

## **Relationship Between Teachers' Competence And Pupils' Attitude To Learning Of Basic Science And Technology In Kwara Central**

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### **Abstract**

The role of teachers in shaping students' attitudes towards learning is crucial in achieving educational goals. Competent teachers can effectively engage and motivate their pupils, particularly in subjects such as Basic Science and Technology. The study investigated teachers' competence as a determinant of pupils' attitude to learning of Basic Science and Technology in Kwara Central. The study adopted a descriptive research design of correlation type. The population for this study comprised all 12,134 primary school teachers in Kwara State while the target population included all 5,393 teachers in Kwara Central. A sample size of 341 was selected using a proportional and simple random sampling technique. Teachers' Competence Rating Scale (TCRS) with  $r=0.86$  and Pupils' Attitude to Learning of Basic Science and Technology Rating Scale (PALBSTRS) with 0.82 were the two instruments used for data gathering. The study was guided by two research questions and one hypothesis. Data gathered were analyzed using frequency, mean and percentage and Pearson Product Moment Correlation (PPMC). The findings showed relationship between teachers' competence and pupils' attitude to learning of Basic Science and Technology. It was recommended that government and private school owners should provide professional development opportunities for teachers to improve their competence in teaching Basic Science and Technology. This may motivate pupils to have right attitude towards learning basic science and technology.

**Keywords:** Teachers' Competence, Pupils' attitude, Learning of basic science and technology

### **Introduction**

National development all over the world has continued to be completely tied to educational development in which teachers at the basic education are the critical element. The training and production of the manpower needed for the attainment of the country's national objectives should be considered on the quality and quantity of teachers. Teachers are the people saddled with the responsibility of turning out into the society, pupils who have acquired literacy, numerical, manipulative and communicative skill. Teachers are at the central stage in the translation of carefully prepared

education plans into reality at the operational and grassroots level. They are expected to produce people equipped with norms, skills, attitudes and values that are functional in the society.

It is against this backdrop that the Federal Republic of Nigeria (FRN, 2004) made specific policy provision for teacher education. Teacher education comprises policies and practices designed to equip prospective teachers with the knowledge, attitudes and skills they require to perform their tasks effectively in the classroom, school and wider society. Whitty (2016), Chedzoy and Burden (2017) submitted that the successful implementation of any school programme depends largely on the quality of the teachers.

Primary Education is a major foundation for social-economic and political development of a nation as identified by United Nations Educational Scientific and Cultural Organization (UNESCO, 2005). This level of education of a child is most essential to achieve education goals of an individual. Therefore, if the quality of education is undermined, the schools may not give adequate knowledge, skills, and attitudes to pupils that a country needs in its citizens. At this foundational stage, pupils develop skills needed for further learning and can create interest for further study of a particular subject in secondary and higher education.

The National Policy on Education (2013) stated one of the objectives of primary education as laying of a sound basis for scientific and reflective thinking. This is based on the Federal Government of Nigeria's adoption of science education as an instrument par excellence of national development (Ogunkola, 2000). In order to achieve the objective of laying a sound basis for scientific and reflective thinking, basic science and technology became one of the core subjects offered in basic education. All primary school pupils offer basic science and technology as a subject. They engage in scientific thinking, constructing a framework of relationship within which factual information can be organized into meaningful and valuable concepts (Brewer 2007).

Science and technology hold a key to the progress and development of any nation. Technology plays a fundamental role in wealth creation, improvement of the quality of life and real economic growth and transformation in any society. This is well emphasized in National Policy on Education (2013, 2014) where the Federal Government of Nigeria (FRN) stated that the nation's economy will be run based on science and technology because there is nowhere in this world now that the economy can move without science and technology. In recent times, countries all over the world, especially the developing ones like Nigeria, are striving hard to develop technologically and scientifically, since the world is turning scientific and all proper functioning of lives depend greatly on science. Abimbade (2005) identified that as technology creates changes in all aspects of our societal life, it is also changing our expectations of students' learning, how they learn, and where they learn to function in the new world order.

At the primary level, emphasis is placed on the learners in joyfully exploring the world around and harmonizing with it. The objectives at this stage seeks to nurture the curiosity of the child about the world. One of the purposes of science education in primary schools is to develop a positive attitude toward science in the pupils from childhood regardless of individual differences (Arisoy, 2007; Azizoglu & Cetin, 2009). Attitude can be defined as feelings, beliefs and values held about a specific concept (Osborne, et al 2003). Hacieminoglu (2016) proposed six dimensions regarding interests and attitudes toward science' namely: the manifestation of favourable attitudes to science and scientists, acceptance of scientific inquiry as a way of thought, adaptation to scientific attitudes, enjoyment of science learning experiences, development of interest in science and science related activities; and the development of interest in pursuing a career in science.

Festinger's cognitive theory states that individuals seek some degree of consonance between their feeling (attitudes) and action. The interest and attitude build up by pupil influences their learning

abilities as well as their choice of subject in school. The goals of science must be seen as desirable by the learners and this must be well presented by the teacher. Else, the attitude of the learners will be negated. Science and technology education is very important to the development of any nation and so its teaching and learning must be taken very seriously.

Despite the ever-growing importance of science in our daily lives, recent research shows a failure at the basic education and continuous decline in the number of students who choose to study scientific subjects in high school and to later pursue scientific careers (Osborne, Simon & Collins, 2003; Organization for Economic Cooperation and Development, "OECD" 2009). Researchers have made effort to investigate reasons for the failure and decline in the choice of the subjects at basic education. For, example, Ayua (2011) investigated teachers' awareness and level of improvisation of primary science instruction materials in primary schools in Makurdi metropolis, the study found that most teachers of primary science could neither improvise science materials nor teach effectively because they are neither professionally trained to teach primary science nor studied or offered science related disciplines. Ayua (2012) also carried out a study on challenges facing primary science and highlighted some of its implications on the future of science education in Nigeria. He submitted that high level of inadequate trained science teachers has posed a serious challenge to the survival of primary science. Adedigba and Olofintoye (2018) opined that the competence of the teachers is considered as the most significant factors to teaching and learning in the field of science and mathematics. In the classroom, especially at the basic level of education, science teachers are the bridge between the subject and the learners of science subjects. Shah et. al. (2021) showed that a teacher's competence which is accompanied by the feeling of hope, generosity, respect, and joy have influence on teaching and learning. According to Marklund (2016), teacher competence involves the mastery of the subject matter and pedagogical and communication competence, teacher qualification and knowledge used to teach and understand pupils in terms of their development and learning activities in basic science and technology. Miller (2006) said that technical teachers lack effectiveness in managing technology workshops and preventing materials. Miller further stated that these teachers have shallow knowledge and skills in the subject matter. NERDC report (2004) said that 50% of the teachers in the Nigerian school system were found unqualified to teach. Also, Patiko and Yassar (2020) on Africa revealed that most of the teachers (teachers of technology now basic technology in Niger State inclusive) recruited into teaching positions in Nigeria do not meet the quality required for effective teaching.

In order to achieve the basic aim and objectives of teaching basic science and technology in our primary schools, the competence of the teachers is germane. Jadas (2014) revealed that the in-depth pedagogical knowledge of teachers makes them able to use various methodologies suited to deliver a lesson. The complete understanding of content makes them confident about selecting the best teaching strategies and skills for student understanding. Furthermore, teachers are also expected to demonstrate a thorough knowledge of the content of their curricular areas. They should be able to communicate this content material to students using methodologies appropriate for the age and abilities of the learners (Igbokwe and Eze, 2009). Amie-Ogan and Etuk (2020) researched the influence of teachers' competence on students' academic performance in public senior secondary schools and revealed that teachers' subject content knowledge and pedagogical skills influence students' academic performance in schools.

To date, only a relatively small body of work has been devoted to assessing the attitudes of primary school students towards the learning of science. Papanastasiou and Zembylas (2002) found that attitudes can affect achievement particularly science subjects. According to Papanastasiou and Zembylas, poor attitudes were important factor causing failure in subject like mathematics and other sciences and hence, students in extreme cases develop fear and hatred to the teaching-learning

process in the school as a whole and that is why a number of students are fond of being absent from school often.

One's attitude toward something can be expressed in various ways, including like or-dislike expressions (Kurniawan, Anggraini, Perdana, 2020). Osborne, Simon and Collins (2003) reported that a positive attitude towards science significantly impacts motivation to learn it, both in school and in other educational frameworks. Therefore, the right attitudes developed in primary school influence the choices of students later in life. Pupils' interest and attitude to learning many times depend on the nature of each subject. Science subject as a whole has its learning difficulties in any level of education. Most learners dislike science subject like mathematics, elementary science and agricultural science because of the nature of learning difficulties which makes pupils to see them as enemy of their subject such as calculation aspect, ruling tables and the likes. No doubt, pupils' attitude to science learning and learning experiences help them in further study of science subject.

### **Statement of the Problem**

Science and technology are so many times regarded as "hard subjects". This may be due to the fact that teachers are unable to satisfy the students' aspiration or goal. Perhaps even more importantly the basic science and technology education, as it exists, may be failing to attract the interest of students who would otherwise make enormous intellectual contributions to the future of Nigerian science. Cultivating interests and right attitude towards the study of sciences in schools by the learners has to be developed. Considering the attitude of Nigerian students to science, it could be observed that very few students have love for studying the subject.

Previous research has investigated challenges facing primary science and highlighted some of its implications on the future of science education in Nigeria (Ayua, 2012; Erişti and Tunca, 2012; Agbowuro, Oriade and Shuaibu, 2015; Eriba and Iwanger, 2018)). Most of the literature reviewed used variables like academic achievement and performance in the subject, motivation for choice, teachers' method etc. while pupils' attitude to the learning of sciences and teachers' competence have not been given much attention especially in Kwara State.

Some investigations were also carried out to measure and predict the effect of attitude and interest of students on academic performance in science (Sakariyau, Taiwo and Ajagbe, 2016; Hussain and Akhter, 2016; Alwahaibi, et al. 2019) but most of them used secondary school students as their sample while few carried out on primary school pupils were not on the variables that are of interest to the researcher. Also, there was dearth of literature on teachers' competence and pupils' attitude to learning of basic science and technology in Kwara State and particularly Kwara State Central. Mainly, teachers' rating of pupils' attitude to learning of basic sciences and technology as was done in this study was not common in the previous studies reviewed. Therefore, this study investigated, relationship between teachers' competence and pupils' attitude to learning of Basic Science and Technology, in Kwara Central, Nigeria. The study answered two research questions on the level of teachers' competence and attitude of pupils to learning of basic science and technology and tested one hypothesis on the relationship that existed between the variables.

### **Methodology**

The study employed a descriptive survey design of correlation type, which involves gathering and analyzing data to provide a detailed description, evaluation, or comparison of current events or prevalent practices, events, or incidents. Particularly, it examines the relationship between two or more variables without manipulating them (Neuman, 2014; Fraenkel, Wallen, & Hyun 2019).

The population for this study comprised all 12,134 primary school teachers in Kwara State. The target population included all 5,393 public primary school teachers in Kwara Central: Asa, Ilorin East, Ilorin South, and Ilorin West Local Government Areas (Kwara State Annual School Census Report, 2019). A sample of 341 primary school teachers was involved in the study using proportionate and simple sampling techniques.

Two researchers-designed instruments tagged Teachers' Competence Rating Scale (TCRQ) and Pupils' Attitude to Learning of Basic Science and Technology Rating Scale (PALBSTRS) were used to collect data in this study. TCRQ has Sections A and B eliciting, information on respondents' demographic information and measuring the teachers' pedagogical, relationship, content and evaluation competences structured in Four Likert-scale of High (4), Moderately High (3), Low (2) and None (1). PALBSTRS was a teacher-rated instrument measuring pupils' preparedness, interest, engagement, and interaction during basic science and technology learning. It contained 20 items structured in 3 Likert types of Regularly, Sometimes and Never.

Face and content validity of the instruments TCRQ and PALBSTRS were confirmed by lecturers in the Faculty of Education, University of Ilorin. To ascertain the reliability of TCRQ and PALBSTRS, test-retest reliability technique was adopted. Copies of each of the two instruments were administered twice at the interval of two weeks on 20 teachers who were not part of the real study. Using Pearson Correlation Co-efficient, Teachers' Competence Rating Scale produced a reliability index of 0.86, while the Pupils' Attitude to Learning of Basic Science and Technology Rating Scale (PALBSTRS) recorded a reliability coefficient of 0.82.

The observation was carried out during the teaching and learning of basic science and technology. The class teachers of the selected schools were involved in rating pupils' attitude to learning of basic science and technology. The data was collected with the assistance of the class teachers and trained research assistants. All the rules guiding the conduct of educational research was observed. The data collected were analysed using frequency, percentage, mean and Pearson Product Moment Correlation at 0.05 level of significance.

## **Results**

**Research Question One:** What is the level of teachers' competence in Kwara Central, Nigeria?

**Table 1:** Table showing the level of teachers' competence in Kwara Central, Nigeria

| S/N                                                          | Teachers' Competence                                                                              | Mean                       | SD                      |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------|-------------------------|
| <b>CONTENT KNOWLEDGE COMPETENCE: The teacher is able to:</b> |                                                                                                   |                            |                         |
| 1                                                            | display mastery of the content of the curriculum                                                  | 3.19                       | 0.48                    |
| 2                                                            | transform knowledge to content to suit different child's ability and background                   | 2.80                       | 0.50                    |
| 3                                                            | impart adequate, accurate and relevant knowledge and skills                                       | 2.92                       | 0.67                    |
| 4                                                            | organize the teaching materials                                                                   | 2.54                       | 0.92                    |
| 5                                                            | explain complex areas of the topic to children                                                    | 3.09                       | 0.73                    |
| 6                                                            | presentation of new content and skills in small steps                                             | 3.01                       | 0.68                    |
| <b>PEDAGOGICAL COMPETENCE: The teacher is able to:</b>       |                                                                                                   |                            |                         |
| 7                                                            | utilize variety of teaching methods to stimulate children's active participation in the classroom | 2.64                       | 0.83                    |
| 8                                                            | use appropriate method and strategies to teach and to meet the need of each child                 | 2.59                       | 0.57                    |
| 9                                                            | master and develop learning materials                                                             | 2.96                       | 0.79                    |
| 10                                                           | identify materials for use in the teaching of Basic Science and Technology                        | 2.71                       | 0.68                    |
| 11                                                           | use of improvisation in providing materials required for teaching Basic Science and Technology    | 2.54                       | 0.58                    |
| 12                                                           | familiarise with resource persons that can be invited for Basic Science and Technology            | 3.30                       | 0.61                    |
| 13                                                           | to allocate resources for teaching Basic Science and Technology                                   | 2.50                       | 0.65                    |
| 14                                                           | to integrate instructional materials to teaching Basic Science and Technology                     | 2.50                       | 0.50                    |
| <b>RELATIONSHIP COMPETENCE The teacher is able to:</b>       |                                                                                                   |                            |                         |
| 15                                                           | generate enthusiasm for learning among pupils                                                     | 3.13                       | 0.78                    |
| 16                                                           | use appropriate classroom rules and procedures                                                    | 2.79                       | 0.82                    |
| 17                                                           | encourage adequate and appropriate pupils' participation and involvement                          | 3.09                       | 0.49                    |
| 18                                                           | consistently model appropriate behaviours in the class                                            | 3.05                       | 0.45                    |
| 19                                                           | maintain a neat and orderly classroom environment conducive for learning                          | 3.00                       | 0.57                    |
| 20                                                           | reinforces appropriate behaviours consistently                                                    | 3.21                       | 0.71                    |
| <b>EVALUATION COMPETENCE: The teacher is able to:</b>        |                                                                                                   |                            |                         |
| 21                                                           | respond to children's question promptly                                                           | 3.21                       | 0.71                    |
| 22                                                           | give careful feedback about each child's learning outcome                                         | 3.16                       | 0.69                    |
| 23                                                           | choose evaluation methods appropriate for instructional decisions                                 | 3.29                       | 0.61                    |
| 24                                                           | assess the children properly, administer, score and interpret their results                       | 3.25                       | 0.60                    |
| 25                                                           | use assessment to provide information about children's progress                                   | 3.25                       | 0.66                    |
| <b>Weighted Mean</b>                                         |                                                                                                   | <b>2.95</b>                |                         |
| <b>Low:1.00 – 1.99</b>                                       |                                                                                                   | <b>Average:2.00 – 2.99</b> | <b>High:3.00 – 4.00</b> |

Table 1 shows the level of teachers' competence in Kwara Central, Nigeria. The respondents were good in the following: display mastery of the content of the curriculum (3.19), transform knowledge to content to suit different child's ability and background (2.80), impart adequate, accurate and relevant knowledge and skills (2.92), organize the teaching materials (2.54), explain complex areas of the topic to children (3.09), presentation of new content and skills in small steps (3.01), Utilize variety of teaching methods to stimulate children's active participation in the classroom (2.64), use appropriate method and strategies to teach and to meet the need of each child (2.59), master and develop learning materials (2.96), identification of materials for use in the teaching of Basic Science and Technology (2.71), use of improvisation in providing materials required for teaching Basic Science and Technology (2.54), familiarity with resource persons that can be invited for Basic Science and Technology (3.30), ability to allocate resources for teaching Basic Science and Technology (2.50), ability to integrate instructional materials to teaching Basic Science and Technology (2.50), generates enthusiasm for learning among pupils (3.13), uses appropriate classroom rules and procedures (2.79), encourages adequate and appropriate pupils' participation and involvement (3.09), consistently models appropriate behaviours in the class (3.05), maintains a neat and orderly classroom environment conducive for learning (3.00), Reinforces appropriate behaviours consistently (3.21), respond to children's question promptly (3.21), give careful feedback about each child's learning outcome (3.16), choose evaluation methods appropriate for instructional decisions (3.29), assess the children properly, administer, score and interpret their results (3.25), use assessment to provide information about children's progress (3.25). The weighted mean was 2.95 which is a numeric indicator that the level of teachers' competence was on the average.

**Research Question Two:** What is pupils' attitude towards learning of Basic Science and Technology in Kwara Central?

**Table 2:** Table showing the pupils' attitude towards learning of Basic Science and Technology in Kwara Central.

| S/N | ITEMS                                                                                                       | I | Mean        | SD   |
|-----|-------------------------------------------------------------------------------------------------------------|---|-------------|------|
| 1.  | don't like to hear anything about science and technology at all                                             |   | 1.83        | 0.89 |
| 2.  | don't think of taking up career in science and technology related course in future                          |   | 2.82        | 0.45 |
| 3.  | see their response to my teacher's instruction during science and technology lessons as useless             |   | 2.70        | 0.61 |
| 4.  | don't want my teachers to encourage me to read or learn science and technology                              |   | 2.73        | 0.55 |
| 5.  | prefer learning other subjects to science and technology                                                    |   | 2.27        | 0.68 |
| 6.  | don't see any good thing in learning science and technology                                                 |   | 2.11        | 0.92 |
| 7.  | see practical and group activities in science and technology classes are meaningless to me                  |   | 2.74        | 0.58 |
| 8.  | see their parents' efforts to make me learn science and technology as a waste of time                       |   | 2.71        | 0.62 |
| 9.  | see learning science and technology boring                                                                  |   | 1.87        | 0.59 |
| 10. | do not pay attention in the class during science and technology lesson                                      |   | 2.79        | 0.51 |
| 11. | want science and technology class to end quickly                                                            |   | 2.83        | 0.48 |
| 12. | are not happy learning science and technology                                                               |   | 2.80        | 0.48 |
| 13. | don't look forward to be in science and technology classroom                                                |   | 2.31        | 0.69 |
| 14. | are happy when the teacher stops teaching in a science and technology class                                 |   | 2.80        | 0.51 |
| 15. | don't listen to my teacher during science and technology classes                                            |   | 2.84        | 0.44 |
| 16. | are not willing to participate in discussion and learning activities during science and technology classes. |   | 2.34        | 0.68 |
| 17. | make noise and do not listen in the class                                                                   |   | 2.78        | 0.53 |
| 18. | are not willing to respond to my teacher's question during science and technology lessons                   |   | 2.79        | 0.50 |
| 19. | don't do class work and assignment in science and technology given to them promptly                         |   | 1.43        | 0.58 |
| 20  | run away from practical classes                                                                             |   | 1.86        | 0.59 |
|     | <b>Weighted Mean</b>                                                                                        |   | <b>2.54</b> |      |

Table 2 shows the pupils' attitude towards learning of Basic Science and Technology in Kwara Central. The respondents regularly do the following: don't do class work and assignment in science and technology given to them promptly (1.43). The respondents sometimes do the following: don't like to hear anything about science and technology at

all (1.83), prefer learning other subjects to science and technology (2.27), don't see any good thing in learning science and technology (2.11), see learning science and technology boring (1.87), don't look forward to be in science and technology classroom (2.31), are not willing to participate in discussion and learning activities during science and technology classes (2.34), run away from practical classes (1.86). However, the respondents never do the following: don't think of taking up career in science and technology related course in future (2.82), see their response to my teacher's instruction during science and technology lessons as useless (2.70), don't want my teachers to encourage me to read or learn science and technology (2.73), see practical and group activities in science and technology classes are meaningless to me (2.74), see their parents' efforts to make me learn science and technology as a waste of time (2.71), do not pay attention in the class during science and technology lesson (2.79), want science and technology class to end quickly (2.83), are not happy learning science and technology (2.80), are happy when the teacher stops teaching in a science and technology class (2.80), don't listen to my teacher during science and technology classes (2.84), make noise and do not listen in the class (2.78), are not willing to respond to my teacher's question during science and technology lessons (2.79). The weighted mean is 2.54 which is a numeric indicator that pupils' attitude towards learning of Basic Science and Technology was positive.

**Research Hypothesis:** There is no significant relationship between teachers' competence and pupils' attitude to learning of Basic Science and Technology

**Table 3:** Table showing the relationship between teachers' competence and pupils' attitude to learning of Basic Science and Technology

| Variables            | Mean  | SD    | N   | R    | Sig. |
|----------------------|-------|-------|-----|------|------|
| Teacher's competence | 76.21 | 8.35  | 341 | .585 | .000 |
| Pupils' attitude     | 44.59 | 10.46 |     |      |      |

Table 3 shows the relationship between teachers' competence and pupils' attitude to learning of Basic Science and Technology. There was significant relationship between teachers' competence and pupils' attitude to learning of Basic Science and Technology ( $r = .585$ ;  $p = .000$ ). The hypothesis is therefore rejected in the light of the result since the significant value ( $p = .000$ ) is less than 0.05.

### Discussion of Findings

The finding of the study revealed that the level of teachers' competence was on the average. This finding was in tandem with the research finding of a study conducted by Karasar (2013) which unfolded those teachers in Turkey had a high level of general competence and content knowledge. Similarly, Boyd, et al. (2008) found that the vast majority of teachers in the United States were rated as at least "satisfactory" in terms of their overall teaching effectiveness, indicating a high level of competence. On the other hand, the finding negated the research report of DeLange, Mitchell and Stuart (2014)

which disclosed that many primary school teachers in South Africa lacked competence in certain areas, such as language skills and pedagogical content knowledge. Similarly, Wilson (2014) found that schools in low-income areas in the United States had teachers with lower levels of competence. This finding could be as a result of insufficient access to professional development programmes and training that could enhance their competencies. Also, limited opportunities for continuing education and skill-building can hinder teachers' growth and limit their ability to excel beyond an average level.

This suggests that while teachers generally possess foundational skills and knowledge required for effective instruction, there remains room for improvement in areas such as pedagogical strategies, subject mastery, classroom management, and the integration of innovative teaching methods. This average level of competence could have implications for pupils' learning experiences and outcomes, particularly in a subject as dynamic and practical as Basic Science and Technology.

Another finding of the study revealed that pupils' attitude towards learning of Basic Science and Technology was positive. This suggests that pupils in the study generally had a favourable disposition and approach to this particular subject. The finding corroborated the finding of Shukor, Harun, Othman and Ismail (2018) which reported that primary school learners in Malaysia had a positive attitude towards learning science. The study is also supported by Smith (2015) and Aslan-Tutak and Yoruk (2020) who found that learners in Turkey had a positive attitude towards learning science and technology. It indicates that pupils showed interest and engagement in Basic Science and Technology, finding it appealing, relevant, and enjoyable. Their positive attitude implies a willingness to learn, as they actively participated in class and demonstrated motivation to acquire knowledge and skills in the subject. On the other hand, the finding negated a study by Othman, Nordin and Abdullah (2015) which found that secondary school students in Malaysia had a neutral attitude towards learning science. Another study by Llorens-Montes, Villena-Martínez and Lopez-Sanchez (2021) found that students in Spain had a negative attitude towards learning science. The study found that this negative attitude was partly due to students' lack of interest in science and their perception that science was too complex and difficult to understand.

The finding of the study also revealed a significant relationship between teachers' competence and pupils' attitude towards learning Basic Science and Technology. This implies that the level of competence demonstrated by teachers directly impacts the way pupils perceive and approach their learning experience in this subject. When teachers exhibit high levels of competence, it can positively influence pupils' attitudes, making them more engaged, motivated, and eager to learn. Conversely, if teachers' competence is lacking, pupils may become disinterested or disengaged, which can hinder their willingness to actively participate and excel in Basic Science and Technology. Therefore, the findings emphasize the importance of enhancing teachers' competence to foster positive attitudes and enhance pupils learning outcomes in Basic Science and Technology. The finding was in tandem with a study by Azuka-Obieke and Onyechere (2013) and Adegbola (2019) which found a positive correlation between teachers' competence and students' attitudes towards science in Nigeria. Abanador (2019) and Chirwa and Nkateng (2019) found a significant positive correlation between teacher competence and student attitudes towards mathematics and English. However, the finding negated a study conducted by Malmberg, Hellstrom and Hussenius (2015) found

that teachers' competence did not influence students' attitudes towards science. Further, the finding was not in support of a study by Mubangizi and Mtetwa (2018) who found that there was no significant correlation between teacher competence and students' attitudes towards mathematics in Zimbabwe.

## **Conclusion**

The findings of this study have provided valuable insights into the dynamics between teachers' competence and pupils' attitudes towards learning Basic Science and Technology in Kwara Central, Nigeria. The study revealed that while the overall level of teachers' competence was average, pupils generally demonstrated a positive attitude toward learning the subject. Importantly, a significant relationship was established between teachers' competence and pupils' attitudes, suggesting that improving teacher competence can have a direct and meaningful impact on pupils' engagement and interest in Basic Science and Technology.

## **Recommendations**

Based on the findings of the study, the following recommendations are proposed:

1. Government and school owners should provide professional development opportunities for teachers to improve their competence in teaching Basic Science and Technology. This perhaps can influence pupils' interest and motivate them to put up better attitudes to learning of basic science and technology
2. Teachers of Basic Science and Technology should strive to be involved in series of training programme that can enhance their ability in the teaching of the subject. More importantly should intensify their effort in self-development and update with new pedagogies that can complement their classroom interactions to further enhance pupils' positive attitudes and ultimately improve learning outcomes in Basic Science and Technology.
3. Government and school owners should provide support and resources to help teachers of Basic Science and Technology to improve on their competence and increase their effectiveness in the classrooms.

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