

EFFECT OF PROCESS-BASED METHOD ON SENIOR SECONDARY SCHOOL STUDENTS' ACHIEVEMENT IN ECONOMIC IN OFU LOCAL GOVERNMENT AREA KOGI STATE

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ABSTRACT

The aim of the study is to investigate the effect of process-based method on senior secondary school students' achievement in Economic in Ofu Local Government Area of Kogi State. The design of the study is quasi experimental design. The research was carried out in selected public senior secondary schools in Ofu Local Government Area of Kogi State. The population of this study comprised of all senior secondary school students in the public senior secondary schools in Ofu Local Government Area. There are total of 35 senior secondary school students in Ofu Local Government Area. The research sample comprised 256 senior secondary school students from public senior secondary schools in Ofu Local Government Area of Kogi State. Out of this sample, 131 were males while 125 were females. The research questions was answered using mean scores of students while hypotheses were tested using Analysis of Covariance (ANCOVA). ANCOVA was used. The findings shows that process based method is more effective in enhancing academic achievements of Senior Secondary School students in Economic than conventional method, process based method is more effective in enhancing the urban area of Senior Secondary School students in Economic than rural area and the male and female students taught with process-based method do not differ in their academic achievements in Senior Secondary School Economic. The study concludes that exposure of the learner irrespective of sex to hands on, mind-on activity (process-based approach) that involved learner's participation yielded a more viable result on achievement, location and gender. A non-significant gender influence on achievement and location was indicated. It is hereby concluded that process-based method remains a very good option method for teaching Economic concepts and should therefore be effectively put to use by all Economic teachers in our schools. Based on the findings the result recommends that economic teachers should endeavor to apply this teaching approach in their teaching as well as ensuring that both sexes are given equal opportunity to do Economic, teachers should give boys and girls equal opportunity to handle materials in the Economic classroom.

KEYWORDS: Process-Based Method, Academic Achievement, Gender, School Location, Economics

INTRODUCTION

Many studies in Nigeria have shown that several factors are responsible for students' poor performance and low interest in Economics. These factors include lack of motivation among teachers, poor school facilities, inadequate textbooks and learning materials, poor teaching skills, and limited opportunities for teachers to improve themselves professionally (Adirika & Kanu, 2022). When teachers are not motivated, they may not put in their best effort, and this affects how students learn. Also, when schools lack basic facilities like classrooms, libraries, and instructional materials, students may find it difficult to understand lessons. All these challenges make Economics seem difficult and uninteresting to many students. In addition, Omachonu (2019) explained that many teachers still use ineffective teaching methods. The most common method is the lecture method, where the teacher talks for most of the lesson while students only listen. In this situation, students are not fully involved in the learning process. They may become bored, distracted, or confused because they are not given the chance to ask questions, share ideas, or participate actively. This reduces their interest in the subject and makes it harder for them to perform well in examinations.

To improve this situation, there is a need to use better teaching methods that involve students more actively. One of such methods is the process-based learning approach. This method encourages students to take part in discussions, group work, problem-solving, and practical activities. When students are involved in what they are learning, they understand better and develop more interest in the subject. It also helps them to think critically and apply what they have learned to real-life situations. Therefore, for students to perform better and develop interest in Economics, teachers need to change their teaching style. Instead of relying only on talking and explaining, they should create opportunities for students to participate actively during lessons. Schools and government should also support teachers by providing training, materials, and a conducive learning environment. When these improvements are made, students will find Economics more interesting, easier to understand, and more useful in their daily lives.

Process-based learning, however, is a better approach to teaching. It involves students actively participating in lessons through activities, discussions, and problem-solving. This method engages both the mind and body of the learner and allows students to think critically and express their ideas. As a result, students become more interested and perform better in the subject. According to Omole (2022), the Nigerian government has introduced different strategies to improve teaching and learning in schools. These include providing school libraries, health services, counseling units, educational resource centers, and trained teachers (Okpala, 2020). The government also encourages teaching to be practical, exploratory, and activity-based so that students can learn by doing.

Research has also shown that students' achievement in Economics can be influenced by gender. Some studies believe that differences in performance between boys and girls are caused by the way Economics is taught in schools (Obianyo, 2020), while others link it to social and cultural factors (Okoli, 2022). This means that both the classroom environment and what happens outside school can affect how well students perform in the subject. For example, Danmole and Adeoye (2024) found that gender plays a role in students' academic performance. In some cases, boys may be encouraged more to speak up and participate in class, while girls may be more reserved. This difference in participation can affect understanding and performance. Also, teachers may sometimes give more attention to one gender without realizing it, which can influence how students learn.

Social and cultural beliefs also contribute to these differences. In some communities, boys are seen as more suitable for certain subjects like Economics, while girls are encouraged to focus on other areas. These beliefs can affect students' confidence and interest. For instance, a girl who believes that Economics is meant for boys may not put in much effort, even if she has the ability to do well. On the other hand, boys may feel more confident and motivated because of the expectations placed on them. However, it is important to understand that both boys and girls have equal ability to succeed in Economics. With the right teaching methods, encouragement, and support, all students can perform well regardless of gender. Teachers should create a classroom environment where everyone is given equal opportunity to participate and learn. By doing this, students will feel more confident, develop interest in the subject, and achieve better academic results.

Gender discrimination is another issue affecting students' interest in Economics. In some societies, males are seen as superior, while females are viewed as less capable, especially in academic and career matters. However, Evans (2024) emphasized that gender should not limit anyone's ability to learn or succeed. Both boys and girls should be encouraged equally to study Economics because it is important for everyone (Nwosu, 2020). Improving students' interest and performance in Economics requires the use of better teaching methods. Teachers should move away from only using lectures and adopt process-based learning that involves students actively. By creating opportunities for participation, discussion, and practical activities, teachers can make Economics more interesting and meaningful. As noted by Adipere (2020), teachers should guide and support students in developing skills that will help them succeed in school and in life.

In the light of this, it is clear that for Economic teaching to be effective, learning processes where students actively participate in the process should be adopted by the teachers. The role of the teacher is to create varied opportunities for students to engage in activities that will enable them make sense of the world around them, make new discoveries, solve interesting problems and develop skills that are sustainability driven (Adipere, 2020). In this respect, teachers need to exploit process based learning method.

Statement of the Problem

There has been a lot of concern among Economics educators about the poor and unimpressive performance of students in the subject. Many believe that one of the main reasons for this problem is the method used in teaching. Evidence from different studies shows that teachers often use ineffective teaching methods and strategies, which make it difficult for students to understand Economics properly. As a result, students lose interest in the subject and perform poorly in examinations. In Ofu Local Government Area, the situation is not different. Most teachers still rely heavily on the conventional lecture method. In this method, the teacher does most of the talking while students simply listen and take notes. There is little or no interaction between students and their teachers, and students do not have enough opportunities to ask questions, share ideas, or learn from one another. This makes learning dull and limits students' understanding of important economic concepts. Because of this approach, students are not able to develop important skills such as critical thinking, problem-solving, and decision-making. They may be able to pass exams by memorizing notes, but they often find it difficult to apply what they have learned to real-life situations. This means that the main goal of studying Economics—to help students understand and solve personal and societal problems—is not fully achieved.

Therefore, there is a need to introduce a more effective teaching method that is student-centered and engaging. Such a method should encourage active participation, interaction, and practical learning. A learner-friendly approach will help students understand concepts better, develop useful skills, and improve their overall performance in Economics. This study is therefore aimed at exploring a better teaching method that can improve students' interest and achievement in Economics.

Purpose of the Study

The aim of the study is to investigate the effect of process-based method on senior secondary school students' achievement in Economic in Ofu Local Government Area of Kogi State. The specific objectives are:

1. To examine the effects of process-based teaching method on senior secondary school students' achievement in Economic and those taught with conventional method
2. To investigate the effect of location on achievement scores of Economic students taught using process-based method
3. To examine the difference in the achievement scores between male and female students taught using process-based method.

Research Questions

The following research questions were drawn to guide the study:

1. What is the difference in the mean achievement scores of senior secondary school students taught Economic using process-based method and those taught with the conventional method?
2. What is the difference in the mean achievement scores of students in urban and rural areas taught Economic using process-based method?
3. What is the difference in the mean achievement scores of male and female students taught using process-based method?

Hypotheses

The following hypotheses were formulated and was tested at 0.05 level of significance.

H₀₁: There is no significant difference in the mean achievement scores of senior secondary school students taught Economic with process-based method and those taught with the conventional method

H₀₂: Location has no significant influence in the achievement of students taught Economic using process-based method and those taught using conventional method.

H₀₃: There is no significant difference in the achievement of males and females taught Economic using process-based method.

Methodology

The design of the study is quasi experimental design. The research was carried out in selected public senior secondary schools in Ofu Local Government Area of Kogi State. The population of this study comprised of all senior secondary school students in the public senior secondary schools in Ofu Local Government Area. There are total of 35 senior secondary school students in Ofu Local Government Area. Out of this population, 7243 students are males while 7287 students are females with the total number of 14,530. The research sample comprised 256 senior secondary school

students from public senior secondary schools in Ofu Local Government Area of Kogi State. Out of this sample, 131 were males while 125 were females. Two instruments was used for the study. They are; 1. Economic Achievement Test (EAT). 2. Economic, Gender and Location Scale (EGLS) Economic Achievement Test was developed by the researcher based on the topics taught to the students in both groups. EAT consists of thirty (30) multiple choice questions with options A-D 62 with only one correct answer. Questions on EAT was based on four Economic concepts from senior secondary school curriculum which were taught to the students.

One week before the commencement of the experiment, the test instrument, Economic Achievement Test (EAT) was administered as pre-test on the 27 students sampled for the study. The actual treatment session was conducted by the regular Economic teachers in their respective classes using lesson plans prepared by the researcher. The major treatment was teaching of reading comprehension. The experimental group was taught with the lesson plan on short stories technique while the control group was taught with the lesson plans on the conventional method. The researcher regularly monitored the classes to ensure compliance with the procedure of instruction. The treatment session will last for two weeks. After treatment, the same test was re-administered as post-test on the two group's treatment and control. The research questions was answered using mean scores of students while hypotheses were tested using Analysis of Covariance (ANCOVA). ANCOVA was used because it will remove the bias that might have resulted from intact groups whose initial difference had not been established.

RESULTS

Research Question One

What is the difference in the mean achievement scores of senior secondary school students taught Economic using process-based method and those taught with the conventional method?

Table 1: Pretest and Posttest mean achievement scores of senior secondary school students taught Economic using process-based method and those taught with the conventional method

Group	N	Pretest Mean	Posttest Mean	Gained Mean	Remark
Process-Based	128	49.59	79.47	29.58	More effective
Conventional	128	50.88	70.69	19.81	

Table 1 shows that the students taught with process-based method has a pretest mean score of 49.89 and posttest mean score of 79.47 with a gain mean 29.58 as against pretest mean score of 50.88 and posttest mean score of 70.69 with a gain mean of 19.81 for the students taught with conventional method. Therefore, process based method is more effective in enhancing academic achievements of senior secondary school students in Economic.

Research Question Two

What is the difference in the mean achievement scores of students in urban and rural areas taught Economic using process-based method?

Table 2: Pretest and Posttest mean achievement score of students in urban and rural area taught Economic using process-based method

Group	N	Pretest Mean	Posttest Mean	Gained Mean	Remark
Urban	128	79.47	77.63	1.84	More effective
Rural	128	70.69	63.24	7.45	

Table 2 reveals that the students taught with process-based method has a posttest mean score of 79.47 and posttest mean score of 77.63 with lost mean 1.84 for the students taught Economic with process-based method in the urban as against posttest mean score of 70.69 and posttest mean score of 63.24 with lost mean of 7.45 for the students taught in rural area with process-based method. Therefore, process based method is more effective in urban area than rural area achievement score of students'.

Research Question Three

What is the difference in the mean achievement scores of male and female students taught using process-based method?

Table 3: Pretest and Posttest mean achievement scores of male and female students taught using process-based method

Group	N	Pretest Mean	Posttest Mean	Gained Mean	Remark
Male	131	49.16	78.51	29.35	
Female	125	50.77	80.62	29.85	More effective

In table 3 it was observed that with pretest mean score of 49.16 and posttest mean score of 78.51 with gained mean 29.35 for the male students taught Economic with process based method as against pretest mean score of 50.77 and posttest mean score of 82.62 with gained mean of 29.85 for the female students taught with process based method. Therefore, the female students taught with process based method is more effective than male students taught with process based method.

Hypotheses

Hypotheses One: There is no significant difference in the mean achievement scores of senior secondary school students taught Economic with process-based method and those taught with the conventional method

Table 4: ANCOVA on the mean achievement scores of senior secondary school students taught Economic with process-based method and those taught with the conventional method

Source of Variation	SS	df	MS	Cal.F	Crit.F	Remark
Corrected Model	12616.129	2	6308.064			
Intercept	9959.681	1	9959.681			
Achievement 1	7681.066	1	7681.066			
Treatment Model	5714.725	1	5714.725	138.59	3.84	S
Error	10432.309	253	41.234			
Total	1466050.000	256				
Corrected Total	23048.437	255				

In Table 4, it was observed that at 0.05 level of significance, 1 df numerator and 255 df denominator, the calculated F 138.59 is greater than the critical F 3.84. Therefore, the first null hypothesis is rejected. Then there is significant difference in the mean achievement scores of senior secondary school students taught Economic with process-based method when compared with conventional method

Hypotheses Two: Location has no significant influence in the achievement of students taught Economic using process-based method and those taught with the conventional method

Table 5: ANCOVA on the mean achievement of location of students taught Economic using process-based method and those taught with the conventional method

Source of Variation	SS	df	MS	Cal.F	Crit.F	Remark
Corrected Model	28316.394	2	14158.197			
Intercept	12.357	1	12.357			
Achievement 1	15062.628	1	15062.628			
Treatment Model	2049.176	1	2049.176	235.81	3.84	S
Error	2198.606	253	8.690			
Total	1300644.000	256				
Corrected Total	30515.000	255				

Table 5 shows that at 0.05 level of significance, 1 df numerator and 255 df denominator, the calculated F 235.81 is greater than the critical F 3.84. Therefore the second null hypothesis is rejected. Then, the achievement of the location of students taught Economic using process-based method differ significantly when compared with those taught with the conventional method.

Hypotheses Three: There is no significant difference in the achievement of males and females taught Economic using process-based method

Table 6: ANCOVA on the mean achievement score of male and female taught Economic using process-based method

Source of Variation	SS	df	MS	Cal.F	Crit.F	Remark
Corrected Model	4022.750	2	2021.375			
Intercept	9014.145	1	9014.145			
Achievement 1	3882.016	1	3882.016			
Treatment Model	37.687	1	37.687	0.665	3.84	N S
Error	7083.125	125	56.665			
Total	819462.000	128				
Corrected Total	11105.875	127				

Table 6 reveals that at 0.05 level of significance, 1 df numerator and 127 df denominator, the calculated F 0.67 is less than the critical F 3.84. So the third null hypothesis is accepted. Therefore, the academic achievements scores of male and female senior secondary school students taught Economic with process based method do not differ significantly.

DISCUSSION OF FINDINGS

From the result it was reveal that firstly, process based method is significantly more effective in enhancing academic achievements of primary schools students in Economic when compared with conventional method. The finding of the study seems to support the finding of previous researchers- Bawa (2021), Egolum (2020), Okeke (2009), Awotua-Efebo and Ucheudu (2021) and Okoli (2020) which confirmed that appropriate teaching method leads to students' improved achievement in Economic subjects. This improved and significant achievement must have been as a result of the variety of activities which characterized process-based approach, where every learner must fully be involved in all fun-like, practical and interesting activities. These hands-and minds-on activities must have empowered and enabled all learners with different characteristics and abilities to benefit from the variety of the learning experiences provided by this approach.

Secondly, the process based method is significantly more effective in enhancing the rural and urban of senior secondary school students towards Economic than conventional method. This finding disagrees with the finding of Meltem and Oguz (2020) and Ahiakwo (2024) who found no significant difference in pupils' attitude towards Economic. However, it agrees with the findings of Uyoata (2024) and Ezeliora (2024) who reported that the experimental group had significantly higher level of achievement and positive attitude towards Economic.

Lastly, the academic achievements scores of male and female senior secondary school students taught Economic with process based method do not differ significantly. This result is in line with the findings of Archibong (2022) who found out that male and female students did not differ significantly in their level of retention of electrochemical concepts when taught using problem-solving, guided inquiry and expository methods. However, any difference found in the performance of male and female in the two groups might be due to sampling or measurement error but not due to gender.

CONCLUSION

The results of this study showed that when students are taught using a process-based approach, their performance improves greatly. This method involves students in hands-on and mind-on activities, where they actively participate in the learning process instead of just listening to the teacher. By engaging students in discussions, problem-solving, and practical activities, they are able to understand Economic concepts better and remember what they have learned. The study also revealed that this improvement in achievement was seen among all students, regardless of their gender or location. In other words, both male and female students, as well as students from different areas, benefited equally from the process-based method. This shows that the method is effective for all learners and does not favor any particular group. Furthermore, the study found that gender did not have a significant influence on students' achievement or their location. This means that differences in performance between boys and girls were not strong enough to affect the overall results. It suggests that when the right teaching method is used, every student has an equal chance of doing well in Economics.

In conclusion, the process-based method is a very effective way of teaching Economics. It makes learning more interesting, practical, and meaningful for students. Therefore, it is recommended that all Economics teachers should adopt and properly use this method in their classrooms. By doing so, students' interest, understanding, and academic performance in Economics will greatly improve.

Recommendations

In view of the appreciable effect of process-based method on pupils' achievement, attitude and retention of science concepts, it is recommended that:

1. Economic teachers should endeavor to apply this teaching approach in their teaching as well as ensuring that both sexes are given equal opportunity to do Economic.
2. Teachers should give boys and girls equal opportunity to handle materials in the Economic classroom.
3. Teachers should acquaint themselves with the skills and principles of process-based approach with a view to enhance students' achievement and location of Economic concepts.

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