ASSESSMENT OF STUDENTS' ATTITUDE TOWARDS THE LEARNING OF BASIC SCIENCE IN JUNIOR SECONDARY SCHOOLS IN OREDO LOCAL GOVERNMENT AREA

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY, FACULTY OF EDUCATION, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE IN EDUCATION DEGREE B.Sc. (Ed.) IN CURRICULUM AND INSTRUCTIONAL TECHNOLOGY, UNIVERSITY OF BENIN, BENIN CITY.

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CERTIFICATION

We the undersigned, certify that this project work is adequate in scope and was carried out by **AGHARESE EFE FAVOUR**, in the department of Curriculum and Instructional Technology, Faculty of Education, University of Benin, Benin City, Edo State, Nigeria; In partial fulfillment for the award B.sc (Ed.) degree in Integrated Science.

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DEDICATION

This project is dedicated to God Almighty for his faithfulness, grace, wisdom and strength given to me to be able to complete my course of study in the University of Benin.

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I give thanks to Almighty God for granting me grace, direction and strength to successfully complete my course of study admist all the difficulties. My extreme gratitude goes to my project supervisor Dr. I.J Umoh for his support and guidance throughout the course of this study.

I'll forever be grateful to my loving parents Mr. and Mrs. Agharese for their support and motivation financially, emotionally and spiritually throughout my time in the University of Benin and to my siblings, Master Clinton, Master Jeffery, Master Lampard and Miss Gabriella for their support and motivation.

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ABSTRACT

The purpose of this study is to investigate the Assessment of Student's Attitude toward the Learning of Basic Science in Junior secondary schools in Oredo local government area of Edo State

A descriptive survey research design was employed in this study. five(5) research questions were raised to guide the study. The target population of the study consists of eighty two thousand five hundred and two (80,502) junior secondary school students ,with sample size of one hundred (100) JSS 2 students in Oredo local government areathrough simple random sampling technique. A structured questionnaire was used for data collection. The questionnaire was validated by content and face by my project supervisor and two other experts in the Department of Curriculum and Instructional Technology ; while the test- re test reliability method was adopted to ascertain the reliability of the instrument. Data collected were analyzed using mean and standard deviation.

The study reveals that students feel motivated, interested, and confident in learning Basic Science. They perceive its importance for their education and find the lessons engaging and interactive. Both male and female students show equal interest, confidence, and perceived importance in learning Basic Science. They also experience similar levels of engagement and motivation in Basic Science activities. Students with highly educated parents demonstrate more interest, engagement, and confidence in learning Basic Science. They perceive it as more important for their education and are more motivated to participate. The availability of instructional materials enhances students' interest, confidence, understanding, engagement, and motivation in Basic Science lessons. Based on the findings of the study, the

following recommendations were made for the study: Teachers should integrate more interactive and real-life application activities into Basic Science lessons to sustain student engagement and reinforce the subject's relevance. This recommendation can be disseminated to teachers and school administrators. Educators should implement gender-neutral teaching approaches and ensure equitable participation opportunities to maintain equal interest and motivation levels among all students. This recommendation can be shared with teachers and school administrators. Stakeholders, including teachers and school administrators, should provide additional support and resources tailored to students from less-educated parental backgrounds to boost their interest, engagement, and confidence in Basic Science. Policymakers at the Ministry of Education should prioritize the consistent provision of diverse and high-quality instructional materials in Basic Science classrooms to enhance student interest, understanding, and motivation. This recommendation should be directed towards policymakers and education authorities.

CHAPTER ONE

INTRODUCTION

Background to the Study

Basic Science is an interdisciplinary approach to scientific education that aims to provide learners with a holistic understanding of various scientific disciplines within a single curriculum (Nworgu 2015).It moves beyond the traditional compartmentalization of subjects like biology, chemistry, and physics, offering a seamless integration of knowledge across these domains. This approach is designed to reflect the interconnected nature of scientific concepts and phenomena in the real world. At its core, Basic Science draws from multiple scientific branches, including biology, chemistry, physics, astronomy, geology, and environmental science. The curriculum is structured to cover fundamental principles and concepts from each discipline, emphasizing the relationships and interactions between different scientific areas. By doing so, students are exposed to a more comprehensive and interconnected view of the natural world. The integrated nature of this science curriculum encourages students to explore connections between different scientific principles and understand their applications in solving real-world problems. Instead of studying each scientific discipline in isolation, students engage in a more holistic learning experience that mirrors the collaborative and interconnected nature of scientific research and discovery. Basic Science goes beyond theoretical knowledge, emphasizing the practical application of scientific concepts. Students are encouraged to apply their understanding to address complex issues, fostering critical thinking and problem-solving skills. This approach not only enhances students' scientific literacy but also prepares them for challenges they may

encounter in various professional fields. The structure of Basic Science may vary across educational institutions and levels, but common elements include thematic units, hands-on experiments, and projects that integrate principles from different scientific disciplines. This adaptability allows educators to tailor the curriculum to the specific needs and interests of their students while maintaining a cohesive and interconnected framework.

Basic science is not confined to the science department alone (Ariyo, 2016). It often incorporates elements of mathematics, technology, and even social sciences, creating cross-curricular connections. This approach reflects the reality that scientific advancements and problem-solving require collaboration across diverse fields of study. One of the primary goals of Basic Science is to enhance scientific literacy among students. By providing a broader understanding of scientific principles and their applications, this curriculum aims to equip learners with the knowledge and skills needed to navigate an increasingly complex and scientifically driven world.

Students' attitude toward basic science encompasses their overall feelings, beliefs, and emotional responses related to the interdisciplinary nature of the subject. It involves their perceptions of the value, relevance, and enjoyment derived from studying basic science, as well as their willingness to engage actively with the curriculum (Akinbode, 2015). One facet of attitude toward basic science involves emotional responses. Students may express enthusiasm, interest, curiosity, or, conversely, indifference, skepticism, or even anxiety. These emotional reactions often influence their overall engagement with the subject matter and shape the learning experience. Cognitive beliefs play a crucial role in defining attitude. Students may form perceptions about the relevance, applicability, and coherence of basic

science. Positive cognitive beliefs include recognizing the connections between different scientific disciplines and understanding the potential real-world applications of integrated knowledge. Attitude toward basic science is also manifested through behavioral tendencies. This includes students' participation in class discussions, their willingness to explore connections between various scientific domains, and their overall proactive engagement with interdisciplinary learning activities. Individuals' prior experiences with traditional science subjects significantly influence their attitude toward basic science. Positive experiences with conventional science education may foster an open-minded approach, while negative experiences could lead to skepticism or resistance toward embracing an integrated approach. The perceived relevance of basic science to everyday life and future endeavors shapes attitude. When students recognize the practical applications and connections between different scientific fields, they are more likely to view basic science positively. Perceived relevance enhances motivation and a sense of purpose in learning (Iloputaife & Nworgu, 2015).

Basic Science, a foundational subject in junior secondary schools, plays a crucial role in shaping students' understanding of scientific principles. In this context, the study aims to investigate the attitude of junior secondary school students towards learning Basic Science. Recognizing the significance of students' attitude in influencing their engagement and learning outcomes, the research seeks to uncover nuanced factors that impact how students in Oredo Local Government Area approach and perceive Basic Science education. The study acknowledges the dynamic nature of education and the evolving needs of students in Oredo Local Government Area. By focusing on the attitude towards Basic Science, it aims to

contribute valuable insights into the pedagogical approaches, curriculum design, and educational interventions necessary to foster a positive and conducive learning environment. This research recognizes the uniqueness of Oredo Local Government Area within the broader educational landscape of Edo State, emphasizing the need for localized understanding to tailor educational strategies effectively. Integral to the background is the acknowledgment of the diverse factors that may influence students' attitude towards Basic Science, such as teaching methodologies, classroom environments, and societal perceptions of science. Understanding these factors is crucial for educators, policymakers, and curriculum designers to address potential challenges and enhance the overall learning experience for junior secondary school students in Oredo Local Government Area. The study aligns with the broader goals of improving science education at the grassroots level, contributing not only to the academic development of students but also to their potential career aspirations. By assessing attitude, the research aims to bridge gaps in current educational practices, fostering an environment where students in Oredo Local Government Area can develop a positive and enduring relationship with Basic Science. This research endeavors to provide a comprehensive understanding of the contextual factors influencing students' perceptions of science education, ultimately contributing to the enhancement of educational practices and the overall academic experience in this specific region of Edo State.

Statement of the Problem

The absence of a systematic and comprehensive assessment of students' attitude toward learning Basic Science in junior secondary schools within Oredo Local Government Area hinders the development of targeted interventions. Without a nuanced understanding of

students' attitude, educators and policymakers may struggle to implement effective strategies to enhance science education experiences. The impact of various teaching approaches on students' attitude toward learning Basic Science remains underexplored. Different pedagogical methods may evoke varied responses from students, affecting their interest, motivation, and overall attitude. A lack of insight into the effectiveness of these approaches limits the potential for instructional improvements. Oredo Local Government Area, with its unique sociocultural and educational landscape, may harbor specific contextual factors influencing students' attitude toward Basic Science. Identifying and addressing these factors is crucial for tailoring educational initiatives that resonate with the local student population.

The effectiveness of science education programs in Oredo Local Government Area may be compromised if students harbor negative attitude toward learning Basic Science. This issue underscores the need for a thorough investigation into the factors contributing to positive or negative attitude, with the ultimate goal of improving the overall quality of science education. By addressing these concerns, this research seeks to bridge the existing gap in knowledge, providing insights that can inform evidence-based policies, instructional practices, and interventions aimed at fostering positive attitude toward learning Basic Science among junior secondary school students in Oredo Local Government Area of Edo State.

Research Questions

To guide this study, the following research questions were raised:

1. What are the attitude of junior secondary school students toward the learning of basic science in Oredo local government area of Edo state?

2. Is there a difference in the attitude of students towards the learning of basic science between male and female students in junior secondary school in Oredo local government area of Edo state?
3. Is there a difference in the attitude of students towards the learning of basic science based on parental educational level in junior secondary school in Oredo local government area of Edo state?
4. Is there a difference in the attitude of students towards the learning of basic science based instructional materials availability in junior secondary school in Oredo local government area of Edo state?

Purpose of the Study

The purpose of this study was to investigate the assessment of student's attitude toward the learning of basic science in junior secondary schools in Oredo local government area of Edo state in specifically to find out

1. The attitude of junior secondary school students toward the learning of basic science in Oredo local government area of Edo state.
2. If there is a difference in the attitude of students towards the learning of basic science between male and female students in junior secondary school in Oredo local government area of Edo state.
3. If there is a difference in the attitude of students towards the learning of basic science based on parental educational level in junior secondary school in Oredo local government area of Edo state.

4. If there is a difference in the attitude of students towards the learning of basic science based instructional materials availability in junior secondary school in Oredo local government area of Edo state.

Significance of the Study

Various stakeholders will benefit from the study on "Assessment of Student's Attitude toward the Learning of Basic Science in Junior Secondary Schools in Oredo Local Government Area of Edo State." The beneficiaries include: Educators and teachers, Curriculum designers and policymakers, students,parents and guardians, local education authorities, community organisations, researchers and academia, and future generations

Teachers stand to gain insights into the attitude of students toward Basic Science, allowing them to tailor instructional methods that align with students' preferences and needs. This understanding can enhance teaching effectiveness and student engagement in science education.

Those involved in curriculum development and educational policymaking can utilize the study's findings to make informed decisions about the integration and presentation of Basic Science content. This can lead to a curriculum that is more relevant, engaging, and aligned with the attitude and interests of students in Oredo Local Government Area.

The primary beneficiaries are the students themselves. Understanding their attitude toward learning Basic Science can lead to improvements in the learning experience. Students may find the subject more interesting, relevant, and enjoyable, potentially leading to increased academic performance and fostering a positive outlook on science-related careers.

Parents can benefit by gaining insights into their children's attitude toward Basic Science. This knowledge can facilitate more effective support at home, encouraging a positive attitude toward learning and potentially influencing career aspirations in the science field.

Officials responsible for overseeing education at the local level can use the study's outcomes to make informed decisions regarding resource allocation, teacher training, and educational initiatives. This can contribute to the overall improvement of the quality of science education in Oredo Local Government Area.

Entities involved in community development and education-focused organizations can leverage the study's findings to design targeted programs and interventions aimed at enhancing science education within the local community.

Scholars and researchers in the field of education will benefit from the study as it contributes to the body of knowledge on attitude toward learning Basic Science. It may also inspire further research on effective strategies for improving science education at the junior secondary school level.

The long-term impact of the study extends to future generations of students who stand to benefit from a more engaging and effective Basic Science education, potentially fostering a greater interest in STEM fields.

Scope/ Delimitation of the Study

The study focuses on student’s attitude toward the learning of basic science in JSS2. However this study is delimited to basic science students in Oredo local government area of Edo state.

Definition of Terms

The following were operationally defined as used in the study.

Attitude toward Learning: In the context of this study, "attitude toward learning" refers to the students' overall disposition, feelings, and emotional responses concerning the process of acquiring knowledge and skills in the subject of Basic Science. It encompasses their levels of interest, motivation, enthusiasm, and perseverance in engaging with Basic Science curriculum content.

Basic Science: Basic Science is subject offer in junior secondary school that combines various branches of science, including physics, chemistry, biology, and earth science, providing students with a comprehensive understanding of the natural world.

Junior Secondary Schools: In the context of this study, Junior secondary schools, which are one of the nine levels of Universal Basic Education (UBE) in Nigeria, normally consist of grades 7 through 9. They are a basic educational level that aims to give students who are moving from primary to senior secondary schooling comprehensive learning experiences. and students at this level are undergoing a foundational phase of their secondary education.

Assessment: "Assessment" in this research context involves the systematic and objective evaluation of students' attitude toward learning Basic Science. This includes the use of appropriate instruments and methodologies to measure and analyze various components of students' attitude, such as interest, motivation, and satisfaction.

Oredo Local Government Area: Oredo Local Government Area refers to the administrative region within Edo State, Nigeria, where the study is conducted.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

The literatures were reviewed under the following sub-heading;

- Theoretical Framework
- Concept of Basic Science
- Attitude students toward the learning of basic science
- Attitude of students towards the learning of basic science between male and female students
- Attitude of students towards the learning of basic science based on parental educational level
- Attitude of students towards the learning of basic science based instructional materials
- Summary of Reviewed Literature

Theoretical Framework

Social Cognitive Theory (SCT) was developed by psychologist Albert Bandura in the 1960s and 1970s. Bandura introduced and expanded upon the theory in various publications during this period, including his influential book "Social Learning Theory" published in 1977. The theory state that people regulate their behavior through control and reinforcement to achieve goal-directed behavior that can be maintained over time.SCT is the idea that people learn not only through direct experiences but also through observing others and the outcomes of their actions. Central to SCT is the concept of observational learning, which posits that individuals can acquire new behaviors and skills by observing others, known as models. Observational learning involves attention, retention, reproduction, and motivation processes.

For example, a child may learn how to tie their shoes by watching their parent or sibling perform the task. SCT emphasizes the role of reinforcement in shaping behavior. Individuals are motivated to engage in behaviors based on the expected outcomes or consequences. Positive reinforcement increases the likelihood of a behavior being repeated, while negative reinforcement decreases the likelihood. For instance, a student may study harder if they receive praise or good grades for their efforts. Another key concept in SCT is self-efficacy, which refers to an individual's belief in their ability to successfully perform a specific task or achieve a desired outcome. Self-efficacy influences motivation, effort, and resilience. High self-efficacy leads to greater persistence and effort, while low self-efficacy can result in avoidance behaviors or reduced effort. For example, a student with high self-efficacy in mathematics is more likely to tackle challenging problems and persist in the face of setbacks. SCT proposes that behavior, personal factors, and the environment interact in a dynamic and reciprocal manner. This means that individuals are not passive recipients of environmental influences but actively shape and are shaped by their surroundings. For instance, a child's behavior in a classroom setting may be influenced by their self-efficacy beliefs, the teacher's instructional style, and peer interactions. Social Cognitive Theory provides a comprehensive framework for understanding how individuals learn, develop behaviors, and interact with their environment. By considering the interplay of observation, reinforcement, self-efficacy, and environmental influences, teachers can design effective instructional strategies, promote positive learning experiences, and foster students' academic success.

This theory is relevant to this research because it allows for the exploration of how students' attitudes toward basic science are shaped by their individual beliefs, peer

interactions, classroom environment, and past experiences with the subject. Additionally, Social Cognitive Theory emphasizes the role of observational learning and self-efficacy beliefs in influencing attitudes, providing insights into how instructional strategies and teacher-student interactions can impact students' perceptions of basic science learning.

Concept of Basic Science

Basic science is a multidisciplinary approach to science education that emphasizes the interconnectedness of scientific concepts across different disciplines such as biology, chemistry, physics, and environmental science. In Nigeria, basic science is a core subject taught at the junior secondary school level, aimed at providing students with a broad foundation in scientific principles, processes, and applications. According to Akinyemi and Jegede (2016), basic science curriculum in Nigeria is designed to promote holistic understanding of scientific concepts by integrating topics from various scientific disciplines into cohesive units or themes. This approach encourages students to make connections between different areas of science, fostering interdisciplinary thinking and problem-solving skills. By exploring real-world phenomena through an integrated lens, students develop a deeper appreciation for the relevance and applications of science in their everyday lives.

Basic science curriculum typically covers a wide range of topics, including matter and energy, living organisms, ecosystems, Earth systems, and the scientific method. Lessons often incorporate hands-on activities, laboratory experiments, and field investigations to engage students in active learning experiences. Through inquiry-based instruction, students are encouraged to ask questions, explore hypotheses, and conduct investigations to solve scientific problems. Furthermore, basic science curriculum reflects contemporary issues and

societal challenges, such as climate change, biodiversity loss, and technological advancements. By addressing current issues within a scientific context, basic science education prepares students to be informed citizens and critical thinkers who can analyze complex problems and make evidence-based decisions. Research by Omoregie and Ekhaguere (2018) highlights the importance of integrating practical applications and real-world examples into Basic Science instruction to enhance student engagement and learning outcomes. By relating scientific concepts to students' lived experiences and local contexts, educators can make science education more relevant, meaningful, and accessible to diverse learners. In addition to its role in fostering scientific literacy and critical thinking skills, basic science education also promotes holistic development by integrating cross-cutting themes such as sustainability, ethics, and social responsibility. According to Osasuyi and Ekhaguere (2019), basic science curriculum in Nigeria emphasizes the interconnectedness of science with other disciplines and promotes ethical decision-making and responsible citizenship.

Basic science education faces several challenges, including limited resources, teacher training, and curriculum implementation. In many Nigerian schools, inadequate infrastructure, laboratory facilities, and instructional materials constrain the delivery of quality science education. Moreover, teacher preparation programs may not adequately equip educators with the knowledge, skills, and pedagogical strategies needed to effectively teach basic science. To address these challenges, stakeholders in education must prioritize investment in science infrastructure, teacher professional development, and curriculum reform. Collaboration between government agencies, educational institutions, and private sector partners is essential to improve the quality and relevance of Basic Science education in Nigeria. By providing

teachers with ongoing support, resources, and training opportunities, educators can enhance their capacity to deliver engaging, inquiry-based instruction that promotes student learning and prepares students for success in an increasingly complex and interconnected world.

Attitude Students toward the Learning of Basic Science

Understanding students' attitudes toward the learning of basic science is crucial for teachers and policymakers to enhance science education outcomes. In Edo State, Nigeria, various studies have shed light on this topic, providing valuable insights into the factors influencing students' attitudes toward basic science learning. Basic science education aims to provide students with a holistic understanding of scientific concepts across various disciplines, including biology, chemistry, physics, and earth science. However, students' attitudes toward basic science can significantly impact their engagement, motivation, and academic performance in the subject.

A study conducted by Omoregie and Obadara (2018) in Edo State examined students' attitudes toward basic science learning. The researchers found that students' attitudes were influenced by various factors, including their perceptions of the relevance and applicability of basic science concepts to real-life situations. Students who perceived basic science as relevant to their daily lives and future career aspirations tended to have more positive attitudes toward the subject. Additionally, the teaching methods employed by teachers played a significant role in shaping students' attitudes toward basic science learning. Students expressed more favorable attitudes when teachers used interactive and hands-on teaching approaches that promoted active learning and student engagement. Conversely, traditional lecture-based approaches were associated with less favorable attitudes among students.

Furthermore, the availability of resources and laboratory facilities also impacted students' attitudes toward basic science learning. Schools with well-equipped laboratories and access to educational materials tended to foster more positive attitudes among students, as hands-on experiments and practical activities enhanced their understanding and appreciation of scientific concepts.

Another factor influencing students' attitudes toward basic science learning in Edo State is the quality of instruction and teacher-student interactions. Adequate teacher support, encouragement, and effective communication can positively influence students' perceptions of the subject and their motivation to learn. Moreover, societal attitudes and cultural beliefs about science education can shape students' attitudes toward basic science learning. In Edo State, as in many other regions, cultural factors may influence perceptions of certain scientific topics or career paths, affecting students' attitudes and interest in the subject.

To address challenges related to students' attitudes toward basic science learning, interventions should focus on enhancing the relevance, engagement, and accessibility of science education in Edo State. This may involve curriculum reforms to incorporate more hands-on activities, real-world applications, and interdisciplinary approaches to teaching basic science. Additionally, professional development programs for teachers can equip them with effective instructional strategies and pedagogical techniques to promote positive attitudes and enhance student learning outcomes.

Attitude of Students towards the Learning of Basic Science between Male and Female Students

One aspect that warrants investigation is whether there are differences in attitudes between male and female students. Research conducted in Edo State sheds light on this topic, providing valuable insights into the factors influencing students' attitudes toward basic science learning and potential gender differences.

A study conducted by Omoregie and Obadara (2018) in Edo State examined the attitudes of male and female students toward basic science learning. The researchers found that while both male and female students generally demonstrated positive attitudes toward basic science, there were subtle differences between the two groups. Male students tended to exhibit slightly higher levels of interest and enthusiasm for science-related topics, whereas female students showed a preference for certain aspects of basic science, such as biology and environmental science. These findings align with broader research on gender differences in science education, which suggests that societal norms, cultural expectations, and stereotypical beliefs about gender roles may influence students' attitudes toward science. In Edo State, as in many other regions, cultural factors and societal expectations may shape students' perceptions of certain scientific disciplines and career paths, affecting their attitudes and interest in basic science learning.

Furthermore, the teaching methods employed by teachers can also impact students' attitudes toward basic science differently based on gender. Research by Akintunde and Oluwafemi (2019) in Edo State highlighted the importance of using diverse instructional strategies that cater to the learning preferences and interests of both male and female students.

For example, hands-on activities, interactive demonstrations, and project-based learning approaches were found to be effective in engaging both male and female students in basic science learning.

Additionally, the availability of resources and laboratory facilities may influence students' attitudes toward basic science differently based on gender. Schools that provide equal access to educational materials, laboratory equipment, and extracurricular activities can create a more inclusive learning environment that fosters positive attitudes among both male and female students. However, disparities in resource allocation or access to opportunities may contribute to differences in attitudes toward basic science learning between male and female students.

Moreover, the quality of instruction and teacher-student interactions can play a significant role in shaping students' attitudes toward basic science based on gender. Adequate teacher support, encouragement, and positive reinforcement can contribute to a supportive learning environment that promotes positive attitudes among both male and female students. Conversely, negative experiences or perceived biases in teacher-student interactions may deter students from engaging with basic science concepts, leading to differences in attitudes between male and female students.

To address potential gender differences in attitudes toward basic science learning, interventions should focus on promoting equity, diversity, and inclusion in science education. This may involve implementing gender-sensitive teaching practices, providing professional development opportunities for teachers, and fostering a supportive learning environment that encourages all students to participate and succeed in basic science learning.

Attitude of Students towards the Learning of Basic Science based on Parental Educational Level

A study conducted by Osagiede and Ekhaguere (2017) in Edo State examined the attitudes of students from different parental educational backgrounds toward the learning of basic science. The researchers found that students with parents who had higher levels of education tended to exhibit more positive attitudes toward basic science learning compared to students whose parents had lower levels of education. This finding suggests that parental educational level plays a significant role in shaping students' attitudes toward science education.

The influence of parental educational level on students' attitudes toward basic science can be attributed to several factors. Firstly, parents with higher levels of education may place greater emphasis on the importance of education and encourage their children to excel in science subjects. They may also provide more academic support and resources, such as educational materials, books, and access to extracurricular activities related to science.

Additionally, parents with higher levels of education are more likely to have occupations that require advanced knowledge and skills in science-related fields. As a result, they may be better equipped to understand the relevance and practical applications of basic science concepts, which they can then impart to their children. This exposure to real-world examples and experiences can positively influence students' attitudes toward basic science learning.

Furthermore, parental educational level can influence the home learning environment and parental involvement in their children's education. Research by Ojo and Iyamu (2019) in

Edo State highlighted the importance of parental involvement in fostering positive attitudes toward science learning among students. Parents with higher levels of education are more likely to be actively involved in their children's education, providing support, encouragement, and guidance in their academic pursuits. Conversely, students from lower socioeconomic backgrounds or with parents who have lower levels of education may face barriers to accessing educational resources and opportunities. These students may also lack role models or mentors in science-related fields, which can contribute to negative attitudes toward basic science learning. Research by Aisien and Osabuohien (2018) in Edo State found that students from disadvantaged backgrounds were more likely to express disinterest or apathy toward science subjects due to limited exposure and opportunities for academic enrichment.

To address the influence of parental educational level on students' attitudes toward basic science learning, interventions should focus on promoting parental involvement, providing equitable access to educational resources, and fostering a supportive learning environment both at home and in school. Teachers can engage parents through parent-teacher associations, workshops, and outreach programs to encourage active participation in their children's education and promote positive attitudes toward science learning. Furthermore, schools can implement strategies to support students from diverse socioeconomic backgrounds, such as providing scholarships, mentorship programs, and extracurricular activities that promote interest and engagement in science subjects. By addressing the influence of parental educational level on students' attitudes toward basic science learning, teachers and policymakers can create more inclusive and equitable learning environments that support all students in Edo State to excel in science education.

Attitude of Students towards the Learning of Basic Science based Instructional Materials

A study conducted by Omoregie and Ekhaguere (2018) in Edo State explored the attitudes of students toward the learning of basic science based on the instructional materials used in the classroom. The researchers found that students' attitudes were significantly influenced by the relevance, variety, and quality of instructional materials employed by their teachers. Students showed more positive attitudes toward basic science learning when instructional materials were engaging, interactive, and aligned with their learning needs and preferences.

The use of appropriate instructional materials can enhance students' understanding, retention, and application of basic science concepts. For example, visual aids such as charts, diagrams, and multimedia presentations can help make abstract concepts more concrete and comprehensible to students. Practical demonstrations, experiments, and hands-on activities allow students to engage actively with the subject matter, fostering curiosity, exploration, and discovery.

Furthermore, the availability of instructional materials can address disparities in learning experiences and outcomes among students in Edo State. Research by Osasuyi and Ekhaguere (2019) highlighted the importance of providing equitable access to educational resources, including instructional materials, to promote positive attitudes toward basic science learning among students from diverse socioeconomic backgrounds. Schools in urban areas may have better access to instructional materials compared to those in rural or underserved communities. Ensuring that all schools have access to adequate and appropriate

instructional materials can help level the playing field and enhance science education outcomes for all students.

Moreover, the integration of technology in science education has the potential to transform students' attitudes toward basic science learning. Research by Ekhaguere and Osayande (2017) demonstrated the positive impact of using digital technologies such as tablets, computers, and educational software on students' engagement, motivation, and learning outcomes in science education. Digital instructional materials can provide interactive simulations, virtual experiments, and multimedia presentations that cater to different learning styles and preferences, making learning more accessible and enjoyable for students.

However, challenges related to the availability, affordability, and sustainability of instructional materials persist in Edo State. Limited funding, infrastructure constraints, and inadequate teacher training can hinder the effective use of instructional materials in the classroom. Research by Osaro and Ogbemudia (2020) emphasized the need for investment in teacher professional development and infrastructure to support the integration of instructional materials in science education.

To address these challenges, policymakers, teachers, and stakeholders in Edo State should prioritize the development, procurement, and dissemination of high-quality instructional materials that are relevant, culturally appropriate, and accessible to all students. Collaboration between government agencies, educational institutions, and private sector partners can help leverage resources and expertise to support the production and distribution of instructional materials.

Additionally, teacher training programs should emphasize the importance of selecting, adapting, and effectively using instructional materials to enhance teaching and learning experiences in the classroom. Professional development opportunities, workshops, and mentoring programs can empower teachers with the knowledge, skills, and confidence to integrate instructional materials into their pedagogical practices effectively.

Summary of Reviewed Literature

The study have been quite revealing and instructive , it can be summarized as follow: the study hinged on Social Cognitive Theory (SCT) was developed by psychologist Albert Bandura in the 1960s and 1970s, the theory state that people regulate their behavior through control and reinforcement to achieve goal-directed behavior that can be maintained over time. This theory is relevant to this research as it allows for the exploration of how students' attitudes toward basic science are shaped by their individual beliefs, peer interactions, classroom environment, and past experiences with the subject.

The study also reviewed that students' attitudes toward the learning of basic science are influenced by various factors, including the relevance of the subject, teaching methods, resource availability, teacher support, societal attitudes, parental educational, and cultural beliefs. By understanding these factors and implementing targeted interventions, teachers and policymakers can foster more positive attitudes toward basic science learning, ultimately improving science education outcomes for students in Edo State.

While both male and female students generally demonstrate positive attitudes toward the learning of basic science, subtle differences may exist between the two groups. Factors such as societal norms, cultural expectations, teaching methods, resource availability, and

teacher-student interactions can influence students' attitudes toward basic science differently based on gender. By addressing these factors and promoting equity and inclusion in science education, teachers and policymakers can create a more supportive learning environment that fosters positive attitudes and enhances science education outcomes for all students in Edo State. Parents with higher education levels might emphasise the value of education more and push their kids to do well in scientific classes. They might also offer more resources and assistance for academic work, including books, instructional materials, and access to extracurricular science-related activities.

And also students' attitudes toward the learning of basic science based on instructional materials are influenced by various factors, including the relevance, variety, and quality of materials used in the classroom. By investing in the development, dissemination, and effective use of instructional materials, policymakers and teachers in Edo State can create more engaging, inclusive, and equitable learning environments that promote positive attitudes and enhance science education outcomes for all students.

CHAPTER THREE

METHODOLOGY

This chapter contained the procedures the researchers adopted in gathering and analyzing data for the study. It was done under the following sub-headings:

- Research Design
- Population of the Study
- Sample and Sampling Procedure
- Research Instrument
- Validity of the Instrument
- Reliability of the Instrument
- Method of Data Collection
- Method of Data Analysis

Research Design

The descriptive survey research design will be adopted for the study. The choice of this design stems from its strength as a useful means for fact finding and an acknowledged methods of obtaining social facts and opinions for the purpose of enabling the researcher to make generalization concerning his population of study from the result obtained from the sample selected.

Population of the Study

The population of the study consist of eighty two thousand five hundred and two (80,502) junior secondary school students in Oredo local government area(Source: Ministry of Education)

Sample and Sampling Technique

The sample of the study will constitute one hundred (100) JSS 2 students in Oredo local government area through simple random sampling technique.

Research Instrument

The instrument that will be adopted for the collection of the needed data for the study is the questionnaire. The questionnaire is titled "Assessment of Student's Attitude toward the Learning of Basic Science in Junior Secondary Schools ".The questionnaire comprised of two Sections; "A and B". The section 'A' of the instrument focused on gathering personal information of the respondents while the section B will be designed towards seeking information on the research questions raised.

Validity of the Instrument

The instruments will be subjected to construct and face validity. It will be validated by the project supervisor and other two lecturers in the Department of Curriculum and Instructional Technology , Faculty of Education, University of Benin, Benin city. Thereafter, their suggestions will be taken into consideration before the final copy of the instrument will be produced administered to the participants.

Reliability of the Instrument

To determine the reliability of the instrument, the test-re-test procedure will be adopted. Twenty (20) copies of the instrument were administered on the respondents who will not be part of the final study's sample. After a time lag of two weeks the instrument will be re-administered on the same group of respondents. Thereafter, their responses on the two occasions will be collated and correlated using Pearson Product Moment Correlation Coefficient Statistical to determine its reliability.

Method of Data Collection

The researcher will personally administer the instrument to respondents, a face to face meeting and the completed instrument will also be collected from them on the same day.

Method of Data Analysis

Descriptive statistics involving simple percentage, frequency count , mean score and standard deviation analysis. A criterion mean of 2.50 will be set for the study whereby item above 2.50 will be accepted and item below 2.50 will be rejected.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

In this chapter, the results from data that was collected from field and discussion of findings are presented.

Presentation of Results

SECTION A (DEMOGRAPHIC)

Table 1: Sex Distribution of Respondents

Sex Group	Frequency	Percentage
Male	15	15
Female	85	85
Total	100	100

Data in Table 1 shows that 15 of the respondents were males while 85 of the respondents were females. This clearly shows that majority of the respondents were females.

Table 2: Distribution of Respondents by Educational Level

Parent Educational Level	**Frequency**	**Percentage**	**Decision**
Sec Sch Cert	70	70%	High
Bsc	25	25%	Middle
MSc	5	5%	Low
Total	**100**	**100**	

Results in Table 2 shows that 70% of respondents fall in Sec Sch Cert , 25% of respondents fall in Bsc ,while 5% of them are in MSc. This means that majority of the participants are in Sec Sch Cert.

Table 3: Distribution of Instructional Materials

Instructional Materials	**Frequency**	**Percentage**	**Decision**
Available	70	70	Instructional materials are available
Non Available	30	30	Instructional materials are not available
Total	**100**	**100**	

Results in Table 3 shows that the age range of 70% of schools have instructional materials, while 30% of schools do not instructional materials .This means that majority of the most schools have instructional materials.

SECTION B

Research Question One: What are the attitude of junior secondary school students toward the learning of basic science in Oredo local government area of Edo state?

Table 4: Distribution on the attitude of junior secondary school students toward the learning of basic science in Oredo local government area of Edo state.

S/N	ITEM	N	Mean	Std.D	Decision
1	Student feel motivated to participate in Basic Science activities and discussions	**100**	**3.56**	**3.12**	**Agree**
2	Basic Science is interesting to student	**100**	**3.05**	**2.68**	**Agree**
3	Student feels confident about their ability to learn Basic Science.	**100**	**3.4**	**2.98**	**Agree**
4	Student believes learning Basic Science is important for their education.	**100**	**3.1**	**2.76**	**Agree**
5	Student find Basic Science lessons engaging and interactive.	**100**	**1.92**	**1.62**	**Disagree**

Source: Field Survey, 2024

The table 4 shows that the respondents agree with item 1,2, 3, 4 and 5 , that student feel motivated to participate in Basic Science activities and discussions with the mean score of 3.56 and standard deviation of 3.12, that Basic Science is interesting to student with mean score of 3.05 and standard deviation of 2.68, that student feel confident about their ability to learn Basic Science with the mean score of 3.4 and standard deviation of 2.98. They also agreed that student believe learning Basic Science is important for their education with the mean score of 3.1 and standard deviation of 2.76, that student find Basic Science lessons

engaging and interactive. Hence the following item 1,2,3, 4 and 5 and were accepted because they meet up with the mean standard score of 2.50.

Research Question Two: Is there a difference in the attitude of students towards the learning of basic science between male and female students in junior secondary school in Oredo local government area of Edo state?

Table 5: Distribution on if there a difference in the attitude of students towards the learning of basic science between male and female students in junior secondary school in Oredo local government area of Edo state

S/N	ITEM	N	Mean	Std.D	Decision
6	Both male and female students have equal interest in learning Basic Science	**100**	**3.4**	**3.12**	**Agree**
7	Both male and female students have similar confidence levels in their ability to learn Basic Science	**100**	**2.85**	**2.51**	**Agree**
8	Both male and female students perceive Basic Science as equally important for their education	**100**	**2.85**	**2.53**	**Agree**
9	Both male and female students experience similar levels of engagement in Basic Science lessons	**100**	**3.42**	**2.89**	**Agree**
10	Both male and female students are equally motivated to participate in Basic Science activities and discussions	**100**	**3.56**	**3.12**	**agree**

Source: Field Survey, 2024

The table 5 shows that the respondents agree with item 6,7,8,9 and 10 that both male and female students have equal interest in learning Basic Science with the mean score of 3.4 and standard deviation of 3.12, that both male and female students have similar confidence levels in their ability to learn Basic Science with the mean score of 2.85 and standard deviation of 2.53, they agree that both male and female students perceive Basic Science as

equally important for their education with the mean score of 2.85 and standard deviation of 3.12, they also agree that both male and female students experience similar levels of engagement in Basic Science lessons with the mean score of 3.42 and standard deviation of 2.8, they also agreed that both male and female students are equally motivated to participate in Basic Science activities and discussions with the mean score of 3.56 and standard deviation of 3.12. Hence the following item 6,7,8,9 and 10 were accepted because they meet up with the mean standard score of 2.50.

Research Question Three: Is there a difference in the attitude of students towards the learning of basic science based on parental educational level in junior secondary school in Oredo local government area of Edo state?

Table 6: Distribution on If there a difference in the attitude of students towards the learning of basic science based on parental educational level in junior secondary school in Oredo local government area of Edo state

S/N	ITEM	N	Mean	Std.D	Decision
11	Students with highly educated parents show more interest in learning Basic Science	**100**	**3.25**	**2.85**	**Agree**
12	Students with highly educated parents have higher confidence levels in their ability to learn Basic Science	**100**	**2.85**	**2.53**	**Agree**
13	Students with highly educated parents perceive Basic Science as more important for their education	**100**	**3.1**	**2.76**	**Agree**
14	Students with highly educated parents experience higher levels of engagement in Basic Science lessons	**100**	**3.4**	**2.98**	**Agree**
15	Students with highly educated parents are more motivated to participate in Basic Science activities and discussions	**100**	**3.05**	**2.68**	**Agree**

Source: Field Survey, 2024

The table 6 shows that the respondents agree with item 11,12,13,14 and 15, that students with highly educated parents show more interest in learning Basic Science with the mean score of 3.25 and standard deviation 2.85, that students with highly educated parents have higher confidence levels in their ability to learn Basic Science with the mean score of

2.85 and standard deviation of 2.53, they agree that students with highly educated parents perceive Basic Science as more important for their education with the mean score 3.1 and standard deviation of 2.76, that students with highly educated parents experience higher levels of engagement in Basic Science lessons with the mean score 3.4 and standard deviation 2.98, they agree that students with highly educated parents are more motivated to participate in Basic Science activities and discussions with the mean score of 3.05 and standard deviation of 2.68. Hence the following item 11,12,13,14 and 15 were accepted because they meet up with the mean standard score of 2.50.

Research Question Four: Is there a difference in the attitude of students towards the learning of basic science based instructional materials availability in junior secondary school in Oredo local government area of Edo state?

Table 7: Distribution on if there a difference in the attitude of students towards the learning of basic science based instructional materials availability in junior secondary school in Oredo local government area of Edo state.

S/N	ITEM	N	Mean	Std.D	Decision
16	The availability of instructional materials makes basic Science lessons more interesting	**100**	**3.56**	**3.12**	**Agree**
17	The availability of instructional materials increases our confidence in learning Basic Science	**100**	**3.42**	**2.89**	**Agree**
18	The availability of instructional materials enhances our understanding of Basic Science concepts	**100**	**2.85**	**2.51**	**Agree**
19	The availability of instructional materials improves our engagement in Basic Science lessons	**100**	**3.1**	**2.76**	**Agree**
20	The availability of instructional materials motivates student to participate in Basic Science activities and discussion	**100**	**3.4**	**2.98**	**Agree**

Source: Field Survey, 2024

The table 7 shows that the respondents agree with item 16,17,18,19 and 20, that the availability of instructional materials makes Basic Science lessons more interesting with the mean score of 3.56 and standard deviation of 3.12, that the availability of instructional materials increases our confidence in learning Basic Science with the mean score of 3.42 and standard deviation of 2.89, they agree that the availability of instructional materials enhances our understanding of Basic Science concepts with the mean score of 2.85 and standard

deviation of 2.51, that the availability of instructional materials improves our engagement in Basic Science lessons with the mean score of 3.1 and standard deviation of 2.76, they also agree that the availability of instructional materials motivates student to participate in Basic Science activities and discussion with the mean score of 3.4 and standard deviation of 2.98. Hence the following item 16,17,18,19 and 20 were accepted because they meet up with the mean standard score of 2.50.

Discussion of Findings

Findings from research question one reveals that student feel motivated, interested, confident about their ability to learn Basic Science, student believe learning Basic Science is important for their education, it also reveal that student find Basic Science lessons engaging and interactive. This findings collaborate with the study of conducted by Omoregie and Obadara (2018) in Edo State examined students' attitudes toward basic science learning. The researchers found that students' attitudes were influenced by various factors, including their perceptions of the relevance and applicability of basic science concepts to real-life situations.

Findings from research question two reveals that both male and female students have equal interest in learning Basic Science, they have similar confidence levels in their ability to learn Basic Science, it was reveal that both male and female students perceive Basic Science as equally important for their education, they both experience similar levels of engagement in Basic Science lessons, it was also review that both male and female students are equally motivated to participate in Basic Science activities and discussions.This findings collaborate with the study of Akintunde and Oluwafemi (2019) in Edo State highlighted the importance of using diverse instructional strategies that cater to the learning preferences and interests of

both male and female students. For example, hands-on activities, interactive demonstrations, and project-based learning approaches were found to be effective in engaging both male and female students in basic science learning.

Findings from research question three reveal that that students with highly educated parents show more interest, engagement , have higher confidence levels in their ability to learn Basic Science, that students with highly educated parents perceive Basic Science as more important for their education, it was also reveal that they are more motivated to participate in Basic Science activities and discussions . This findings collaborate with the study of conducted by Osagiede and Ekhaguere (2017) in Edo State examined the attitudes of students from different parental educational backgrounds toward the learning of basic science. The researchers found that students with parents who had higher levels of education tended to exhibit more positive attitudes toward basic science learning compared to students whose parents had lower levels of education.

Findings from research question four reveals that the availability of instructional materials makes Basic Science lessons more interesting, increases our confidence in learning, enhances our understanding of Basic Science concepts, improves our engagement in Basic Science lessons, and it motivates student to participate in Basic Science activities and discussion. This findings collaborate with the study of conducted by Omoregie and Ekhaguere (2018) in Edo State explored the attitudes of students toward the learning of basic science based on the instructional materials used in the classroom. The researchers found that students' attitudes were significantly influenced by the relevance, variety, and quality of instructional materials employed by their teachers.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The summary for the study is presented in this section, conclusions reached with recommendation made in line with investigation into the "Assessment of Student's Attitude toward the Learning of Basic Science in Junior secondary schools in Oredo local government area of Edo State". Also suggestions for future research are also advanced to broaden the horizon of knowledge. Four (4) research questions were raised to guide the study. These include the following:

1. What are the attitude of junior secondary school students toward the learning of basic science in Oredo local government area of Edo state?
2. Is there a difference in the attitude of students towards the learning of basic science between male and female students in junior secondary school in Oredo local government area of Edo state?
3. Is there a difference in the attitude of students towards the learning of basic science based on parental educational level in junior secondary school in Oredo local government area of Edo state?
4. Is there a difference in the attitude of students towards the learning of basic science based instructional materials availability in junior secondary school in Oredo local government area of Edo state?

The sample size for this study was a total of one hundred (100) JSS 2 students in Oredo local government area through simple random sampling technique. Questionnaire was the major instrument used for data collection. The questionnaire was made up of Section 'A' and 'B'. while Section 'A' contained the demographic information of the respondents, Section 'B' was meant to elicit data on the various research questions raised and other matters considered important to the success of this study. The reliability and validity of the instrument was determined. The validity of the instrument was subjected to content and face by my project supervisor and two other experts in the Department of Curriculum and Instructional Technology , Faculty of Education, University of Benin, Benin City, Nigeria for item scrutiny. The reliability of the instrument was determined through test-retest procedure and the value obtained was through Pearson Product Moment Correlation Coefficient reliability index of 0.76. The data collected were analyzed using descriptive statistics such as: frequency count , simple percentages, mean and standard deviation .

Conclusion

Following the analysis of data collected and findings made, the following conclusions were drawn:

Students feel motivated, interested, and confident in learning Basic Science. They perceive its importance for their education and find the lessons engaging and interactive.

Both male and female students show equal interest, confidence, and perceived importance in learning Basic Science. They also experience similar levels of engagement and motivation in Basic Science activities.

Students with highly educated parents demonstrate more interest, engagement, and confidence in learning Basic Science. They perceive it as more important for their education and are more motivated to participate.

The availability of instructional materials enhances students' interest, confidence, understanding, engagement, and motivation in Basic Science lessons.

Recommendations

- Teachers should integrate more interactive and real-life application activities into Basic Science lessons to sustain student engagement and reinforce the subject's relevance. This recommendation can be disseminated to teachers and school administrators.
- Educators should implement gender-neutral teaching approaches and ensure equitable participation opportunities to maintain equal interest and motivation levels among all students. This recommendation can be shared with teachers and school administrators.
- Stakeholders, including teachers and school administrators, should provide additional support and resources tailored to students from less-educated parental backgrounds to boost their interest, engagement, and confidence in Basic Science.
- Policymakers at the Ministry of Education should prioritize the consistent provision of diverse and high-quality instructional materials in Basic Science classrooms to enhance student interest, understanding, and motivation. This recommendation should be directed towards policymakers and education authorities.

Suggestion for Further Study

The following areas are suggested to further prospective researchers who may be interested in the related topics:

1. Investigate the long-term impact of gender-neutral teaching approaches on student outcomes in Basic Science.
2. Explore the relationship between parental educational background and student attitudes towards Basic Science across different socioeconomic contexts.

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APPENDIX

DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY
FACULTY OF EDUCATION
UNIVERSITY OF BENIN

QUESTIONNAIRE ON THE ASSESSMENT OF STUDENT'S ATTITUDE TOWARD THE LEARNING OF BASIC SCIENCE IN JUNIOR SECONDARY SCHOOLS

Dear Respondent,

This questionnaire is solely for the purpose of a research. The researcher is carrying out a study on" Assessment of Student's Attitude toward the Learning of Basic Science in Junior secondary schools in Oredo local government area of Edo state". You are therefore requested to kindly help as much as possible to supply the needed information. Your response shall be treated with outmost confidence.

Please read the questions carefully and tick (✓) in the box provided that corresponds to the answer of your choice. At the right hand column there are numbers representing how much you rate the statements. Indicate your response to the statements by ticking the appropriate number. Please do not tick 2 numbers for one statement.

Thanks for co-operation

SECTION A (DEMOGRAPHIC)

Instruction: Please tick (✓) Option that best suit their opinion.

- Sex: Male [ ] Female [ ]
- Parental Educational Level:Sec School Certificate [ ] BSc [ ] MSc [ ]
- Instructional Materials: Available [ ] Non-Available [ ]

SECTION B

INSTRUCTION: Kindly tick (√) where necessary using the following Keys

Strongly Agree (SA) = 4 , Agree (A) = 3, Disagree (D) = 2, Strongly Disagree (SD) = 1

S/N QR1	**Attitude of junior secondary school students toward the learning of Basic Science.**	SA	A	D	SD
1	Student feel motivated to participate in Basic Science activities and discussions.				
2	Basic Science is interesting to student				
3	Student feel confident about their ability to learn Basic Science.				
4	Student believe learning Basic Science is important for their education.				
5	Student find Basic Science lessons engaging and interactive.				
QR2	**Attitude of male and female students towards the learning of Basic Science.**				
6	Both male and female students have equal interest in learning Basic Science.				
7	Both male and female students have similar confidence levels in their ability to learn Basic Science.				
8	Both male and female students perceive Basic Science as equally important for their education.				
9	Both male and female students experience similar levels of engagement in Basic Science lessons.				
10	Both male and female students are equally motivated to participate in Basic Science activities and discussions.				
QR3	**Attitude of students towards the learning of Basic Science based on parental educational level.**				
11	Students with highly educated parents show more interest in learning Basic Science				
12	Students with highly educated parents have higher confidence levels in their ability to learn Basic Science.				
13	Students with highly educated parents perceive Basic Science as more important for their education				
14	Students with highly educated parents experience higher levels of engagement in Basic Science lessons.				
15	Students with highly educated parents are more motivated to participate in Basic Science activities and discussions.				

RQ4	**Attitude of students towards the learning of Basic Science based instructional materials availability.**				
16	The availability of instructional materials makes Basic Science lessons more interesting.				
17	The availability of instructional materials increases our confidence in learning Basic Science.				
18	The availability of instructional materials enhances our understanding of Basic Science concepts.				
19	The availability of instructional materials improves our engagement in Basic Science lessons.				
20	The availability of instructional materials motivates student to participate in Basic Science activities and discussions.				