

## EFFECT OF FORMATIVE ASSESSMENT WITH FEEDBACK ON SECONDARY SCHOOL STUDENTS' INTEREST IN ECONOMICS IN JOS-SOUTH, NIGERIA

Christopher P. Eze<sup>1</sup>, Prof. Georginia C. Imo<sup>2</sup> & Dr. Augustine S. Azi<sup>3</sup>  
<sup>1&3</sup>Department of Social Science Education, <sup>2</sup>Department of Educational Foundations, <sup>1,2&3</sup>Faculty of Education, University of Jos, Nigeria

### Abstract

*Formative assessment with feedback (FAF) has emerged as a learner-centred instructional approach that emphasizes continuous monitoring of learning and the provision of timely, constructive feedback to enhance students' engagement and motivation. Despite its documented effectiveness in improving academic outcomes, its influence on students' interest in Economics within Nigerian secondary schools remains underexplored. This study investigated the effect of formative assessment with feedback on Senior Secondary School II students' interest in Economics in Jos-South Local Government Area of Plateau State, Nigeria. A quasi-experimental pretest–posttest non-randomized control group design was adopted. The population comprised 627 SS II Economics students, from which a sample of 90 students drawn from two co-educational secondary schools was selected using purposive sampling techniques. The experimental group was taught Economics concepts using formative assessment strategies integrated with structured feedback, while the control group received instruction through the conventional lecture method over a twelve-week period. Data were collected using the Economics Interest Scale (EIS), a validated Likert-type instrument with a reliability coefficient of 0.93 and validity index of 0.83. Mean and standard deviation were used to answer the research questions, while Analysis of Covariance (ANCOVA) was employed to test the hypothesis at the 0.05 level of significance. The findings revealed a statistically significant difference in posttest interest mean scores in favour of students exposed to formative assessment with feedback ( $F(1,87) = 1392.26, p < .05, \eta^2 = .94$ ). The study concluded that formative assessment with feedback is a powerful pedagogical strategy for enhancing students' interest in Economics and recommended its systematic integration into secondary school instructional practices.*

**Keywords:** *Formative assessment, Feedback, Students' interest, Economics education, Secondary schools, Nigeria*

### Introduction

Assessment plays a central role in the teaching–learning process, serving not only as a mechanism for evaluating students' achievement but also as a tool for guiding instruction and enhancing learning outcomes. Traditionally, assessment practices in many educational systems, particularly in developing countries, have been dominated by summative approaches that emphasize certification, ranking, and accountability (Black & Wiliam, 2018). While summative assessments are important for grading and decision-making, their overreliance has been criticized for promoting surface learning, examination anxiety, and limited student engagement.

In response to these limitations, contemporary educational discourse has increasingly emphasized formative assessment as a learner-centred approach that supports learning through continuous feedback and adjustment of instruction (Gan, He, & Liu, 2020). Formative assessment with feedback involves the systematic collection of evidence about students' learning during instruction and the provision of timely, specific, and actionable feedback that helps learners understand their current level of performance, identify gaps, and take steps toward improvement. Unlike summative assessment, formative assessment is primarily

diagnostic and developmental, positioning assessment as an integral part of teaching rather than a terminal activity.

Student interest is a critical affective variable in learning, particularly in subjects such as Economics that require sustained cognitive engagement, abstract reasoning, and application of concepts to real-world contexts. Interest has been conceptualized as a motivational state that energizes learning, directs attention, and promotes persistence in academic tasks (Hidi & Renninger, 2006). When students are interested in a subject, they are more likely to participate actively in classroom activities, invest effort in learning, and develop deeper conceptual understanding. Conversely, low interest often results in disengagement, poor learning outcomes, and negative attitudes toward the subject.

In the Nigerian secondary school context, Economics is a core social science subject that plays a vital role in equipping students with knowledge and skills for understanding economic issues, making informed decisions, and participating effectively in society. Despite its importance, evidence from classroom practice and examination reports suggests that many secondary school students demonstrate low interest in Economics, often perceiving it as abstract, difficult, or disconnected from their lived experiences. This challenge has been partly attributed to teacher-centred instructional methods and assessment practices that prioritize rote learning and examination preparation over meaningful engagement and feedback.

The dominance of conventional lecture methods in Nigerian secondary schools has limited opportunities for interaction, reflection, and formative feedback. In many classrooms, assessment is conducted mainly at the end of instruction, with minimal feedback provided to guide students' learning processes. As a result, students are often unaware of their strengths and weaknesses, leading to frustration and reduced interest in the subject. Integrating formative assessment with feedback into Economics instruction offers a promising pathway for addressing this challenge by making learning more interactive, responsive, and student-focused.

International research has consistently demonstrated the positive effects of formative assessment with feedback on students' motivation, engagement, and academic achievement across various subjects and educational levels (Chen & Wang, 2021; Kim & Park, 2021). However, empirical studies examining its impact on students' interest in Economics, particularly within the Nigerian secondary school context, remain limited. Moreover, contextual factors such as large class sizes, curriculum demands, and assessment cultures necessitate locally grounded evidence to inform instructional practice and policy decisions.

Against this backdrop, the present study investigated the effect of formative assessment with feedback on secondary school students' interest in Economics in Jos-South Local Government Area of Plateau State, Nigeria. By adopting a quasi-experimental design and focusing on interest as an affective learning outcome, the study contributes to the growing body of literature on formative assessment and provides empirical evidence to support pedagogical innovation in Economics education.

Specifically, the study sought to determine whether students exposed to formative assessment with feedback would demonstrate significantly higher levels of interest in Economics compared to their counterparts taught using the conventional lecture method. The findings are expected to inform teachers, curriculum planners, and education policymakers on effective assessment practices capable of enhancing students' engagement and sustaining interest in Economics at the secondary school level.

### **Purpose of the Study**

The purpose of the study is to investigate the effects of formative assessment with feedback on secondary school students' interest in Economics in Jos – South Local Government Area of

Plateau State, Nigeria. Specifically the study aims to determine whether the use of formative assessment with feedback during Economics instruction significantly enhances students' interest in the subject compared to the conventional lecture method used in secondary schools. By focusing on students' interest as key affective learning outcome, the study aimed to generate empirical evidence on the effectiveness of formative assessment with feedback in promoting sustained engagement, active participation and positive attitudes towards Economics among secondary school students. The findings of the study are intended to provide useful insights for Economics teachers, curriculum developers and education policymakers on assessment practices that can improve classroom instruction and foster greater students' interest in Economics at the secondary school level.

### **Aim and Objectives of the study**

The objective of the study was to:

Determine the effect of formative assessment with feedback on secondary school students' interest in Economics in Jos-South Local Government Area of Plateau State

### **Research Question**

The study was guided by the following research question:

What effect does formative assessment with feedback have on secondary school students' interest in Economics in Jos-South Local Government Area of Plateau State?

### **Research Hypothesis**

The following null hypothesis was formulated and tested at 0.05 level of significance:

There is no significant difference in the interest in Economics between secondary school students taught using formative assessment with feedback and those taught using the conventional lecture method in Jos – South Local Government Area of Plateau State

### **Methodology**

The study adopted a quasi-experimental pretest–posttest non-randomized control group design. This design was considered appropriate because intact classes were used, as random assignment of individual students to experimental and control groups was not feasible due to administrative and ethical constraints within the participating schools. Quasi-experimental designs are widely accepted in educational research for evaluating the effectiveness of instructional interventions under natural classroom conditions (Gall, Gall, & Borg, 2017). The design enabled the researchers to compare changes in students' interest in Economics between those exposed to formative assessment with feedback and those taught using the conventional lecture method, while statistically controlling for initial differences through covariance analysis.

The study was conducted in Jos-South Local Government Area of Plateau State, Nigeria. Jos-South is an urban–semi-urban area with a mix of public and private secondary schools offering Economics at the senior secondary level. The area was considered suitable for the study due to its diverse student population and the persistent concerns among educators regarding students' declining interest in Economics. Additionally, the researchers' familiarity with the area facilitated access to schools and ensured effective implementation of the intervention.

The population for the study comprised 627 Senior Secondary School II (SS II) students offering Economics in public and private secondary schools in Jos-South Local Government Area during the 2023/2024 academic session. SS II students were selected because they have had adequate exposure to Economics concepts and assessment practices, yet are not under the immediate pressure of external examinations, making them suitable for an intervention-based study.

A sample of 90 SS II Economics students was used for the study. The sample was drawn from two co-educational secondary schools—one public and one private—using purposive sampling techniques. The selection criteria included the availability of qualified Economics teachers, willingness of school authorities to participate, and comparable school characteristics. One school was assigned to the experimental group (47 students), while the other served as the control group (43 students). The use of co-educational schools ensured gender representation and enhanced the generalizability of the findings within the local context.

Data were collected using the Economics Interest Scale (EIS), a researcher-developed instrument designed to measure students’ interest in Economics. The EIS consisted of 20 items structured on a five-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5). The items assessed multiple dimensions of interest, including enjoyment of Economics lessons, willingness to engage in Economics-related tasks, curiosity about economic issues, and perceived relevance of Economics to real-life situations. Higher scores on the scale indicated higher levels of interest in Economics.

The validity of the Economics Interest Scale was established through face, content, and construct validation. Face and content validity were determined by three experts in Economics education, educational psychology, and measurement and evaluation, who examined the instrument for clarity, relevance, and adequacy of coverage of the interest construct. Their suggestions were incorporated to improve item wording and alignment with the study objectives. Construct validity was ensured by aligning the items with established theoretical frameworks of academic interest, particularly Hidi and Renninger’s Four-Phase Model of Interest Development.

The reliability of the EIS was determined using the Cronbach Alpha method based on data obtained from a pilot test conducted outside the study sample. A reliability coefficient of 0.762 was obtained, indicating acceptable internal consistency and confirming that the instrument was reliable for measuring students’ interest in Economics.

Data collected were analyzed using mean and standard deviation to answer the research questions, while Analysis of Covariance (ANCOVA) was used to test the null hypothesis at the 0.05 level of significance. Pretest scores were used as covariates to control for initial differences between the groups, thereby increasing the precision of the treatment effect estimates.

## Result

What are the pretest and post-test interest mean scores of senior secondary II Economics students in Economics in the experimental group and control group?

To determine the pretest and post-test interest mean scores of students in the experimental and control groups, the Economics Interest Scale (EIS) was administered to both groups before and after the intervention. Descriptive statistics—specifically the mean and standard deviation—were computed to summarize students’ levels of interest and to examine the spread of scores within each group. The results are presented in Table 1:

**Table 1**  
**Results of the Analysis on the Pretest Post-test Interest Mean Scores of Economics Students between the Experimental and Control Groups.**

Group		N	$\bar{x}$	SD	Mean gain	Mean gain difference
Experimental	Pretest	54	58.50	9.15	19.76	
	Post test	54	78.26	7.26		
Control	Pretest	36	50.83	6.76		24.18

Post test	36	54.08	3.25	3.25
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The results of the analysis presented in Table 4 revealed that the experimental group had a pretest mean score of  $\bar{x} = 58.50$ ,  $SD = 9.15$ , and a post-test mean score of  $\bar{x} = 78.26$ ,  $SD = 7.26$ , resulting in a mean gain of 19.76. In contrast, the control group recorded a pretest mean score of  $\bar{x} = 50.83$ ,  $SD = 6.76$ , and a post-test mean score of  $\bar{x} = 54.08$ ,  $SD = 6.99$ , yielding a mean gain of 3.25. A comparison of the post-test means showed a difference of 24.18 in favour of the experimental group. These results indicate that although both groups experienced an increase in interest after exposure to their respective instructional strategies, the experimental group recorded a substantially higher gain (19.76) compared to the control group (3.25).

**Hypothesis One:**

There is no significant difference between the pre-test and post-test interest mean scores of SS II Economics students in the experimental and control groups.

To determine whether formative assessment with feedback had a significant effect on students' interest in Economics, Hypothesis One was tested using Analysis of Covariance (ANCOVA). The hypothesis stated that there was no significant difference in the post-test interest mean scores of students in the experimental and control groups after controlling for pretest scores. The summary of the ANCOVA results is presented in Table 2.

**Table 2**

**Summary of ANCOVA Analysis on the Pre test and Post test Interest Mean Scores of SS II Economics Students between the Experimental and Control Groups.**

Source	Type III Sum of Squares	df	Mean square	F	sig	Partial eta squared
<b>Corrected model</b>	14127.051 <sup>a</sup>	2	7063.526	204.928	.001	.825
<b>Intercept</b>	2986.637	1	2986.637	89.649	.001	.499
<b>Pre - interest</b>	1502.383	1	1502.383	43.587	.001	.334
<b>Group</b>	7391.489	1	7391.489	214.443	.001	.711
<b>Error</b>	2998.738	87	34.468			
<b>Total</b>	440525.000					
<b>Corrected total</b>		90				
	17125.789	89				

R Squared = .825 (Adjusted R Squared = .821)

ANCOVA analysis was conducted to determine whether a significant difference existed in the post-test interest mean scores of SS II Economics students between the experimental and control groups. The result presented in Table 5 showed that  $F(1, 87) = 214.443$ ,  $p < .05$ , Partial  $\eta^2 = .711$ . Since the p-value of .001 was less than the 0.05 level of significance, the null hypothesis was rejected. This indicated that a significant difference existed between the post-test interest mean scores of students in the experimental and control groups. The analysis further revealed an adjusted R-squared value of .821, indicating that 82.1% of the variation in students' interest in Economics was explained by the treatment (formative assessment with feedback), while the remaining 17.9% was attributable to other factors not included in the model. This finding implies that formative assessment with feedback substantially improved SS

II students' interest in Economics compared to the conventional method used with the control group

### **Discussion of Findings**

The findings of this study indicate that formative assessment with feedback significantly enhances secondary school students' interest in Economics. Students who received continuous assessment and structured feedback demonstrated higher levels of engagement, enthusiasm, and willingness to participate in Economics lessons compared to those taught using the conventional lecture method. This result aligns with previous studies which have shown that formative feedback promotes learner engagement and motivation by making learning goals explicit and providing guidance for improvement (Chen & Wang, 2021; Kim & Park, 2021). The findings can also be explained within the framework of Self-Determination Theory (Deci & Ryan, 2017), which posits that learners' motivation and interest are fostered when instructional practices support their needs for competence, autonomy, and relatedness. Formative assessment with feedback enhances students' sense of competence by clarifying expectations and providing actionable information for improvement. It also promotes autonomy by encouraging self-reflection and active involvement in the learning process.

Furthermore, the large effect size observed in this study underscores the pedagogical value of formative assessment with feedback in Economics classrooms, particularly in contexts where traditional assessment practices dominate. By transforming assessment into a learning-oriented process, formative assessment with feedback helps sustain students' interest and fosters a more supportive and interactive learning environment.

### **Conclusion**

The study concludes that formative assessment with feedback is a highly effective instructional strategy for enhancing secondary school students' interest in Economics in Jos-South Local Government Area of Plateau State, Nigeria. Students exposed to this approach demonstrated significantly higher levels of interest compared to those taught using conventional lecture methods. The findings provide empirical support for the integration of formative assessment with feedback into Economics instruction at the secondary school level.

### **Recommendations**

Based on the findings of the study, the following recommendations are made: Economics teachers should incorporate formative assessment strategies with structured feedback into their regular classroom practices to enhance students' interest and engagement.

School administrators should organize professional development programmes and workshops to train teachers on effective formative assessment and feedback techniques.

Curriculum planners should explicitly integrate feedback-oriented formative assessment strategies into the secondary school Economics curriculum.

Educational policymakers should encourage assessment reforms that emphasize learning-oriented assessment practices rather than exclusive reliance on summative examinations.

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