. According to Agbor, *et al.*, (2023) a qualified teacher has a good classroom control, effective communication skills, and adequate knowledge of the subject matter and can utilize varieties of teaching strategies in order to enhance students' performance. This is in line with the work of Ichazu and Omoregie (2020) that all teachers need breadth and depth in the subject they will teach, including the understanding of the new knowledge and this calls for high professional qualification. Isa, *et al.*, (2020) opined that the quality and experience of the teachers implementing a curriculum has a greater effect on the academic performance of students.

Teachers' teaching experience as one of the factors related to the teacher is significant and impacts the process of implementing the curriculum. Teaching experience includes participation in professional development activities geared towards equipping the teacher for better service delivery which can also be achieved through proper motivation of teachers. Experienced teachers are believed to have combined years of service and a repertoire of classroom skills and teaching methods (Bello, 2022). Akinsolu, as cited in Ene, *et al.*, (2022) defined the teaching experience of a teacher as the routine gathering of the students, the planning and delivery of instruction, the creation of learning materials, and the evaluation of the students to ascertain what they have learned. However, teacher's years of experience refers to the number of years of full-time classroom tutor event a teacher had in the school setting (Hoadley & Gallant, 2016). Experienced teachers can draw from a wider range of experiences and can offer insight and ideas to the teaching and learning process. They are also more receptive to criticism and less authoritarian in the classroom.

Basic Science is the foundation of all science subjects and technology-related professions. If the curriculum of Basic Science is not well implemented to boost the learning process, the implication is that most students of Taraba State would not be motivated to study science courses in their Senior Secondary Schools and tertiary institutions respectively. This will result to inadequate manpower in science and technology related professions in the nearest future and Taraba State will be lacking in filing her quota in science related profession. Despite the relative importance of science and technology to the country, there is a continuous trend of poor academic achievement of Science students in

Basic Education Certificate Examination (BECE) in Nigeria (Nkok, & Chukelu, 2025). The BECE statistics gave the percentage failure of students as follows: 2021 (33%), 2022 (34%), 2023 (33%), 2024 (34%), 2025 (37%) in Taraba State Nigeria. This gives an average percentage failure rate of 34% in Basic Science with most students passing at average from (2021-2025). This trend of poor achievement could be attributed partly to nature of science curriculum implementation in terms of teachers' years of experience, qualified and well trained Basic Science teachers, and other factors in the State. But from the literature available to the researcher, efforts have consistently been made by researchers to investigate the relationship between teachers' attribute and curriculum implementation. Agugoesi, et al., (2022) found that Basic Science teachers had a low level of competency in implementing the new Basic Science and Technology (BST) curriculum. Aderinan et al., (2025) reported that teachers demonstrated moderate proficiency in lesson planning, execution, assessment, and classroom management. Achor *et al.* (2018) suggested that teachers need training to enhance their pedagogical, classroom management, assessment, and resourcefulness skills. Similarly, Nwafor (2019) identified gaps in Basic Science teachers' pedagogical skills and content knowledge, Owodunni, and Banjo (2022); Adetunji and Alabi (2023); Madu and Ogar (2020) all carried out researches on curriculum implementation in different locations and different field of studies, this creates a gap in knowledge which this research seeks to fill. Hence, this study assesses the influence of selected variables on the implementation of Science Curriculum in Upper Basic schools in Taraba State, Nigeria.

### Statement of the Problem

Basic Science, just as the name implies is the foundational aspect of science education that deals with the impartation of the basic knowledge needed to understand science. Basic Science is taught at the elementary or Basic schools which comprises of classes from Basic one (Primary One) to Basic Nine (JSS 3). It is obvious that Basic Science is the major determinant of performance of study and practice of science but regrettably, the teaching of Basic Science in Nigerian schools cannot be said to be effective because of the poor performance of the students resulting from various problems associated with the teaching of Basic Science (Agugoesi, et al., 2022). The persistent poor performance in science especially among students makes it imperative to evaluate the Upper Basic Science curriculum programme to find out the reason for their poor performance. The new curriculum addresses issues of value re – orientation, poverty eradication, critical thinking, entrepreneurship and life skills, in spite of these concerted efforts at ensuring an effective transformation of education system.

The successful implementation of the Basic Science curriculum in Taraba State is crucial for equipping students with scientific knowledge and skills necessary for national development. However, concerns have been raised regarding the effectiveness of its implementation in secondary schools. Challenges such as inadequate teacher qualifications, and teachers' years of experience and professional training significantly influence their ability to implement the curriculum effectively. If teachers are not well-trained or lack the necessary experience, students may struggle to grasp fundamental scientific concepts, leading to poor academic performance and a lack of interest in science-related careers. This negative attitude has encouraged average performance and low participation of students in the higher science subjects like Physics, Chemistry and Biology (Ajai, et al., 2020; Nneji, et al., 2024) such that if not checked, Taraba State will continue to lag behind with respect to filling her quota in science and technology related courses in tertiary institutions in Nigeria. These have been partly attributed to the implementation of Basic Science and its teaching. Hence, this study assessed the influence of selected variables on the implementation of Science curriculum in Upper Basic Schools in Taraba State, Nigeria.

### Purpose of the Study

The purpose of the study is to assess the influence of selected variables on the implementation of Science curriculum in Upper Basic schools in Taraba State, Nigeria. Therefore, the specific objectives are to;

1. Examine influence of teachers' qualification on the implementation of Science curriculum in Upper Basic schools in Taraba State, Nigeria.
2. Assess the influence of teachers' years of teaching experience on the implementation of Science curriculum in Upper Basic schools in Taraba State, Nigeria.

### Research Questions

The following research questions guided the study:

1. How does teachers' qualification influence implementation of Science curriculum in Upper Basic schools in Taraba State, Nigeria?
2. How does years of teaching experience of teachers' influence implementation of Science curriculum in Upper Basic schools in Taraba State, Nigeria?

### Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

**H<sub>01</sub>:** There is no significant influence of teachers' qualification on the implementation of Science curriculum in Upper Basic schools in Taraba State Nigeria.

**H<sub>02</sub>:** There is no significant influence of teachers' years of teaching experience on the implementation of Science curriculum in Upper Basic schools in Taraba State Nigeria.

### Theoretical Framework

The study is based Lee Shulman's (1986) Pedagogical Content Knowledge (PCK) theory. Shulman's (1986) Pedagogical Content Knowledge (PCK) theory states that effective teaching requires not only subject matter knowledge but also an understanding of how to teach that content effectively. Shulman defines PCK as the unique knowledge of teaching possessed by teachers, 'the particular form of content knowledge that embodies the aspects of content most germane to its teach ability'.

PCK emphasizes the importance of teachers having a deep understanding of the content they teach. Assessing teachers' qualifications in terms of their academic background and certification in science can provide insight into their content knowledge and preparedness to teach the subject effectively. Experience plays a crucial role in the development of PCK. Experienced teachers often have a richer repertoire of instructional strategies and a better understanding of how to address students' misconceptions. Evaluating teachers' experience can provide insights into their ability to adapt their teaching to diverse classroom situations and student needs.

### Conceptual Framework

#### Teachers Qualification

Teacher's qualification refers to the kind of professional education for teaching that the teacher has received while qualification relates to the acquisition of relevant knowledge, skills, competence and creativity needed for quality productive engagement in the teaching profession, (Agbor, *et al.*, 2023). Oludipe and Oludipe (2021) defined teacher qualification as a set of skills, experiences, and knowledge that a teacher possesses, which makes them suitable to teach effectively. This includes formal education, experience, subject matter knowledge, pedagogy studies, and duration of training, certification /licensing, and ongoing professional development. Therefore, teacher qualification encompasses all the skills and attributes that a teacher needs to be able to teach effectively. Teachers' primary role of transmission of knowledge and skills cannot be over

emphasized. In this case teacher's qualification plays a vital role in teaching. Agbor, *et al.*, (2023) teacher's qualification refers to the kind of professional education for teaching that the teacher has received. Qualification relates to the acquisition of relevant knowledge, skills, competence and creativity needed for quality productive engagement in the teaching profession. A teacher's academic qualification is the educational attainments of the teacher. A teacher academic certification is a combined set of qualifications which include general academic and verbal ability, subject matter knowledge and teacher education (Yakubu, 2023). Emphasis on teachers' qualification is paramount to ensure the quality and quantity that are produced through the various agencies that are saddled with the responsibility of training students. That is why the National Policy on Education (2014) emphasized that Nigeria Certificate in Education (NCE) shall be the minimum qualification for teachers in the country since is the lowest level of education. A qualified teacher has a good classroom control, effective communication skills, and adequate knowledge of the subject matter and can utilize varieties of teaching strategies in order to enhance students' performance.

### **Teachers Teaching Experience**

Teaching experience is considered a repository of knowledge and skills that the teacher obtained and developed during the years of teaching and it is also considered as an indicator of what the teacher is familiar with and accustomed to from the various teaching practices that help him or her to carry out the curriculum effectively (Wandra, 2019). A teacher with more teaching experience is best able to implement the curriculum professionally due to the knowledge and skills that he/ she has obtained during the long years of instruction in addition to the training courses, conferences, seminars and workshops that they attended which assisted them to prevent the occurrence of problems that hinder the process of carrying out the curriculum (Eman, 2021). Teacher experience based on years in employment has several variables. Depending on years of service, the shift from no experience to some experience makes the biggest difference (Rapanta, *et al.*, 2020). More-experienced teachers support greater student learning for their colleagues and the schools as well for their own students. Papay and Kraff, as cited in (Ene, 2022) stated that inexperienced teachers are teachers with few years into the teaching profession trying to survive in the classroom because they are building key classroom management skills, learning the curriculum and adding to their instructional skills. A study conducted by Louws, *et al.*, (2017) posited that teacher experience makes a difference at the beginning of the teacher's beginning career. The number of years of a teacher's experience is crucial and important. On average, experienced teachers are more effective than newly employed teachers. Teacher experience improvement is mostly registered early in their careers (Ladd, & Sorensen, 2017). Further, Rapanta, *et al.*, (2020) found out that the shift from no experience to some experience makes the biggest difference

## **2. Materials and Methods**

The study adopted descriptive survey design. The population of the study consisted of 987 Basic Science teachers which comprises of 612 males and 375 females from the 359 public secondary schools in Tabara state. A sample of 278 Basic Science teachers was selected using convenience sampling technique. The instrument for data collection titled "Basic Science Curriculum Implementation Questionnaire" (BSCIQ) consists of 16 on a four-point scale of Strongly Agree (SA)=4, Agree (A)=3, Disagree (DA)=2 and Strongly Disagree (SD) to elicit responses from the respondents. The BSCIQ was subjected to face and content validation by two experts in Curriculum and Instruction, two experts in Science Education and one expert in Measurement and Evaluation, Faculty of Education Taraba State University Jalingo. The BSCIQ yielded validity index of 0.79. The "Basic Science Curriculum Implementation Questionnaire (BSCIQ)" items were trial tested on 40 Basic Science teachers in Adamawa State which is outside the study area. The responses obtained were subjected to Cronbach Alpha internal consistency test which yielded a reliability coefficient of 0.83. The descriptive statistic of mean and standard deviation was

used to answer the research questions. Chi square statistic was used to test the null hypotheses at 0.05 level of significance.

### 3. Results

**Research Questions 1:** How does teachers' qualification influence the implementation of Science curriculum in Upper Basic schools in Taraba State, Nigeria?

**Table 1. Mean and Standard Deviation of responses on Influence of Teachers' Qualification on Implementation of Science curriculum in Upper Basic schools in Taraba State Nigeria. N=278**

| S/N               | ITEMS                                                                                                                             | Mean        | SD          | Remark       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|--------------|
| 1                 | Teachers' qualifications positively influence teachers' ability to implement the Basic Science curriculum.                        | 3.61        | .70         | Agree        |
| 2                 | Subject specialization is directly related to effectiveness in the teaching of Basic Science.                                     | 3.55        | .75         | Agree        |
| 3                 | Further professional development enhances the qualifications necessary for implementing the Basic Science curriculum.             | 3.62        | .77         | Agree        |
| 4                 | Qualifications prepared teachers to use diverse teaching methods in Basic Science for effective teaching.                         | 3.63        | .64         | Agree        |
| 5                 | Specialized training in science education significantly contributes to teachers' ability to deliver the Basic Science curriculum. | 3.58        | .55         | Agree        |
| 6                 | The level of teachers' education equipped them with the necessary skills to implement the Basic Science curriculum effectively.   | 3.63        | .63         | Agree        |
| 7                 | Qualification improves teachers' ability to effectively assess students' understanding of Basic Science concepts.                 | 3.68        | .63         | Agree        |
| 8                 | Teachers' qualification is adequate for developing adapting the Basic Science curriculum to meet students' needs.                 | 3.53        | .75         | Agree        |
| <b>Grand Mean</b> |                                                                                                                                   | <b>3.60</b> | <b>0.68</b> | <b>Agree</b> |

**Source: Field Survey, 2026**

Table 1: Mean and Standard Deviation of responses on influence of teachers' qualification on implementation of Basic Science curriculum in Upper Basic schools in Taraba State Nigeria. The results show that all the items have mean scores above 2.5, this implies that respondents agreed that teachers' qualifications influences the Implementation of Basic Science curriculum in Upper Basic schools. The table shows the grand mean of 3.60 and standard deviation of 0.68. the grand mean implies that teachers' qualifications have influence on the implementation of Basic Science curriculum in Upper Basic schools. While the standard deviation of 0.71 shows that the respondents are similar in their response.

**Research Questions 2:** How do years of teaching experience influence the implementation of Basic Science curriculum in Upper Basic schools in Taraba State, Nigeria?

**Table 2. Mean and Standard Deviation of responses on Influence of Teaching Experience on Implementation of Basic Science curriculum in Upper Basic schools in Taraba State Nigeria. N=278**

| S/N               | Item Statement                                                                                                                            | Mean        | SD          | Decision     |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|--------------|
| 1                 | Developing effective teaching strategies over the years can enhance the delivery of the Basic Science curriculum.                         | 3.30        | 0.74        | Agree        |
| 2                 | Experience allows the teacher to manage classroom dynamics better, which aids in implementing the Basic Science curriculum.               | 3.24        | 0.83        | Agree        |
| 3                 | With experience, teachers will be able to adapt the Basic Science curriculum to meet diverse students' needs.                             | 3.27        | 0.64        | Agree        |
| 4                 | Years of experience have helped teachers to effectively integrate practical experiments into the Basic Science curriculum.                | 3.31        | 0.70        | Agree        |
| 5                 | Teachers years of experience have helped teachers to assess students understanding of Basic Science concepts                              | 3.24        | 0.86        | Agree        |
| 6                 | Experience teachers have helped the less experience teachers in implementing the Basic Science curriculum                                 | 3.38        | 0.64        | Agree        |
| 7                 | Over the years, teachers have acquired the ability to innovate improve teaching methods in Basic Science.                                 | 3.40        | 0.67        | Agree        |
| 8                 | Students' performance in Basic Science improves with the years of experience teachers put into the teaching and learning of Basic Science | 3.01        | 0.88        | Agree        |
| <b>Grand Mean</b> |                                                                                                                                           | <b>3.27</b> | <b>0.75</b> | <b>Agree</b> |

**Source: Field Survey, 2026**

Table 2 shows the mean and standard deviation rating of responses on the influence of teachers' years of experience on the implementation of Basic Science curriculum in Upper Basic schools in Taraba State, Nigeria. The result shows that all the items have mean scores in the region of 2.50 to 4.00; this shows that respondents agreed that teacher' years of experience influence implementation of Basic Science curriculum in Upper Basic schools. The cluster has a mean score of 3.27 and a grand standard deviation score of 0.75; the cluster mean implies that teachers' years of teaching experience have influence on the implementation of Basic Science curriculum in Upper Basic schools. While the standard deviation of 0.75 shows that respondents are similar in their opinions.

**H<sub>01</sub>:** There is no significant influence of teachers' qualification on the implementation of Science curriculum in Upper Basic schools in Taraba State Nigeria.

**Table 3. Chi-square test of Influence of Teachers' Qualifications on Implementation of Basic Science Curriculum in Upper Basic schools**

| OPTION            | Observed N | Expected N | Chi-Square            | Df | Asymp. Sig. |
|-------------------|------------|------------|-----------------------|----|-------------|
| Strongly Disagree | 56         | 556.0      | 2577.594 <sup>a</sup> | 3  | .000        |
| Disagree          | 82         | 556.0      |                       |    |             |
| Agree             | 551        | 556.0      |                       |    |             |
| Strongly Agree    | 1535       | 556.0      |                       |    |             |

Table 3 presents Chi-square test of significance of the influence of teachers' qualification on implementation of Basic Science curriculum in Upper Basic schools in Taraba State, Nigeria ( $\chi^2 = 2577.594^a$ ,  $df = 3$ ,  $p < 0.05$ ). The result shows that there is significant influence of teachers' qualification on the implementation of Basic Science curriculum in Upper Basic schools. Therefore, the null hypothesis which states that there is no significant influence of teachers' qualification on implementation of Basic Science curriculum in Upper Basic schools in Taraba State is rejected. The result signifies that teachers' qualification significantly influence implementation of Basic Science curriculum in Upper Basic schools.

### Hypothesis 2

**H<sub>02</sub>:** There is no significant influence of teachers' teaching experience on the implementation of Science curriculum in Upper Basic schools in Taraba State Nigeria.

**Table 4. Chi-square test of Influence of Teachers' Teaching Experience on Implementation of Basic Science Curriculum in Upper Basic schools**

| OPTION            | Observed N | Expected N | Chi-Square            | Df | Asymp. Sig. |
|-------------------|------------|------------|-----------------------|----|-------------|
| Strongly Disagree | 87         | 556.0      | 1380.223 <sup>a</sup> | 3  | .000        |
| Disagree          | 155        | 556.0      |                       |    |             |
| Agree             | 927        | 556.0      |                       |    |             |
| Strongly Agree    | 1055       | 556.0      |                       |    |             |

Table 4 presents Chi-square test of significance of the influence of teachers' teaching experience on the implementation of Basic Science curriculum in Upper Basic schools in Taraba State, Nigeria ( $\chi^2 = 1380.223^a$ ,  $df = 3$ ,  $p < 0.05$ ). The result shows that there is significant influence of teachers' teaching experience on the implementation of Science curriculum in Upper Basic schools. Therefore, the null hypothesis which states that there is no significant influence of teachers' teaching experience on implementation of Science curriculum in Upper Basic schools in Taraba State is rejected. The result signifies that teachers' teaching experience significantly influence the implementation of Science curriculum in Upper Basic schools.

## 4. Discussion

Finding of the study revealed that there is significant influence of teachers' qualification on the implementation of Science curriculum in Upper Basic schools in Taraba State, Nigeria. The finding agrees with Obeka (2024) whose findings showed that there is a significant relationship between teachers' qualification and students' achievement in English language. The finding also concurs with Shua'eb and Yahya, (2023) whose study revealed that teachers' qualification has a significant influence on curriculum implementation. Boniface (2023) found that qualification of teachers has a positive effect on the student performance and students taught by qualified Basic Science teachers perform better than those taught by unqualified teachers. Oludipe and Oludipe (2021) finding revealed that science teachers' qualifications influenced students' academic performance in Basic Science. Agugoesi, *et al.*, (2022) found that Basic Science teachers' education qualifications and teaching experiences significantly influenced the implementation of Basic Science curriculum content areas in Junior Secondary School. This finding contradicts Ogunrinbokun (2023) whose results revealed a significantly low negative relationship between teachers' qualification and students' academic performance.

The study also found that there is significant influence of teachers' teaching experience on the implementation of Science curriculum in Upper Basic schools in Taraba State, Nigeria. The finding is similar to Okose and Obiunu (2024) whose result of the study showed that teachers' years of teaching experience and qualification has influence on the mean academic performance of Basic Science students in BECE. Bello (2022) finding revealed that teachers' years of experience influences their teaching approach such as pay

little and limited attention to the teaching process which include using teaching aids, adequate and up to date lesson plans, use of a learning management system for teaching and evaluation among others. Eman (2021) findings indicated that teaching experience of the teacher affects the implementation of English language curricula. The finding agrees with Cherobon (2016) whose findings revealed that teaching experience strongly affected the implementation of IEC.

## 5. Conclusion

Based on the findings of the study, it was concluded that teachers' qualification significantly influences the implementation of the Science curriculum in Upper Basic schools in Taraba State, Nigeria. This implies that teachers with appropriate academic and professional qualifications are better equipped with the subject-matter knowledge and pedagogical skills required for effective curriculum implementation. The study also concluded that teachers' teaching experience significantly influences the implementation of the Science curriculum in Upper Basic schools in Taraba State, Nigeria. Experienced teachers are likely to have developed better classroom management skills, instructional strategies and practical knowledge that enable them to implement the Science curriculum more effectively.

## Recommendations

The study recommends that

1. Taraba State Government and relevant educational authorities should ensure that only appropriately qualified Science teachers are employed to teach at the Upper Basic level. Regular professional development, workshops and refresher courses should also be organized to improve teachers' knowledge and pedagogical competencies.
2. School administrators and the Taraba State Ministry of Education should provide opportunities for less-experienced Science teachers to work closely with experienced teachers through mentoring, peer observation and professional learning programmes. This will enable less-experienced teachers to acquire practical skills and strategies for effective Science curriculum implementation.

## REFERENCES

- Adeniran, S.A., Emmanuel Omale,E. &. Mbalaha, Z. S. (2025) An assessment of the competency of teachers in implementing Basic Science curriculum reforms in Kwali Area Council of Federal Capital Territory, Abuja. Conference Special Edition (2025): *Fuoye Journal of Education*, 8 (11), 1-15.
- Agbor, C., Onnoghen. U.N., Etan, N.O (2023). Teachers' qualification and academic performance of environmental education students in the University of Calabar. *A Journal of Contemporary Research*,20 (2) 2-12.
- Agugoesi, O. J., Inweregbuh, O. C., Mbonu-Adigwe, B. & , Ndifon,O.O. (2022).Evaluation of teachers' implementation of curriculum content areas in Junior Secondary Schools' science subject *International Journal of Curriculum and Instruction*, 14(2), 1189–1203
- Ajai, J. T., Shiaki, B. O. & Bulus, T. C. (2020). Study habits and academic achievement: a case study of secondary school science students in the Jalingo metropolis, Taraba State, Nigeria. *American Journal of Educational Research*, 8(5), 282-285.
- Bello, B. M. (2022). Influence of Teachers Years of Teaching Experience on their Teaching Approaches in Secondary School, Ilorin Metropolis, Kwara State. *Forum Ilmu Sosial*, 49 (1) 1-9.
- Boniface, E.M. (2023). Influence of Teacher Qualification on Academic Achievement of Basic Science Students in Umuahia North Local Government Area of Abia State. Micheal Okpara University of Agriculture Ummadike online repository
- Cherobon, V. (2016). *Teacher factors influencing implementation of integrated English curriculum in public secondary schools in Nandi East Sub-County, Kenya* (Master's thesis). University of Nairobi, Kenya.

- Duchi, A. K. (2023). Impact of instructional materials on students academic performance in Social Studies in Junior Secondary Schools in Gashua Educational Zone, Bade Local Government Area of Yobe State. *International Journal of Innovative Education Research*, 11(4),1-18.
- Eman, S. A. S. (2021). The Impact of Teacher's Teaching Experience on the Implementation of English Language Curricula in Public Schools in Aqaba Governorate, Jordan. *Middle Eastern Journal of Research in Education and Social Sciences*, 2(4),75-88
- Hoadley, U. and Gallant (2016). An analysis of the grade 3 Department of Basic Education workbooks as curriculum tools. *South African Journal Child Education*, 1(2),1-15.
- Ichazu, K.A. & Omoregie, N, (2020). The influence of teachers' qualifications on academic performance of secondary school students in Delta state. *African Scholars Journal of Contemporary Education Research*, 19(8),207-220
- Isa, S. G., Dr. Mammam, M. A., Badar, Y. and Bala, T. (2020). "The impact of teaching methods on academic performance of secondary school students in Nigeria". *International Journal of Development Research*, 10 (6), 37382-37385.
- Ladd, H. F., & Sorensen, L. C. (2017). Returns to teacher experience: Student performance and motivation in middle school. *Education Finance and Policy*, 12(2),241-279.
- Louws, M. L., Meirink, J. A., van Veen, K., & van Driel, J. H. (2017). Teachers' self-directed learning and teaching experience: What, how, and why teachers want to learn. *Teaching and teacher education*, 66, 171-183.
- Mirici, S. & Uzel, N. (2019). Viewpoints and self-efficacy of teachers participated in project training towards project-based learning. *International Online Journal of Education and Teaching*, 6 (4). 1037-1056.
- Nkok, E. A. E., & Chukelu, U. C. (2025). Impact of science education curriculum reforms on teaching, among secondary schools in Niger state, Nigeria. In a technology driven world. *International Journal of Innovative Social and Science Education Research* 13(1),34- 41.
- Nwafor, N. (2019). Pedagogical skills and content knowledge gaps among Basic Science teachers.
- Ogunrinbokun, B. E. (2023) Impact by of teachers' qualification and teaching method employed by instructors on the academic achievements of Junior Secondary School business studies students in Lagos state. *A Journal of School of Business Education Federal college of Education (Technical)Akoka, Yaba –Lagos*, 4(1),1-27.,
- Okose, N. F. & Obiunu, A, E. (2024). Influence of teachers' years of teaching experience and qualification on students' academic performance in Basic Education Certificate Examination in Basic Science in Delta State. *International Journal of Innovative Social and Science Education Research*, 12(1),17-26.
- Oludipe, D. I., & Oludipe, B. D. (2021). Do teachers' qualifications and experience influence academic performance of students in Basic Science in Junior Secondary Schools in Nigeria? *Journal of Education in Black Sea Region*, 6(2), 148-164.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university teaching.
- Shuaeeb, A. A., & Yahaya, D. O. (2023). Influence of teachers' qualification on curriculum implementation among secondary school Biology teachers in Niger South Senatorial Zone of Niger State. *Journal of Education and Curriculum Studies*, 10(2),1-18.
- Wandera, S. N. (2019). Influence of Teaching Experience on Pupils' Performance at Kenya Certificate of Primary Examination in English subject in Kenya. *IOSR Journal of Research and Method in Education*, 9(3)24-30.
- Yakubu, S. A. (2023). Teacher academic qualification as a correlate of students' academic achievement in fine and applied arts at the colleges of education in northeast Nigeria. *International Journal of Innovative Education Research*, 11(1), 15-24.