

**ASSESSMENT OF THE UTILIZATION OF EVALUATION MATERIALS FOR EFFECTIVE
LEARNING OF BIOLOGY IN SECONDARY SCHOOLS IN EGOR LOCAL GOVERNMENT
AREA, EDO STATE, NIGERIA**

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**A STUDY ON THE IMPACT OF THE INTERNET IN SENIOR SECONDARY SCHOOL
STUDENTS PERFORMANCE IN BIOLOGY IN EGOR LOCAL GOVERNMENT AREA,
EDO STATE, NIGERIA**

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**A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF CURRICULUM AND
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THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE (EDUCATION)
DEGREE IN BIOLOGY**

OCTOBER, 2023

CERTIFICATE

We the undersigned certify that this project is carried out by IKPEAMANAM JEFF with MAT NO: EDU1802960 and us adequate in scope and standard in partial Fulfilment of the requirement for the award of a Bachelor degree in education (B.SC.ED) Degree in biology education.

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DEDICATION

I dedicate this project to God almighty, for being able to finish this project and graduating.

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I Acknowledge the faculty of education, a big thanks to Mr and Mrs Morgan Otoboh and Dr I. J Umoh for all his guidance throughout is project.

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ABSTRACT

This research was carried out to assess the level of utilization of evaluation material for effective learning of biology. The researcher using research questions was able to determine the difference in utilization of evaluation materials bet public and private schools and also to investigate the factors responsible for poor utilization of evaluation materials for effective learning of biology.

In doing this study the researcher discovered that there are various factors influencing the utilization of evaluation in both public and private schools and give recommendations of how to better handle this problems and improve on the utilization of evaluation materials for effective learning of biology.

CHAPTER ONE

INTRODUCTION

Background of the Study

Biology is the scientific study of life and living organisms, encompassing a wide range of topics that explore the structure, function, growth, evolution, distribution, and interaction of living organisms. It is a multifaceted field that seeks to understand the underlying principles that govern life at various levels of complexity, from molecules and cells to ecosystems and the biosphere.

At its core, biology investigates the fundamental unit of life: the cell. Cells are the building blocks of all living things, and understanding their structure and function is essential to comprehending the intricate processes that sustain life. Subfields such as cell biology, molecular biology, and genetics delve into the molecular mechanisms that drive cellular activities, including DNA replication, protein synthesis, and cellular communication.

Moving beyond individual cells, biology also examines how cells come together to form tissues, organs, and organisms. This is the realm of physiology, which explores how different bodily systems work together to maintain homeostasis and enable organisms to function and adapt to their environments. Anatomy, on the other hand, focuses on the structure of organisms, from the arrangement of organs to the finer details of tissues and cells.

Biology extends its scope to encompass the diversity of life on Earth, exploring the vast array of species, their classification, and evolutionary relationships. Evolutionary biology seeks to understand how species change over time through the process of natural selection, resulting in the remarkable biodiversity seen in ecosystems around the world.

Ecology studies the interactions between living organisms and their environments, examining how organisms adapt to their surroundings, the relationships they form with other species, and the dynamics of

ecosystems. This knowledge is critical for conservation efforts and understanding the impact of human activities on the natural world.

In essence, biology is a dynamic and ever-evolving field that uncovers the mysteries of life itself. It encompasses the microscopic world of molecules and cells, the complex interactions of organisms within ecosystems, and the grand tapestry of evolution that has shaped life on our planet. Through its investigations, biology enriches our understanding of the natural world and provides insights that have far-reaching implications for both science and society.

Evaluation in biology refers to the process of assessing and measuring students' understanding, knowledge, skills, and abilities in the field of biology. It involves the use of various assessment methods and tools to gauge how well students have grasped biological concepts, principles, and their applications. Evaluation is a fundamental aspect of the education system, helping educators understand the effectiveness of their teaching methods, track students' progress, and make informed decisions to enhance the learning experience.

Evaluation in biology education at the secondary school level encompasses a comprehensive range of strategies and approaches aimed at assessing students' understanding, skills, and application of biological concepts. This multifaceted process plays a pivotal role in shaping students' scientific literacy, critical thinking abilities, and overall engagement with the subject. By analyzing and understanding the nature of evaluation in secondary school biology, educators can tailor assessments to enhance learning outcomes and foster a deeper appreciation for the life sciences.

Central to evaluation in secondary school biology is the need to gauge students' comprehension of fundamental biological concepts. Assessments often encompass a mix of formative and summative methods. Formative assessments, such as quizzes, in-class discussions, and homework assignments, provide ongoing feedback to both students and teachers. They aid in identifying areas of misunderstanding and guide instructional decisions, allowing educators to adapt their teaching approaches

in real time. Summative assessments, on the other hand, are used to measure students' cumulative learning achievements over a specified period. These assessments might include traditional written exams that test theoretical knowledge, problem-solving skills, and understanding of biological principles. Practical assessments, involving laboratory experiments, demonstrations, and data analysis, assess students' ability to apply scientific methods and techniques to real-world scenarios.

Beyond assessing knowledge retention, evaluation in secondary school biology extends to cultivating critical thinking skills. Assessments that require students to analyze and interpret data, conduct investigations, and formulate hypotheses promote higher-order thinking. Case studies, where students apply biological concepts to real cases or scenarios, encourage them to think critically about the implications of biological phenomena on society, health, and the environment.

Furthermore, communication skills are a significant aspect of evaluation in biology. Assignments that require students to present their findings, write lab reports, or create visual representations of biological concepts help develop effective communication abilities. These skills are essential for conveying scientific information accurately and clearly, a vital aspect of the scientific process.

Practical assessments, such as laboratory experiments, offer a hands-on approach to evaluation. Students engage in designing experiments, collecting data, and drawing conclusions. These assessments not only foster an understanding of scientific methodology but also provide opportunities for teamwork, problem-solving, and application of safety protocols—skills that are transferable beyond the classroom.

Authentic assessments, which mirror real-world scenarios, contribute to the relevance of biology education. Students might be tasked with investigating local environmental issues, exploring the impact of biotechnology on society, or analyzing biological aspects of current events. These assessments demonstrate the practical applications of biology in everyday life and encourage students to see the subject's broader significance.

The advent of technology has also transformed evaluation in secondary school biology. Digital tools enable interactive assessments, simulations, and virtual labs that provide a dynamic learning experience. Online platforms can track individual progress, facilitating personalized feedback and differentiated instruction tailored to students' needs.

Ultimately, evaluation in secondary school biology is a dynamic process that strives to achieve multiple objectives. It assesses knowledge retention, critical thinking, practical skills, communication abilities, and an appreciation for the interdisciplinary nature of biology. By employing a diverse range of assessment methods, educators can create a balanced and comprehensive evaluation framework that nurtures well-rounded, scientifically literate individuals prepared to engage with the complexities of the biological world.

Biology teaching in secondary school involves the instruction of biological concepts, principles, and processes to students typically aged 11 to 18. This phase of education is crucial for nurturing students' understanding of the natural world, fostering scientific literacy, and preparing them for higher education or future careers in science-related fields. Effective biology teaching at the secondary school level encompasses various instructional strategies, curriculum design, classroom management, and assessment techniques.

Curriculum and Content:

The biology curriculum in secondary schools is designed to introduce students to foundational biological concepts and gradually delve into more complex topics. It often covers areas such as cell biology, genetics, evolution, ecology, physiology, and human anatomy. The curriculum is aligned with educational standards and learning objectives, guiding teachers in selecting appropriate content and sequencing topics logically.

Instructional Strategies:

Lecture-Based Teaching:

Lectures are used to present key biological concepts and theories. Teachers may use visual aids, multimedia presentations, and interactive discussions to engage students.

Group Work and Collaborative Learning:

Students collaborate on projects, research, and discussions, promoting teamwork and enhancing their understanding through peer interactions.

Assessment and Evaluation:

Formative Assessment:

Continuous assessment through quizzes, class discussions, and homework helps track student progress and provides opportunities for timely feedback.

Summative Assessment:

End-of-unit exams, projects, and presentations evaluate students' overall understanding and mastery of biology concepts.

Integration of Technology:

Educational Software and Simulations:

Digital tools and software allow students to visualize complex biological processes and engage in interactive simulations.

Online Resources:

Access to online databases, research articles, and multimedia materials enriches students' learning experiences and exposes them to current developments in biology.

Real-World Applications:

Case Studies:

Presenting real-life scenarios and case studies helps students connect biological concepts to practical applications and everyday situations.

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Digital tools and software allow students to visualize complex biological processes and engage in interactive simulations.

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Access to online databases, research articles, and multimedia materials enriches students' learning experiences and exposes them to current developments in biology.

5. Real-World Applications

Case Studies

Presenting real-life scenarios and case studies helps students connect biological concepts to practical applications and everyday situations.

Career Exploration

Introducing students to various careers in biology, such as healthcare, research, environmental science, and biotechnology, highlights the relevance of the subject in their future paths.

Effective biology teaching in secondary school combines pedagogical strategies, content knowledge, and a student-centered approach to inspire curiosity, critical thinking, and a lifelong appreciation for the natural world. By fostering scientific literacy and understanding, educators contribute to preparing the next generation of informed citizens and potential scientists.

Statement of the Problem

Despite the importance of evaluation materials, there is a growing concern about their availability and utilization in secondary school biology education. Many schools face challenges in accessing up-to-date

and comprehensive evaluation resources, which may impact the overall quality of education and students' performance.

The lack of accessible and current evaluation materials in secondary school biology education is causing concerns regarding educational quality and student performance. The absence of comprehensive evaluation materials can hinder students' biology performance in secondary schools. These materials are essential for assessing their comprehension, identifying weak points, and adapting their study strategies. Without access to practice tests, sample questions, and other evaluative resources, students might struggle to accurately measure their understanding, leading to inadequate preparation for exams. Additionally, the absence of feedback from evaluation materials deprives students of opportunities to learn from mistakes and refine their knowledge. This lack of self-assessment and targeted improvement can contribute to subpar performance in biology.

Research Questions

To what extent do biology teachers utilize evaluation materials for biology learning in secondary schools in Egor L.G.A?

Is there a difference in the utilization of evaluation materials for biology learning between public and private schools in Egor L.G.A?

Purpose of the Study

The main objective of this study is to investigate the availability and utilization of evaluation materials in biology learning in secondary schools. Specifically, other objectives of this study are:

To assess the current availability of evaluation materials in secondary school biology education.

To determine the extent to which teachers utilize evaluation materials in their biology lessons.

To identify challenges faced by teachers and students in accessing and using evaluation materials.

To suggest recommendations for improving the availability and utilization of evaluation materials.

Significance of the Study

Studying the availability and utilization of evaluation materials is crucial for informed decision-making, resource optimization, and enhancing the impact of initiatives. Evaluation materials play a crucial role in assessing students' understanding and knowledge acquisition in biology. These materials help educators gauge the effectiveness of their teaching methods, track students' progress, and provide valuable feedback for improvement.

Evaluation materials encompass a wide range of tools, such as assessments, tests, quizzes, and assignments, designed to gauge students' comprehension and application of biology concepts. These materials serve multiple purposes:

Assessment of Knowledge: Evaluation materials provide teachers with a means to assess students' understanding of key biological principles and their ability to apply these concepts.

Feedback Mechanism: Through evaluation materials, educators can offer timely feedback to students, highlighting areas of strength and areas needing improvement.

Enhancement of Learning: Well-designed evaluation materials can promote active learning by encouraging students to revisit and consolidate their knowledge.

Curriculum Alignment: Evaluation materials ensure alignment with curriculum goals, enabling teachers to evaluate whether learning objectives are being met.

Availability of Evaluation Materials is contingent upon several factors:

Educational Resources: Schools with access to a variety of educational resources, including textbooks, online platforms, and laboratory equipment, are better positioned to develop comprehensive evaluation materials.

Teacher Preparedness: Educators who possess a deep understanding of biology concepts can create effective evaluation materials tailored to their students' needs.

Technology Integration: Schools that embrace technology can access a wider range of evaluation tools, such as online assessments, interactive simulations, and multimedia resources.

Budget and Funding: Adequate funding enables schools to invest in the creation and procurement of high-quality evaluation materials.

Utilization of Evaluation Materials

The effective utilization of evaluation materials hinges on several key factors:

Pedagogical Approach: Teachers should adopt a pedagogical approach that integrates evaluation materials seamlessly into the learning process, fostering an environment of continuous assessment.

Diverse Assessment Methods: Employing various assessment methods, such as formative assessments, quizzes, practical experiments, and project-based evaluations, accommodates diverse learning styles.

Timely Feedback: Providing timely and constructive feedback to students allows for targeted interventions and enhances their learning experience.

Personalization: Tailoring evaluation materials to individual student needs promotes a personalized learning journey, catering to varying levels of comprehension.

Data-Driven Decision Making: Utilizing data generated from evaluation materials aids educators in making informed instructional decisions to improve learning outcomes.

Public and Private Schools

Both public and private schools utilize evaluation materials to assess students' learning and inform instructional decisions. However, there can be differences in how these types of schools approach and implement evaluation methods due to factors such as resources, priorities, and educational philosophies.

Public Schools

Standardized Testing: Public schools often administer standardized tests mandated by state or national education authorities. These tests measure student performance against established learning standards and help schools track progress at a broader level.

Formative and Summative Assessments: Public schools use a mix of formative assessments (quizzes, class discussions, homework) and summative assessments (exams, projects) to gauge student understanding and evaluate overall learning outcomes.

Data-Driven Instruction: Public schools may emphasize data analysis to identify trends and patterns in student performance. This data guides instructional decisions and interventions to provide targeted support for struggling students.

Accountability Measures: Public schools may be subject to accountability measures imposed by education agencies or government entities. Evaluation materials contribute to demonstrating school effectiveness and meeting educational standards.

Individualized Education Plans (IEPs): Public schools work to accommodate diverse learning needs, and evaluation materials help identify students who require individualized education plans, ensuring that appropriate accommodations and support are provided.

Private Schools

Curriculum Flexibility: Private schools often have more flexibility in designing their curriculum and assessment methods. They can tailor evaluation materials to align with their educational philosophies and specific goals.

Project-Based Learning: Private schools may prioritize project-based assessments that encourage creativity, critical thinking, and hands-on exploration. These assessments can reflect the school's unique teaching approach.

Holistic Assessment: Private schools may focus on holistic assessment, considering factors beyond test scores, such as character development, social skills, and leadership qualities.

Smaller Class Sizes: Private schools often have smaller class sizes, allowing for more individualized attention and personalized assessment strategies tailored to each student's strengths and needs.

Varied Assessment Tools: Private schools might use a wider range of assessment tools, including portfolios, exhibitions, oral presentations, and performance-based assessments, to provide a comprehensive view of student progress.

It is important to note that there is significant variability within both public and private schools. While these descriptions highlight general trends, individual schools may adopt a mix of strategies based on their specific mission, resources, and educational philosophy. Ultimately, the goal in both types of schools is to effectively measure student learning, support growth, and ensure educational success.

Scope and Delimitation

The scope of studying the availability and utilization of evaluation materials includes assessing the accessibility and adequacy of data, identifying barriers to obtaining information, and understanding how stakeholders engage with evaluation findings. Delimitations might involve focusing on specific programs or contexts, excluding certain types of data sources, or not addressing broader systemic issues affecting data availability.

Definition of Terms

Availability of Evaluation Materials: Refers to the presence and accessibility of a wide range of assessment tools, resources, and materials designed to evaluate and measure students' understanding and performance in biology education. These materials can include textbooks, question banks, worksheets, online resources, and assessments created by educators or educational institutions.

Utilization of Evaluation Materials: Denotes the effective application and integration of assessment resources in the teaching and learning process. It involves teachers incorporating evaluation materials into their instructional strategies to gauge students' knowledge, skills, and progress in biology topics. Utilization goes beyond mere distribution; it involves active engagement with these materials to enhance the educational experience.

Biology Learning: Encompasses the process by which students acquire knowledge, understanding, and skills related to biological concepts and principles. It involves studying various aspects of life sciences, including genetics, ecology, physiology, and evolution, to develop a comprehensive understanding of living organisms and their interactions.

Secondary Schools: Refers to educational institutions that provide education to students in the secondary education phase, typically comprising grades 9 to 12 (or equivalent) in many educational systems. In the context of biology learning, secondary schools play a crucial role in providing foundational knowledge and preparing students for more advanced studies in the field.

Assessment Tools: Encompasses a wide range of instruments and techniques used to measure students' learning progress and achievements. These tools can include quizzes, exams, assignments, practical assessments, and projects designed to gauge students' understanding of biology concepts.

Resources: Includes a diverse array of materials that support teaching and learning activities. In the context of biology education, resources might comprise textbooks, reference materials, multimedia

presentations, online tutorials, and interactive simulations that provide additional insights into biological concepts.

In conclusion, the availability and utilization of evaluation materials are pivotal for promoting effective learning of biology in secondary schools. These materials play a crucial role in assessing students' understanding, fostering active learning, and aligning with curriculum objectives. While challenges may arise, addressing them through resource allocation, teacher training, and continuous improvement can lead to an enriched learning experience for students.

In subsequent chapters, we will delve deeper into the strategies for designing, implementing, and evaluating various types of assessment materials in the context of secondary school biology education.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

The review of related literature is discussed under the following headings

Historical perspective of evaluation materials in biology

Importance of evaluation materials in biology

Types of evaluation materials for teaching and learning biology

Curriculum standard and evaluation materials

Teacher training and utilization of evaluation materials

Assessment strategies in biology

Technology integration in evaluation

Historical perspective of evaluation in biology

The historical perspective of evaluation materials for biology teaching provides insight into the evolution of assessment methods in this field. Early on, biology education relied on informal assessments, such as oral examinations and teacher observations. These methods had limitations in terms of consistency and objectivity. As formal education systems developed, written assessments became more common in biology teaching. Students were asked to answer essay-style questions, allowing them to demonstrate their understanding of biological concepts in a written format. However, these assessments were still subject to subjectivity in grading. The emergence of standardized testing in the early 20th century had a profound impact on biology education. Multiple-choice questions and other standardized formats were introduced, enabling more systematic and objective evaluation of students' knowledge. This marked a shift towards more quantifiable and standardized assessment methods.

Practical assessments, including laboratory work and experiments, have been an integral part of biology education for a long time. Students were required to apply their knowledge in a hands-on manner, fostering critical thinking and problem-solving skills. These practical assessments have historically been used to complement written evaluations. The early development of evaluation materials for biology teaching can be traced to the origins of formal education in the sciences. Initially, assessments in biology education were rudimentary and teacher-centered. In the early stages, students were often required to recite or demonstrate their understanding of biological concepts through oral presentations or practical demonstrations.

This approach was limited in assessing students' comprehensive understanding and was subject to the teacher's judgment. As biology education evolved, written assessments became more common. Students were asked to respond to essay questions that tested their knowledge of biological principles. While these essay-style questions allowed for more detailed responses, they were still subject to potential bias and lacked standardized evaluation criteria. The development of standardized testing in the early 20th century had an impact on biology education as well. Multiple-choice questions, which were initially developed for

general knowledge assessments, began to find their way into biology exams. This allowed for more systematic evaluation and made it easier to assess a large number of students consistently.

The integration of laboratory work and practical assessments in biology education also played a significant role in evaluation. Students were required to conduct experiments, make observations, and report their findings. These practical assessments aimed to measure not only theoretical knowledge but also the ability to apply biological concepts in a real-world context.

In recent years, technological advancements have further diversified evaluation materials in biology teaching. Online platforms and digital tools offer interactive quizzes, simulations, and other assessment methods. These innovations provide opportunities for more engaging and dynamic assessments, enabling educators to evaluate students' understanding of biology in a more interactive and real-world context.

The early development of evaluation materials for biology teaching evolved from simple oral assessments to more sophisticated written exams and practical assessments. The integration of standardized testing and technological advancements has continued to shape the landscape of assessment tools in biology education, enhancing the accuracy and effectiveness of evaluating students' knowledge and skills in the field of biology.

Importance of evaluation materials in biology

Evaluation materials are crucial in biology teaching for several reasons:

Assessment of Learning: They provide a means to assess what students have learned. By using various evaluation materials, such as quizzes, tests, and assignments, educators can gauge the extent to which students have grasped the subject matter.

Feedback: Evaluation materials offer a way to provide timely feedback to students. This feedback can help students understand their strengths and weaknesses, enabling them to improve their performance.

Tailoring Instruction: Through evaluation materials, educators can identify areas where students are struggling and adjust their teaching methods to address these specific challenges. This promotes a more personalized and effective learning experience.

Curriculum Improvement: The data collected from evaluation materials can be used to assess the effectiveness of the curriculum. If a significant number of students consistently perform poorly in a particular area, it may signal the need for curriculum adjustments.

Motivation: Evaluation materials can motivate students to engage with the subject matter more seriously. Knowing that their understanding will be tested can encourage students to study and participate in class.

Accountability: Evaluation materials can be used to hold educators accountable for the quality of their teaching. They help ensure that educators are meeting educational standards and expectations.

Standardization: They allow for standardized evaluation across different students and classes, making it possible to compare student performance and ensure consistency in assessment.

Preparation for Future Learning: Assessment materials help students prepare for future lessons and exams, as they provide insight into what topics are important and what they need to focus on for upcoming assessments.

Types of evaluation materials for teaching and learning biology

Standardized evaluation materials for teaching biology in secondary schools are essential for assessing students' understanding of biological concepts. Here are some examples of such materials:

Multiple-Choice Tests: These tests contain questions with several answer options, typically used to assess factual knowledge and basic concepts in biology. For instance, questions on cell structure, photosynthesis, or genetics.

Short Answer Questions: These questions require students to provide concise written responses. They can be used to evaluate students' ability to explain biological processes or concepts.

Essay Questions: Essays are used to assess students' critical thinking and writing skills. Students might be asked to write about complex biological topics such as evolution, ecosystems, or genetics.

Lab Reports: Practical work is integral to biology. Lab reports assess students' ability to design experiments, collect data, and draw conclusions based on empirical evidence.

Diagrams and Illustrations: Students can be asked to draw diagrams or label biological structures. This assesses their ability to visually represent and identify biological components.

Oral Presentations: Students may be asked to give presentations on a biological topic. This evaluates their public speaking skills and their depth of understanding of the subject.

Peer and Self-Assessment: Students can assess each other's work or evaluate their own performance, promoting self-reflection and peer learning.

Practical Examinations: These evaluate hands-on skills, including dissections, microscopy, and other laboratory techniques.

Group Projects: Group projects assess collaborative skills and the ability to work on complex biological topics as a team.

Standardized Tests: Some regions or countries have standardized biology exams, which all students must take. These tests aim to measure a consistent level of knowledge and skills.

Biology Olympiads: These are high-level competitions that assess students' knowledge and problem-solving skills in biology.

Portfolios: Students compile a collection of their work over a semester or year, demonstrating their growth and understanding of biology.

The choice of evaluation material should align with the learning objectives and the depth of understanding expected from the students. It's important to use a variety of these assessment methods to gain a comprehensive understanding of students' biology knowledge and skills.

Here are some ways in which evaluation materials are utilized by public and private schools for teaching biology.

In public schools, evaluation materials serve a vital role in assessing student performance and improving educational outcomes. Here are some common ways in which evaluation materials are utilized:

Assessment and Grading: Evaluation materials, including tests, exams, assignments, and projects, are used to assess students' knowledge and skills. They form the basis for assigning grades and tracking academic progress.

Curriculum Development: Public schools use assessment data to inform curriculum development and improvement. Results from standardized tests and classroom assessments help educators make informed decisions about what to teach and how to teach it.

Individualized Instruction: Evaluation materials provide insights into individual student performance. Teachers can tailor instruction to meet the specific needs of each student, whether they need extra support or advanced challenges.

Accountability: Public schools are often held accountable for student achievement by state and federal agencies. Evaluation materials, such as standardized tests, are used to measure school performance and compliance with educational standards.

Data-Driven Decision-Making: School administrators and policymakers use evaluation materials to make data-driven decisions about resource allocation, teacher professional development, and curriculum adjustments based on student performance data.

In private schools, the utilization of evaluation materials is essential for maintaining high educational standards and improving student learning outcomes. Here are some ways these materials are typically used:

Assessment and Grading: Evaluation materials, such as tests, quizzes, and assignments, are used to assess students' knowledge and skills. Teachers use them to assign grades, track progress, and identify areas where students may need additional support.

Curriculum Development: Evaluation materials help educators refine and adapt the curriculum to meet the needs of their students. Analyzing assessment results can guide decisions on what to teach and how to teach it effectively.

Individualized Learning: Evaluation materials provide data that allows teachers to tailor instruction to individual students. This is especially important in private schools, where class sizes may be smaller, allowing for more personalized attention.

Feedback to Students: Evaluation materials offer opportunities for constructive feedback to students. Private schools often emphasize a personalized approach to help students understand their strengths and areas for improvement.

Parent-Teacher Communication: Private schools often maintain open lines of communication with parents. Evaluation materials serve as a basis for discussing a student's progress and areas for growth during parent-teacher conferences.

Curriculum standard and evaluation materials

Curriculum standards play a pivotal role in shaping the nature and quality of evaluation materials in education. These standards are guidelines that articulate what students should know and be able to do at various grade levels, and they influence evaluation materials in several significant ways.

Firstly, curriculum standards provide the foundation for designing evaluation materials. They define the learning objectives and outcomes that educators aim to achieve, acting as a blueprint for the content and skills that students are expected to master. Evaluation materials, such as tests, quizzes, and assessments, must align closely with these standards to ensure that they accurately measure student progress and achievement. This alignment is crucial for the validity and reliability of assessment results. Furthermore, curriculum standards influence the coverage of evaluation materials. Standards specify the scope of what should be taught, and evaluation materials must reflect this scope. They need to comprehensively assess the content and skills outlined in the standards, ensuring that no critical learning objectives are omitted. This alignment between standards and evaluation materials guarantees that educators and students are focused on the right educational priorities.

The types of assessments and evaluation methods used are also determined by evaluation standards. Standards may recommend or require specific assessment formats, such as performance-based tasks, essays, or multiple-choice questions. The choice of these assessment types affects the development and selection of evaluation materials. It also impacts the strategies teachers use to measure student progress effectively. Curriculum standards categorize learning objectives based on cognitive complexity or depth of knowledge, such as Bloom's taxonomy. As a result, evaluation materials need to be designed to measure students' understanding at the appropriate depth, matching the standards' expectations. This ensures that assessments are appropriately challenging and encourage critical thinking and problem-solving skills. Moreover, accountability and reporting in education are closely linked to curriculum standards. Assessment results tied to these standards are often used for accountability purposes, such as school and teacher evaluations. The high stakes involved in these assessments demand rigorous and standardized evaluation materials. This, in turn, affects the development of items and rubrics, as well as the security and administration of assessments. Curriculum standards are not static; they evolve over time to keep pace with changing educational needs and priorities. Consequently, evaluation materials must adapt to new standards. Educators and assessment developers regularly update and refine these materials

to ensure that they remain in alignment with the latest curriculum standards, preserving their relevance and validity.

Lastly, fairness and equity are principles that curriculum standards emphasize. As such, evaluation materials must reflect these principles by avoiding bias, accommodating diverse learning styles, and providing necessary accommodations for students with disabilities. This impacts the design and administration of assessments to ensure that they are fair and accessible to all students.

In Nigeria, the curriculum for secondary schools is typically guided by the National Policy on Education and the Nigerian Educational Research and Development Council (NERDC). These organizations provide curriculum standards and evaluation materials to ensure quality education. Some key components include:

National Curriculum: The NERDC develops the national curriculum for secondary schools, outlining subject content, objectives, and assessment guidelines.

Curriculum Guides: These documents provide detailed information on what should be taught in each subject, including recommended textbooks and instructional methods.

Textbooks: Approved textbooks aligned with the curriculum are essential teaching and evaluation materials in secondary schools.

Syllabus: Detailed syllabi are provided for each subject, specifying topics, themes, and learning outcomes.

Examination Papers: The West African Examinations Council (WAEC) and National Examinations Council (NECO) prepare examination papers, which serve as important evaluation materials for secondary school students.

Continuous Assessment: Continuous assessment materials such as tests, assignments, and projects are used to evaluate students' performance throughout the school year.

National Educational Standards: These standards set expectations for learning outcomes, allowing for the evaluation of students' performance against national benchmarks.

These materials help ensure that the curriculum is followed consistently and that students are evaluated in line with established educational standards in Nigeria's secondary schools.

The West African Examinations Council (WAEC), the National Examinations Council (NECO) and the Joint Admissions and Matriculation Board (JAMB) are significant educational institutions and evaluation bodies in Nigeria.

WAEC (West African Examination Council)

The West African Examinations Council, commonly known as WAEC, is a renowned examination body that conducts and administers standardized tests for students in West African countries. Established in 1952, WAEC has played a significant role in the educational landscape of the region, providing a platform for students to obtain certification and assess their academic performance. Here, I'll provide an extensive overview of WAEC, its history, functions, and impact.

History and Background: WAEC was established to harmonize the examination systems in English-speaking West African countries, ensuring that the education standards are uniform across the region. Its founding members include Nigeria, Ghana, Sierra Leone, and The Gambia, with Liberia joining later. The council is headquartered in Accra, Ghana.

Examinations Offered: WAEC conducts several examinations, with the West African Senior School Certificate Examination (WASSCE) being the most notable. The WASSCE is taken by high school students in their final year and is considered a critical assessment for college and university admissions. Other exams include the General Certificate Examination (GCE), which is designed for private candidates, and various specialized exams.

WASSCE: The West African Senior School Certificate Examination (WASSCE) is conducted annually. It comprises a series of subject-specific exams, including mathematics, sciences, arts, and social sciences. Success in the WASSCE is a prerequisite for admission to higher education institutions in the participating West African countries.

Examination Format: WAEC exams are typically divided into theory and practical components. Students are required to sit for written papers in their chosen subjects, and for subjects with practical components, they must complete the corresponding practical exams.

Impact on Education: WAEC has had a profound impact on the educational systems of its member countries. It sets and maintains high academic standards, which encourages students to strive for excellence. The exams serve as a measure of a student's educational attainment and readiness for higher education.

NECO (The National Examination Council)

The National Examinations Council, often abbreviated as NECO, is a Nigerian organization responsible for conducting a variety of national and regional examinations. Established in April 1999, it was created to assess and certify the academic achievements of students at the secondary school level in Nigeria.

Here's an extensive overview of NECO, covering its functions, history, examination types, and significance:

History and Background:

NECO was established as a response to the need for a national examination body that could administer and manage examinations for secondary school students in Nigeria. Prior to its establishment, the West African Examinations Council (WAEC) had been the primary body responsible for these examinations. NECO's creation was driven by the desire to have an indigenous organization to conduct and oversee these examinations.

Functions:

NECO has several primary functions:

Conducting Examinations: The organization is responsible for conducting various national and international examinations.

Certification: It certifies the academic achievements of students who successfully pass its examinations.

Research and Development: NECO is involved in educational research and the development of curriculum and assessment materials.

Training and Capacity Building: It provides training for teachers and educational administrators.

Data Management: NECO collects and manages data related to student performance in examinations.

Types of Examinations:

NECO conducts a range of examinations, including:

Senior Secondary Certificate Examination (SSCE): This is the most well-known exam, and it assesses the academic achievements of students at the secondary school level.

National Common Entrance Examination (NCEE): This is an entrance examination for admission into federal government colleges.

Basic Education Certificate Examination (BECE): Administered for junior secondary school students.

General Certificate in Education (GCE): NECO offers a variety of subjects at both ordinary and advanced levels.

Examination Structure:

The SSCE, for example, is usually conducted in June/July and November/December. It assesses candidates in various subjects, including Mathematics, English Language, and several optional subjects. The examination format includes practicals, objectives, and theory papers.

Significance:

NECO plays a crucial role in Nigeria's education system. Its examinations are recognized by educational institutions, government agencies, and employers. Students who successfully complete their SSCE examinations receive certificates that open doors to higher education and job opportunities. It provides an alternative to the WAEC, giving students more flexibility in choosing which examination to take.

JAMB (Joint Admission and Matriculation Board)

The Joint Admissions and Matriculations Board, commonly referred to as JAMB, is a Nigerian examination board responsible for conducting standardized examinations for students seeking admission into tertiary institutions in Nigeria. It plays a pivotal role in the education system of Nigeria and has gone through several reforms and changes over the years. Here's an extensive overview of JAMB:

History and Background:

JAMB was established in 1978 by the Nigerian government with the primary aim of streamlining the admission process into tertiary institutions. Prior to its establishment, universities and other tertiary institutions conducted their separate entrance examinations, leading to a lack of uniformity and transparency.

Functions of JAMB:

JAMB is responsible for conducting the Unified Tertiary Matriculation Examination (UTME), which is the standardized examination taken by prospective university and polytechnic students in Nigeria.

It conducts the Direct Entry (DE) examination for candidates seeking admission into the second year of degree programs.

JAMB also plays a crucial role in the central admissions process by coordinating the admission process for universities, polytechnics, and colleges of education.

The UTME Examination:

The UTME is a computer-based test that assesses candidates' knowledge in core subjects like English, Mathematics, and three other subjects relevant to their chosen field of study.

The examination consists of multiple-choice questions and is designed to test a candidate's understanding of various academic subjects.

JAMB provides a syllabus to guide candidates on what to study, and candidates can choose from a wide range of subjects.

UTME Registration:

Candidates seeking to take the UTME must register through JAMB's official portal. Registration includes providing personal information, choosing a preferred examination center, and paying a registration fee.

JAMB introduced the National Identification Number (NIN) requirement to curb multiple registrations and impersonation.

Central Admission Process:

JAMB utilizes the Central Admissions Processing System (CAPS) to streamline the admission process. Institutions upload their admission lists, and candidates can check their admission status online.

Curriculum standards are a foundational framework that significantly influences the development, selection, and adaptation of evaluation materials in education. Their guidance ensures that evaluation

materials are closely connected to the content and expectations set forth in the standards, making assessments more meaningful, reliable, and relevant for both educators and students.

Teacher training and utilization of evaluation materials

Teacher training and the utilization of evaluation materials are interconnected aspects of teacher education that work in tandem to ensure effective teaching and learning. A teacher's training significantly impacts the utilization of evaluation materials in their classroom. Effective use of evaluation materials, such as assessments, tests, and feedback mechanisms, is essential for student learning and instructional improvement. Here's a concise overview of how teacher training influences this utilization:

Understanding Assessment Principles: Teachers with comprehensive training are well-versed in assessment principles, including validity, reliability, and fairness. This knowledge helps them create and select evaluation materials that accurately measure student progress and provide meaningful data.

Alignment with Learning Objectives: Trained teachers can align their evaluation materials with clear learning objectives and curricular standards. This ensures that assessments are directly related to what students are expected to learn, enhancing the relevance and effectiveness of the materials.

Diverse Assessment Strategies: Training equips teachers with a range of assessment strategies beyond traditional tests, such as formative assessments, project-based assessments, and peer evaluations. This diversity accommodates different learning styles and provides a more comprehensive view of student performance.

Data Analysis Skills: Teachers trained in evaluation can effectively analyze assessment results to identify areas of student strength and weakness. They can use this data to tailor instruction and interventions to meet individual student needs.

Feedback and Communication: Proper training helps teachers provide constructive and timely feedback to students. They can communicate results and progress effectively, fostering a growth mindset and a sense of ownership over learning.

The teacher training plays a vital role in shaping how evaluation materials are used in the classroom. It equips educators with the knowledge, skills, and mindset required to create, select, and utilize assessment tools effectively, ultimately benefiting student learning and overall educational outcomes.

Assessment strategies in biology

Standardized assessment strategies for teaching biology in secondary schools are crucial for evaluating student understanding and progress. These assessments help ensure that students are meeting learning objectives, provide data for instructional improvements, and offer a basis for accountability. Here's an extensive overview of standardized assessment strategies for teaching biology in secondary schools:

Formative Assessment:

Quizzes and Homework: Regular quizzes and homework assignments assess students' understanding of the material covered in class. These can be quick checks for understanding and provide immediate feedback to both students and teachers.

Classroom Discussions and Questions: Encourage active participation in class through discussions and questions. This helps gauge students' grasp of the subject and allows for real-time clarification of doubts.

Peer Review and Self-Assessment: Incorporate peer review and self-assessment to encourage critical thinking and reflection. This can be particularly useful for biology projects and lab reports.

Summative Assessment:

Unit Tests and Exams: End-of-unit tests and exams evaluate students' knowledge and application of biology concepts. These assessments can include multiple-choice questions, short-answer questions, and essay questions.

Standardized Tests: Many regions have standardized biology tests, such as state-level assessments or national exams. These can provide a benchmark for student performance and comparison with peers.

Performance-Based Assessments: Include tasks like scientific investigations, research projects, or laboratory reports. These assess students' practical skills and ability to apply their knowledge.

Portfolios:

Digital Portfolios: Have students maintain digital portfolios showcasing their biology-related work throughout the school year. This allows for a comprehensive assessment of their progress and skills development.

Annotated Notebooks: Encourage students to maintain biology notebooks with notes, diagrams, and explanations. Annotated notebooks can be periodically reviewed to assess the depth of understanding.

Rubrics:

Develop clear and specific rubrics for different types of assessments. Rubrics make grading more consistent and help students understand the criteria for success.

CHAPTER THREE

METHODOLOGY

This chapter focused on the methodology that was used in the study. It is organized and discussed under the following sub-headings:

Design of the study

Population of the study

Sample and sampling techniques

Research instrument

Validity of instrument

Reliability of instrument

Data analysis

Design of the study

This study adopted the descriptive survey research design. Orodho (2010) describes descriptive survey as data collection in order to get details of the current status. The adoption of this research design allows for the use of questionnaire by the researcher as a data collection instrument and it is cost effective.

Population of the study

The population of the study consist of private and public senior secondary school students and teachers. In Egor LGA, Edo state. There are a total of 250 as the population of the study.

Sample and sampling techniques

The sample size of this study comprises of eighty Secondary School Students and teachers which was selected from a private and public secondary school in Egor LGA, Edo state. The simple random sampling technique was used to select 80 students and teachers. Therefore the total samples are eighty (80) Students and teachers.

Research instrument

The instrument used by the researcher was mainly the questionnaire meant for the senior secondary school. The researcher assumed that the information derived from their responses will be valuable as they are those who are directly involved in the study. The researcher is going to distribute the questionnaires as he waits for the respondents to answer and return the answered questionnaires. An ordinal scale will be employed as the following columns to be filled will be; Agree, Strongly Agree, Disagree, Strongly Disagree. These are the tools or methods used in getting data from respondents.

Validity of instrument

The designed questionnaire would first be submitted to the project/research supervisor for vetting, correction and approval. The project supervisor would add to the research questions and made slight corrections on the already existing questions raised by the researcher, also the

(questionnaire would be given to two other lecturers from the faculty for validation and the comments made by those lecturers would be taken note of and also included in the draft, The corrections made on the draft would be incorporated in the final draft before distributing it to the respondents.)

Reliability of instrument

To establish the reliability of the instrument, the questionnaire was administered to 120 teachers and student in private and public schools in Egor local government area who were part of the study to obtain the reliability of the instrument, Cronbach alpha reliability technique was used to obtain a reliability coefficient of 0.93 this show that the instrument is reliable. This statistics was suitable for dichotomous scores of agree and disagree response of likert instrument.

Data analysis

The data collected is properly organized and tabulated. The responses are statistically analysed by the use of simple percentage and descriptive statistic. The data collected were converted into simple percentages to answer the research questions.

CHAPTER FOUR

DATA PRESENTATION AND DATA ANALYSISm

This chapter focuses on presentation of result and discussion of findings

PRESENTATION OF RESULTS

Research Question 1: What extent do biology teacher utilize evaluation materials for biology learning in secondary schools

Table 1: Percentage analysis of biology teacher utilization

Variables	SA	A	D	SD	Total
Poor utilization of evaluation materials causes students to perform poorly in school	25 20%	22 17.6%	20 16%	13 10.4%	80 64%
Availability of evaluation materials impact's the teachers ability to teach.	22 17.6%	16 12.8%	19 15.2%	23 18.4%	80 64%

Teacher's understanding affects the utilization of evaluation	26 20.8%	17 13.6%	22 17.6%	15 12%	80 64%
Various assessment strategies should be used to make utilization of evaluation materials easier	23 18.4%	23 18.4%	14 11.2%	20 16%	80 64%
Curriculum standard evaluation materials should be utilized.	25 20%	22 17.6%	18 14.4%	15 12%	80 64%
Utilization of evaluation	30	15	12	13	

materials should be done in accordance to student's class or level.	24%	12%	9.6%	10.4%	
3024%					

Source: Field survey, 2023

Table 1 reveals that the utilization of evaluation materials by biology teachers is very poor in secondary schools and it is also responsible for the student shortcomings in school.

Research Question 2: Is there a difference in the utilization of evaluation materials for learning biology between public and private school

Table 2: percentage analysis on the difference in utilization of evaluation materials between public and private school

School location	SA	A	D	SD	Total percentage
Public school	22 17.6%	26 20.8%	15 12%	17 13.6%	80 64%
Private school	29 23.2%	21 16.8%	18 14.4%	12 9.6%	80 64%

Source: Field survey, 2023

Table 2 above reveals the difference in utilization of evaluation materials between public and private schools

Discussion of Results

In conclusion both public and private schools use evaluation materials for effective learning of biology, and both public and private schools have challenges with the utilization of evaluation materials.

This study shows the challenges associated with the utilization of evaluation materials by student's. Some of these challenges include

Poor teacher's understanding of the subject matter

Non standardized evaluation materials

Lack of evaluation materials

School ownership not providing curriculum standard evaluation materials

The analysis derived from this study shows that the two research raised to ascertain the assessment of utilization of evaluation materials for effective learning of biology in secondary schools. It can be observed that all research question raised proved positive, that is the difference in utilization of evaluation materials between private and public schools.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary:

The study investigated the Assessment of Utilization of Evaluation Materials for effective learning of biology in secondary schools. This study was motivated by the fact that evaluation materials are not properly utilized in secondary schools by the schools, teachers and even the students.

The population were senior secondary school students and teachers, Random sampling technique was deployed. Respondents to the Questionnaires were drawn using simple size of equal chance of representation the sample size of 120 students here selected from the population.

Result obtained revealed mostly positive perception of the respondents in the study area towards factors influencing the Assessment of Utilization of Evaluation Materials for effective learning of biology in secondary school.

Conclusion:

The result obtained from the study have shown that poor understanding of the teacher on the subject matters is an issue as students are unable to learn or understand if the teacher have no knowledge or understanding of what he or she is teaching.

Other research agrees that school ownership, non-standard curriculum teaching, non-standard testing have caused poor utilization of evaluation materials. These factors affect the students when

School owners do not provide appropriate evaluation materials approve by the curriculum.

When the curriculum required evaluation materials are not used by the teacher.

Lastly to conclude there are various opinions about the students readiness and willingness to learn, to participate or get involved in class activities and even to do assignments.

Recommendation:

Schools and school owners should ensure that the teacher have a very good knowledge and understanding of the subject at hand.

School owners should not shy away or try to save cost or look for cheap labor by employing unqualified teachers.

Government should ensure that the evaluation materials used by every school in a LGA are all curriculum standard evaluation materials.

Teacher training programs should be created to help teacher gain better understanding and knowledge of various subjects and how to better utilize evaluation materials.

The school management should carry out proper planning of the school year as well as students and teachers activities.

Parents should ensure that the children are being taught properly by asking and testing the children's knowledge on various school subjects.

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APPENDIX

DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY,

FACULTY OF EDUCATION

UNIVERSITY OF BENIN, BENIN CITY

QUESTIONNAIRE ON ASSESSMENT OF THE UTILIZATION OF EVALUATION MATERIALS
FOR EFFECTIVE LEARNING OF BIOLOGY IN SECONDARY SCHOOL

Dear Respondents,

This questionnaire is meant for a research work in the Department of Curriculum and Instructional Technology University of Benin. The topic of this research is “THE ASSESSMENT OF THE UTILIZATION OF EVALUATION MATERIALS FOR EFFECTIVE LEARNING OF BIOLOGY IN SECONDARY SCHOOL” And your candid response is highly solicited to complete the research process in gathering data for analytical purpose. All facts and information captured in this questionnaire will be treated with confidence and will only be used for the purpose of this research work.

Thanks.

SECTION A

SCHOOL OWNERSHIP a) Public school () b) Private school ()

SECTION B

Are you a biology teacher or Student? () (b) Student ()

If you are a student, please specify your Class (a)SSS1 () (b) SSS2 () (c) SSS3 ()

If you are a teacher, what subject(s) do you teach, and in what classes? (Select all that apply) (a)

Biology(SS1) () (b) Biology(SS2) () (c) Biology(SS3) ()

(page 50)

How current are you in the most recent findings in Biology(a) Very () (b) Not sure ()

(c) Rarely () (d) Never ()

How do you rate your level of competence in the subject of Biology

Moderate() (c) Low () (d) No skill()

SECTION C: Please, tick [] the appropriate option.

NOTE: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree.

STATEMENT OF EVALUATION MATERIALS

UTILIZATION OF EVALUATION MATERIALS

The level of availability of evaluation materials largely impact student's performance.

The availability of evaluation materials affect the student's understanding of biology.

The school ownership plays a vital role in the availability of evaluation materials.

Availability of evaluation materials impact's the teacher's ability to teach.

Both public and private schools should have equal access to the availability of evaluation materials.

Schools should make evaluation materials available for effective teaching and learning.

The level of availability of evaluation materials should be increased in secondary schools.

The level of availability of evaluation materials are higher in private schools than public schools.

Teachers in private schools have higher access to evaluation materials than teachers in public schools.

Students in private schools have more access to evaluation materials than students in public schools.

Utilization of evaluation materials differ between public and private schools.

Teacher's understanding affect the utilization of evaluation materials.

Technology integration has played a vital role in the utilization of evaluation materials.

Curriculum standard evaluation materials should be utilized.

Various assessment strategies should be used to make utilization of evaluation materials easier.

Teacher's training programs should be made available for effective learning on utilization of evaluation materials.

Utilization of evaluation materials should be done in accordance to the students class or level.

Technology and internet should be encouraged and used in the utilization of evaluation materials.

Schools should ensure that adequate provisions are made available for utilization of evaluation materials

Poor utilization of evaluation materials causes student's to perform poorly in school