



## Diagnostic and Formative Assessment Strategies on Improving Economics Achievement Among Secondary School Students in Lagos State.

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**Abstract.** Economics is a social science that is concerned with the production, distribution, and consumption of goods and services. It is included in senior secondary school curricula to equip students with essential social scientific skills necessary for driving the nation's technological and economic development. However, a significant number of students continue to underperform in the subject. Researchers have identified various factors contributing to this poor performance, including cognitive, affective, and institutional challenges. These include outdated and poorly written textbooks, inadequate or superficial content in economics textbooks, teachers' qualifications, and ineffective teaching methods, among others. These challenges necessitated this study to investigate the impact of diagnostic and formative assessment strategies on improving students' achievement in Economics. A descriptive survey research design was adopted, and a multi-stage sampling technique was employed to select 200 Senior Secondary Two (SS2) students from four senior secondary schools in Kosofe Local Government Area, Lagos State. Fifty students were chosen from each school. Data collection tools included the Formative and Diagnostic Feedback Evaluation Questionnaire (FADFEQ) and the Economics Achievement Test (EAT). The study developed two hypotheses tested at a 0.05 level of significance. The findings revealed a significant relationship between formative evaluation feedback and students' academic achievement in Economics. However, diagnostic evaluation feedback showed no significant relationship with students' academic achievement in Economics. Based on the findings, it was recommended among others that school teachers should acquire updated skills and best practices in using diagnostic evaluation to enhance students' academic performance, not only in Economics but across all subjects; Head teachers or academic unit heads should ensure rigorous scrutiny of the psychometric properties of diagnostic and formative evaluations submitted by teachers; also the Nigerian

government, Ministry of Education, and other stakeholders should provide financial support and incentives for teachers to attend high-quality seminars and workshops on constructing effective diagnostic and formative tests.

**Keywords:** Achievement, Diagnostic and Formative Evaluation, Feedback Mechanisms, Remedial Strategies.

### 1. Introduction

Education is a purposeful and deliberate process. It is carefully planned within a school setting, with defined objectives, goals, and aims aimed at equipping individuals with the skills and knowledge necessary to contribute meaningfully to societal development. At the core of every educational program is the goal of ensuring that learners acquire the valuable knowledge required to advance the socio-economic, technological, and cultural progress of society. For this reason, curriculum activities, learning objectives, instructional methods, and strategies are designed to meet the needs and interests of learners, who, in turn, fulfill the needs of society.

A key question arises: how can it be determined that these objectives and experiences have been successfully achieved? What mechanisms can be used to evaluate their attainment? These questions underscore the importance of assessment procedures and approaches. For teachers to effectively support students in improving academically, they must first identify the specific challenges faced by the learners. Educational assessments have undergone significant changes, driven by expert scrutiny of what assessment entails. Ukwuije and Opara (2023) define assessment as a systematic process for determining the extent to which students meet instructional objectives. This highlights that assessment should be a well-structured and deliberate activity aimed at enhancing instructional effectiveness. Assessment involves

deciding, collecting and making judgments about evidence based on individual student progress and achievement of learning goals (OECD, 2023). According to Brown (1990), cited in Yambi, (2018), assessment relates to different kind of tests used in determining a complex characteristic of a person, or a group. It often involves gathering of data from students, and the interpretation of the data in order to understand the academic standing of learners, as well as evaluating teaching and learning objectives.

Brown (1990) in Ghaicha, (2016), asserted that the functions of assessment in the classroom are to:

- Show if teaching and learning is successful,
- Clarify the teachers' expectations from learners.
- Measure the improvement in performance over time.
- Motivate students to learn.
- Evaluate teaching styles and approaches, and
- Rank students in terms of their abilities.

In a nutshell, the three broad purposes of assessment in schools are to inform and support learning, to report achievement for certification, progress or transfer and to satisfy the demands of public accountability.

An excerpt from the teacher training manual of the National Teachers Institute (NTI, 2022) revealed that educational assessment could be conveniently grouped in four categories: Formative, Summative, Placement and Diagnostic. But for this review, focus shall be on diagnostic and formative assessment. Diagnostic assessment involves the gathering and careful evaluation of detailed data to diagnose strengths and areas of need in all students in a given learning area. Diagnostic assessment also refers to a variety of assessment tasks that are used to determine students' level of knowledge, skills, and understandings at the beginning of a course, grade level, unit and/or lesson. They test the students on what they already know. These tests allow the instructor to adjust the curriculum to meet the needs of the students. The data assist teachers to plan for appropriate pedagogy and targeted learning to more effectively scaffolding the learning needs of their students.

Diagnostic assessment is used for learning when taking action to adjust teaching, and it plays a significant role in improving learning outcomes for all students. It assesses what the learner already knows, the nature of difficulties that he/she has, which if undiagnosed might limit their engagement in new learning. In the words of Betts, Hahn and Zau (2021), it is a process that involves making judgments as to how a student is performing against a predetermined

set of criteria. This kind of assessment must be linked to further work, which will tackle problems identified. This implies that formative and diagnostic assessment overlap.

Barr, Blachowicz, Katz, and kaufman (2023), outlined the principles of diagnosis as follows:

- Diagnosis is a decision- making process. Teachers are constantly making decisions about individual or group of students in achieving learning objectives.
- Diagnosis process considers the whole learner. This implies that teachers should examine multiple forms of data including past experiences, attitudes, learning styles, interest, strengths and weakness, reasons for referral, conducting interviews with parents etc.
- Diagnostic is thorough and balance.
- Diagnostic is a team effort: it is impossible to learn about the child from various perspectives like physically, psychologically, emotionally, socially and academically.
- Determine the specific nature of learning difficulties: diagnosis of learning difficulties depend on the nature of the difficulty.
- Determine the factors causing learning difficulties.

Diagnosis and remediation go hand in hand. The effectiveness of any teaching and learning process depends on teacher understanding the learners' level of mastery of the subject area and is achieved through diagnostic assessment.

Generally, diagnosis is the process of determining the causes of educational difficulties is known as educational diagnosis. The scope of educational diagnosis is much larger than the use of tests and examinations. It is not proper to limit the scope of diagnosis to locating the causes that interfere with the ordinary academic prognosis of the pupils (Kumar, 2016). An adequate diagnosis may involve the use of intelligence tests, both general and specific, and of diagnostic achievement types of laboratory apparatus for measuring sensory activity, co-ordination and the like. Other forms of appraisal such as rating scales, controlled observation, questionnaires and interviews can also be used for diagnosis in education

Diagnosis is an understanding of a present situation in terms of its causes, what has brought it about or in terms of what it will cause. Kumar, (2016) cited Ross (1956) who suggested there are five levels of diagnosis, which are:

- Who are the pupils having problem?
- Where are the errors located?

- Why did the errors occur?
- What remedies are suggested?
- How can the errors be prevented?

The first four according to the researcher are called “corrective diagnosis” and the fifth one is known as “preventive diagnosis.” In education, it has been suggested by researchers that there are two major aspects of diagnosis in teaching (Monroe 1965 in Kumar, 2016). They are:

- Determination of the extent to which desirable educational objectives are achieved.
- Identification of factors that may be interfering with the optimum growth of the individual.

However, formative assessment refers to the formal and informal assessments that are used throughout a unit or course of study to monitor student progress so that teachers can adjust their instructional practices to meet the needs of their students. Formative assessment is defined by McManus (2018) as a process in which teachers and students provide feedback during instruction to organize the learning and teaching process in order to increase student achievement. As cited by Ozan, and Kincal, (2018), Miller and Lavin (2017) viewed formative assessment as a valid and vital part of the blending of teaching and assessment. Formative assessments inform teachers about whether the students have learned and they have an indicator qualification for how the teachers should plan their next lessons which are: (i) Explaining learning objectives and success criteria (ii) increasing the quality of inquiry/dialogue (iii) increasing the quality of marking/feedback/record keeping; and (iv) using self and peer assessment (Wuest & Fisette, 2022). There are four main components of formative assessment (William, 2021; Centre for Educational Research and Innovation [CERI], 2018).

Formative assessment has the concept of feedback at the centre of it. (Hattie & Timperley, 2017 in Ozan & Kincal, 2018). The impact of formative assessment arises from the strength of the feedback provided to students about their learning and to teachers about their teaching (Andrade, Lui, Palma, & Hefferen, 2015). Shute (2018) opined that formative feedback is the information transmitted to students that allows or encourages them to organize their thoughts or behaviours in order to improve their learning. The feedback provided through formative assessment has significant benefits when motivating students, helping students improve their learning, reinforcing their work, and providing them with a learning profile (Luckett & Sutherland 2000 in Ozan & Kincal, 2018).

Besides, teachers are not the only source of feedback. Self and peer assessments can be taught carefully, guiding learners in how to provide constructive and learning-oriented feedback on their own. Self-assessment is a process in which students criticize their own work according to clearly stated expectations, usually provided in the form of goals or criteria, and then revise their work. Self-assessment is an excellent formative assessment strategy that provides students with immediate feedback on their performance according to established standards and criteria, and gives them information about how to make adjustments to improve what they learn and how they learn (Crooks, 2017). Harrison and Harlen (2016) also pointed out that self-assessment is one of the critical elements of formative assessment because it helps students participate directly in learning objective activities.

Assessment plays a crucial role in evaluating performance and determining whether established standards have been met, thereby promoting effectiveness and informed decision-making. However, traditional assessment methods have notable limitations, often being overly teacher-centered. Asuai and Adeleke (2013) observed that traditional assessment methods position students as passive recipients of information, with teachers acting as both instructors and evaluators. Similarly, Shams and Tavakoli (2014) emphasized that in traditional assessments, only the teacher determines what is learned and how it is assessed. This approach leaves learners unaware of the grading criteria outlined in exam rubrics, which hinders their ability to respond effectively. This lack of adherence to rubrics and test-answering skills has been identified as a major factor contributing to poor performance in various examinations, particularly in Economics, as reported by West African Examination Council (WAEC) chief examiners (2020).

In classroom settings, assessment involves gathering relevant information through tests, interviews, and observations to identify and address issues related to teaching strategies and learners' achievement of instructional objectives. Okeke (2004) in Casmir (2024) highlighted the importance of formative and diagnostic tests in fostering scientific thinking and evaluation. Diagnostic assessment, a type of formative assessment, is particularly useful in identifying students' understanding, strengths, weaknesses, and cognitive abilities in specific content areas. It is typically conducted before the commencement of teaching and learning activities to guide instructional planning.

Economic education focuses on the teaching and learning of Economics to prepare students to become responsible citizens, effective decision-makers, and agents of change. Its scope extends beyond basic principles like supply and demand, aiming to equip learners with tools to analyze economic issues and apply economic reasoning in their daily lives. Despite its significance, it was discovered that economics education is often overlooked in schools. The subject's importance lies in its ability to develop critical thinking skills and prepare learners to address economic challenges.

Economics education aims to help students understand fundamental economic concepts, develop reasoning skills, apply these concepts in daily life, and recognize the role they play in nation-building. It also aims to equip students with tools to analyze economic issues and consider diverse perspectives. (NCERT, 2015). Basically, Economics, studies how people, businesses, governments, and nations make choices about how to allocate resources. Economics focuses on the actions of human beings, based on assumptions that humans act with rational behaviour, seeking the most optimal level of benefit or utility. Economics, just is like other science subjects, is methodological, and its analysis is usually systematic, and the validity of its various theories can be tested and verified (Salahudeen & Abraham 2018).

According to Ononye, and Obiakor (2020) the study of economics is typically divided into two main parts: Macroeconomics and Microeconomics. Macroeconomics focuses on the behaviour of an entire economy the "big picture." Macroeconomic is concerned about such national issues as employment, control of inflation, and economic growth, etc. The essential concern of macroeconomic is to understand and improve the performance of the economy as a whole. A primary concern of macroeconomics, for example is to determine how much money in total, consumers will spend on goods and services, and the level of total business investment. Microeconomics however, concerned with the details of this big picture. In microeconomics we focus on the individuals, firms, and government agencies that actually compose the larger economy. However, in microeconomics, the focus is much narrower, attention is paid to purchase of specific goods and services rather than just aggregated totals.

Ononye and Obiakor, (2020) corrected that the macro-micro distinction does not mean that economics is so highly compartmentalized that every topic can be readily labelled as either macro or micro; many topics

and subdivisions of economics are rooted in both. For example, the problem of unemployment is usually treated as a macroeconomic topic (because unemployment relates to aggregate spending). Economists recognise that the decisions made by individual workers in searching for jobs and the way specific product and labour markets operate are also critical in determining the unemployment rate. Both macroeconomics and microeconomics involves facts, theories, and policies, each contains elements of positive economics and normative economics.

Economics is one of the six elective subjects in the three – year senior secondary school curriculum. The general objectives of studying economics in senior secondary school according to Eneja, and Akamigbo (2022) who cited the Nigeria Educational Research and Development Council (2018) are as follows; to enable students:

- Understand basic economic principles and concepts as tools for sound economic analysis.
- Contribute intelligently to discourse on economic reforms and development as they affect or would affect the generality of Nigerians.
- Understand the structure and functioning of economic institution.
- Appreciates the role of public policies on National economy
- Develop the skills and also appreciates the basis for national economic decisions
- Become sensitized to participate actively in National Economic advancement through entrepreneurship, capital market and so on.
- Understand the role and status of Nigeria and other African countries in the international economic relationships.
- Appreciates the problems encountered by developing countries in their efforts towards economic advancement

The study of Economics also helps students to understand the human world through enquiring into how resources are used to serve individuals and society. It also contributes to the development of critical thinking and decision-making skills, which are crucial for the all-round development of students and in particular, their development as lifelong learners and responsible citizens (Jonathan, 2011 in Salahudeen & Abraham 2023). Economics students desire to learn Economics principles to form a solid foundation so as to build on for further development in theory, methodology and application on the field. Students see that Economics is not simply diagrams on

blackboards, but a way of thinking when choices are made.

Filade, Omozokpia, Uwannah, Amanze, Ajibola and Omotosho (2020), argued that the study of Economics enables students to:

- understand the nature of the complexity of the economic activities in which he is only a very small part;
- understand and appreciate various government policies where choices have to be made such as probably to spend more money on free education and therefore provide less employment opportunities;
- acquire basic skills for analysing Economic problems thereby preparing them better for positions where economic decisions have to be made; the study of Economics helps a government to promote growth and development therefore improving the quality of life of the citizens; and
- analyse fascinating patterns of socio-economic behaviour; the study of Economics is useful to understand and alter the inequalities in the distribution of income and opportunities.

Moreover, the relevance of economics to any given society cannot be over emphasized. Every family is a part of an economy and everyone uses the rules of Economy too. From the time we are born, we become consumers of various products and services (say medical services, baby foods and so on). We grow and diversify to attain various different roles as producers, trades mediators and agents. In fact, today's world is that of "economic implication" where economic factors most importantly money, dictates all the elements of the society. Economics is an issue or discipline which everybody; even ignorant households are learning (Michael, 2014).

Academic achievement also refers to how well a student is accomplishing his or her tasks and studies. (Scott, 2022). It has to do with the ability of students to study, remember facts and be able to communicate their knowledge verbally or through writing (Mwaniki, 2012). In other words, academic achievement shows how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. Kathryn (2010) opined that academic achievement is a student's performance in a given academic area (e.g. reading or language arts, mathematics, basic science) and other areas of human learning. Academic achievement therefore relates to the subjects that a student studies in school, and the skills expected to be

mastered in each of the subjects. It means excellence in all academic discipline, in class, as well as extra-curricular activities.

Ernest-Ehibudu and Oporum (2023) argued that the measure of academic achievement is through achievement tests/examinations and observations, which may include tests or examinations given at the end of a lesson, unit, term, session, year or programme such as weekly test, mid-term test, termly examination, first school leaving examination, senior secondary school examination (E.g WASSCE, NECO, NABTEB) and other tests/examinations at different levels and areas of education.

However, the persistent poor performance of secondary school students in Nigeria remains a major concern for stakeholders (Ajagun, 2018). Alaka and Obadara (2013) noted a consistent trend of low achievement in West African Senior Secondary Certificate Examinations (WASSCE), particularly in Economics, a subject critical to fostering creativity and critical thinking. Ononye and Obiakor (2022) reported that approximately one million students failed the May/June WAEC examinations in 2020, raising concerns among governments and the public. Factors contributing to these failures include insufficient syllabus coverage, lack of familiarity with test formats, and inadequate understanding of assessment criteria. Historical data further supports this trend. For instance, only 26% of students obtained credit passes in Mathematics and English in the 2019 WAEC examination, and the NECO results of the same year revealed a failure rate of 98% for students seeking five credits, including Economics, Mathematics, and English. Unfortunately, this pattern persists in general examinations across Nigeria. Continuous assessment aligns closely with formative testing and remediation. It involves constructing and administering tests after each instructional unit and addressing areas of difficulty before progressing to the next unit. Aboni, Okereke, and Omebe (2015) noted that the Federal Government's handbook on continuous assessment describes it as a method for evaluating students' gains in knowledge, reasoning, character development, and industriousness through various instruments, including tests, assignments, and projects. Continuous assessments are conducted periodically and their results influence students' progress and post-school opportunities. When learning is regularly evaluated, accompanied by prompt feedback and targeted remediation, students' performance is likely to improve significantly. This study therefore seeks to examine the impact of diagnostic and formative assessment strategies in

improving Economics achievement among secondary school students.

### 1.1 Statement of the Problem

Over the years, the alarming rate of students failing economics has been a cause for concern. Notably, between 2012 to 2019 National Examination Council (NECO) examinations, a shocking 70% failure rate was recorded. Economics, a crucial subject for students' admission and essential for equipping learners with the social scientific skills necessary to drive the nation toward technological advancement, has been plagued by consistently poor performance among students. This persistent failure raises questions about the underlying causes.

Several researchers have identified a variety of contributing factors/causes, ranging from cognitive and affective challenges to institutional issues. Among the practical challenges in teaching economics are outdated textbooks most Nigerian-written economics textbooks are poorly written, lack depth, are overly descriptive, poorly illustrated, and often contain inaccuracies, as they are hastily produced. Other notable challenges include inadequate teacher qualifications and non-conducive learning environments.

These challenges have prompted the need for a comprehensive study to explore the need for a regular diagnostic and feedback assessment strategies of economics in secondary schools. The teaching of economics in secondary schools faces numerous obstacles that have significantly contributed to declining performance in public examinations. The researcher posits that the instructional methods and approaches employed by teachers may be a critical factor in this trend. Therefore, this study aims to investigate the impact of diagnostic and formative assessment strategies in improving economics achievement among secondary school students.

### 1.2 Purpose of the Study

This study aims to investigate the impact of diagnostic and formative assessment strategies in enhancing students' achievement in Economics within secondary schools. The specific objectives of the study are as follows:

- To evaluate the impact of formative assessment strategies on students' achievement in Economics.
- To assess the effect of diagnostic assessment strategies on students' achievement in Economics.

### 1.3 Research Hypotheses

The following research hypotheses was tested in the study:

Ho<sub>1</sub>: There is no significant impact of formative evaluation strategies on students' achievement in Economics.

Ho<sub>2</sub>: There is no significant impact of diagnostic evaluation strategies on students' achievement in Economics.

## 2. Research Design

Descriptive survey research design was used. Creswell and Creswell (2018) define a descriptive survey design as a quantitative research method that involves collecting data to describe trends, attitudes, or opinions of a population by studying a sample. This design allows researchers to generalize findings to the entire population.

### 2.1 Population of the Study

The target population for this study would comprise all SS2 students in the public Senior Secondary Schools in Kosofe Local Government Area. According to the Lagos State Schools Census Report (2020-2022), there are 14 senior secondary schools and 10,405 students in the local government.

### 2.2 Sample and Sampling Technique

Multi-stage sampling techniques were employed in the study. A simple random sampling technique was used to select the four schools needed for the study in Kosofe Local Government Area. Secondly, stratified sampling procedure was employed to select fifty (50) students from each school, so that there would be equal male and female (25 each). In summary, the study used four schools in all, and 50 students from each school to give a total sample size of 200 participants, consisting of 100 male and 100 female students.

### 2.3 Research Instruments

The two main instruments to be used in assessing the students' achievement in Basic Science are: A questionnaire titled "Formative and Diagnostic Feedback Evaluation Questionnaire (FADFEQ)." and a Economics Achievement Test (EAT) compiled by the researcher from past questions of WAEC Senior Secondary School Certificate Examinations. (WASSCE) 2019-2022. The achievement test

comprises of 20-multiple choice questions. These test items cover the topics that were treated during the term. The research instrument was validated by experts in the field of measurement and evaluation,

who ensures the face and content validity, the instruments have a reliability of 0.82 for the questionnaires and 0.785 for the Economics Achievement Test (EAT).

**Descriptive Analysis of Students’ Bio-Data**

**Table 1:** Demographic Information of the Students

Variables	Levels of Variables	No of Students (n)	(%)
School Name	School A	38	26.0
	School B	45	30.8
	School C	52	35.6
	School D	11	7.5
	Total		
Gender	Total	146	100.0
	Male	62	42.5
	Female	84	57.5
Age Group	Total	146	100.0
	13 – 14 years	17	11.6
	15 years & Above	129	88.4
	Total	146	100.0

Table 1 informs that an aggregate of one hundred and forty-six (146) students were involved in the survey across the four (4) selected senior secondary schools. 62% (42.5%) of these students were males while their female counterparts were 84 (57.5%). This reveals that female students were more involved in the study than their male counterparts. Moreso, the survey reveals that majority of the students 129 (88.4%) were within age group of 15 years and above, this was followed by those 17 (11.6%) within the age group of 13 - 14 years.

**Hypotheses Testing**

**Hypothesis 1:** There is no significant impact (a measure of relationship) of formative evaluation Strategies on students’ academic achievement (in Economics) within Kosofe Local Government Area of Lagos State, Nigeria.

**Table 2:** An “r” Statistical Table Showing the Impact (A Measure Of Relationship) of Formative Evaluation Strategies on students’ academic achievement (in Economics)

Variables	N	Mean	SD	df	r_cal.	Sig. Value (p)	Decision
Students’ Formative Evaluation Strategies	146	28.49	3.23				
	144		0.035				Reject
Students’ Academic Achievement (in Economics)	146	9.92	6.01		-0.174*		

$p = 0.035 < 0.05$

Table 2 reveals that the average (mean) on students’ formative evaluation feedback (28.49) was above the expected mean value of 20.00 (obtained from a 10-item subscale on Formative Evaluation Feedback rated on a 4-point response keys – SA, A, D, SD); moreso, the average (mean) of students’ academic achievement in Economics (9.92) was above the expected mean value of 10.00 (obtained from a 20-item multiple-choice Economics test). While using Pearson Product Moment Correlation (PPMC) technique to compute the relationship between students’ formative evaluation feedback and their academic achievement in multiple-choice Economics test, r-calculated value of -0.174\* emerged. This implies that a small negative as well as indirect relationship was observed

between students’ formative evaluation feedback and their academic achievement in the subject. The calculated “r” (r-cal. = -0.174\*) was with 144 degrees of freedom given that the obtained level of significance (p-value) is 0.035 < 0.05 (statistical benchmark). By implication, the null hypothesis is therefore rejected; hence, there is significant impact (a measure of relationship) of formative evaluation strategies on students’ academic achievement (in Economics) within Kosofe Local Government Area of Lagos State, Nigeria.

Hypothesis 2: There is no significant impact (a measure of relationship) of diagnostic evaluation strategies on students’ academic achievement (in Economics) within Kosofe Local Government Area of Lagos State, Nigeria.

Table 3: An “r” statistical table showing the impact (a measure of relationship) of Diagnostic Evaluation Strategies on Students’ Academic Achievement (in Economics)

Variables	N	Mean	SD	d.f	r-cal.	Sig. Value (p)	Decision
Students’ Diagnostic Evaluation Strategies	146	28.88	4.17				
Students’ Academic Achievement (in Economics)	146	9.92	6.01	144	0.027	0.750	Accept Ho

$p = 0.750 > 0.05$

Table 3 reveals that the average (mean) on students’ diagnostic evaluation feedback (28.88) was above the expected mean value of 20.00 (obtained from a 10-item subscale on Diagnostic Evaluation Feedback rated on a 4-point response keys – SA, A, D, SD); moreover, the average (mean) of students’ academic achievement in Economics (9.92) was above the expected mean value of 10.00 (obtained from a 20-item multiple-choice Economics test). While using Pearson Product Moment Correlation (PPMC) technique to compute the relationship between students’ diagnostic evaluation feedback and their academic achievement in multiple-choice Economics test, r-calculated value of 0.027 emerged. This implies that a small positive as well as direct relationship was observed between students’ diagnostic evaluation feedback and their academic achievement in the subject. The calculated “r” (r-cal. = 0.027) was with 144 degrees of freedom given that the obtained level of significance (p-value) is 0.750 > 0.05 (statistical benchmark). By implication, the null hypothesis is therefore accepted; hence, there is no significant impact (a measure of relationship) of diagnostic evaluation feedback on students’ academic achievement in Economics) within Kosofe Local Government Area of Lagos State, Nigeria.

### 3. Discussion of Research Findings

Findings from hypotheses one revealed that there is significant impact (a measure of relationship) of formative evaluation strategies on students’ academic achievement (in Economics) within Kosofe Local Government Area of Lagos State, Nigeria.

This present finding agrees with that of Orheruata, and Oyakhrome (2019) who made an empirical investigation on the effect of formative classroom assessment on students’ achievement in junior secondary school Basic science within Egor Local Government Area of Edo State. Their findings revealed that formative classroom assessment had significant effect on the students’ academic achievement in favour of the experimental group used; formative classroom assessment was also found to improve the students’ academic achievement as observed in the difference between pre-test and post-test in favour of the post-test.

With a bit of opposition to the present research finding, Dandekar (2015) examined the effect of formative assessment on students’ academic performance in a research that randomly select group of 40 students, which were randomly divided into two groups. Group A (N =20) was Control Group. Group B (N =20) was the Experimental Group. The analysis showed that even though formative assessment shows good effect on academic performance of the students, its good effect was not statistically significant.

Finding from hypotheses two revealed that there is no significant impact (a measure of relationship) of diagnostic evaluation strategies on students' academic achievement (in Economics) within Kosofe Local Government Area of Lagos State, Nigeria.

This present research finding was in opposition to the submission of George, Abang, Farah (2017) who investigated the relationship between students' mathematics diagnostic test results and final mathematics examination performances at a public pre-university programme. Their research samples consisted of 250 pre-university students and the data of the study were collected through a mathematics diagnostic test paper, a questionnaire and a final mathematics examination. The outcome of the study shows that there was a strong (significant) positive correlation between mathematics diagnostic test results and students' mathematics achievement in pre-university.

More opposition was given to the present research finding by Esomonu, and Eleje (2020) who investigated the effect of diagnostic testing on students' academic achievement in secondary school quantitative economics. With a sample consisted of 210 Senior Secondary three (SS3) economics students in the four co-educational schools purposely selected from Nnewi Education Zone of Anambra State in Nigeria, empirical results of the analysis indicated a significant effect of treatment on students' achievement in favour of DQUEST (Diagnostic Quantitative Economics Skill Test) with feedback and remediation group only ( $F(3, 209) = 22.3114, p > 0.05$ ).

#### 4. Conclusions

Based on the research findings, it could be inferred that as far as Kosofe Local Government Area of Lagos is concerned, on a general note, formative evaluation strategies exert a significant impact on students' achievement in Economics, while diagnostic evaluation strategies exerted non-significant impact.

#### 5. Recommendations

Based on the findings and conclusion in this study, it would be appropriate to recommend that:

School teachers should ensure that they get up-to-date skills set on best practices of using diagnostic evaluation to boost students' academic achievement not just in Economics, but in all subject. This was recommended since diagnostic evaluation feedback

did not exert any significant influence on students' academic achievement in Economics.

Head Teachers/head of Academic Units in schools should take proper scrutiny into checking the psychometric properties of diagnostic as well as formative evaluation which these school teachers submit to them.

The Nigerian Government/Ministry of Education/ all well-meaning stakeholders should be encouraging these school teachers with financial aids or incentives to attend paid and expensive top-notch seminars and workshop in relation to best practices of constructing good diagnostic tests as well as good formative tests, which lack no psychometric property flaws. This will discourage them from the idea of depending on their years of teaching experience and academic qualification which hold no waters in the 21<sup>st</sup> century education space.

Curriculum Planners should replicate this research in order to authenticate the findings obtained from this present research.

#### 6. Implications for Evaluators

With all that has been said and done in this research, it is noteworthy to establish that:

The needed boost in students' academic achievement needs competence of teachers' diagnostic and formative test skills.

For students' feedbacks on these tests/evaluations (diagnostic and formative) to speak well of good academic achievement, the diagnostic and formative tests given in schools needs to possess good psychometric properties.

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