



## **EFFECTS OF TWO MODELS OF REFLECTIVE THINKING ON JUNIOR SECONDARY SCHOOL STUDENTS' INTEREST IN SOCIAL STUDIES IN EBONYI STATE NIGERIA**

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### **ABSTRACT :**

This study investigated the effects of two models of reflective thinking-Kolb's Experiential Learning Model and Gibbs' Reflective Cycle on junior secondary school students' interest in Social Studies in Ebonyi State, Nigeria. Guided by three research questions and corresponding hypotheses, the quasi-experimental study adopted a pretest-posttest non-equivalent control group design. A total of 393 students from four selected schools participated in the study, with interest levels measured using a validated Social Studies Interest Inventory (SOSII). Data were analyzed using mean, standard deviation, and ANCOVA. Results revealed that students taught with Kolb's model demonstrated significantly higher interest in Social Studies than those taught using Gibbs' model. Gender had no significant effect on students' interest, and no interaction effect was observed between gender and the reflective models. These findings suggest that experiential reflective teaching enhances interest in Social Studies and should be incorporated into curriculum delivery. Reflective teaching strategies proved effective across gender groups and school contexts.

**Key Words:** Models of Reflective Thinking, Interest, Gender, Junior Secondary School Students

### **Introduction**

The value of Social Studies in the transformation of any society especially in this era of moral decadences cannot be underestimated. This is because Social Studies is designed to develop in the learner the ability to effect change in the democratic process of their communities. According to Alberta Education (2015), Social Studies is a school subject that assists students to acquire the Basic knowledge, skills and positive attitudes needed to be responsible citizens who contribute to solving the problems of society. In this respect, the National Council for Social Studies (NCSS), (2010) defines Social Studies as a discipline that inculcates in the learner the ability to make rational decisions for the public good as citizens of culturally diverse, democratic societies in an interdependent world. Thus, Social Studies is a programme of study which is intended to instill in students the desirable knowledge, values, skills, attitudes and actions considered important for effective human relations and functional personal interactions (Ersin,2017). The objectives of Social Studies as stated in the National curriculum published by the Nigerian Education Research and Development Council (NERDC, 2007: ii) are to help students:

- A. Develop the ability to adapt to the changing environment;
- B. become responsible and disciplined individuals capable and willing to contribute to the development of the society;
- C. inculcate the right type of values in learners;
- D. develop the sense of comprehension as citizens towards other people,
- E. develop the capacity to recognize the many dimensions of being human in different cultural and social contexts;
- F. develop a sense of solidarity and sharing security in one's own identity.

Bearing the above objectives in mind, it is envisaged that proper teaching of Social Studies in junior secondary schools would no doubt enhance the attainment of the aims of Universal Basic Education (UBE) programmes in Nigeria such as ensuring the acquisition of appropriate level of literacy, numeracy, manipulative and communicative life skills as well as moral and civic values needed for successful living in the society. Nevertheless, despite the fact that Social Studies is taught as a core subject at junior secondary school level in Nigeria, many students still develop low interest in learning the subject (Ebonyi State Universal Basic Education Board, Abakaliki, 2025). This situation could be attributed to poor method of teaching social studies by the teachers. For instance, Ayodeji (2009); Eidinyang and Ubi (2013) submitted that poor achievement in Social Studies in junior secondary schools is primarily related to teachers and their method of teaching. Other factors identified are parents, movement and learning environment.

The teacher is an important factor in the teaching and learning process. The success or failure of students in the classroom does not only depend on students' ability and availability of instructional materials but also on the teacher's ability to use instructional methods/strategies that create interactive classroom activities for meaningful learning. The curriculum document for teaching various subjects contains methods/materials that should be used for the teaching of the subjects. The curriculum for teaching and learning of Social Studies in junior secondary schools by NERDC recommended for the use of Reflection, Inquiry, Discussion, Collaborative Learning, Field Trip, simulation, and Cooperative learning among others. Though, the curriculum recommended the use of these methods to help learners participate actively and construct meaning of knowledge from experience, very few teachers were observed by the researcher to use field trip and simulation methods in teaching the subject. However, conventional methods still dominate the teaching of Social Studies in Ebonyi State (Ogene & Nnamani, 2016).

The conventional methods otherwise known as teacher-centred instructional approaches emphasize the transfer of knowledge, information and skills from the teacher to the learner (National Teachers' Institute, NTL, 2012). The emphasis in teacher-centered method is content coverage and does not allow students to think and initiate solutions to issue-based problems in Social Studies instruction (Salitu, 2015). The assumption of the teacher in asking questions in teacher-centred method is that students must get the answer to the questions correctly. As such, they see wrong answer as failure rather than avenue for improvement and continuous development. Although, conventional methods as mostly used by teachers are good in teaching large classes and allows for adequate coverage of the syllabus or curriculum contents within a specified time (Ighokwe, 2009), it is not appropriate in helping students integrate their experiences in the classroom for meaningful learning. Despite the fact that some teachers use conventional methods in teaching Social Studies in junior secondary schools in Ebonyi state, there are still many teachers that use reflective thinking in teaching the subject as recommended by the curriculum. From observations and interactions with these teachers, the researcher observed that most teachers that used reflective thinking either use Kolb's or Gibb's model while many other teachers are confused or lacked knowledge on the model of reflective thinking that is most appropriate in enhancing students' interest, achievement and retention in Social Studies. Although no method or models of teaching is adjudged the best, some methods can facilitate meaningful learning more than others. Korkmaz and Tay (2016) maintain that the usefulness of instructional methods in Social Studies classroom depends on the quality of teachers.

The teacher should be someone who creates a collaborative learning environment for learners to construct meaningful knowledge and ideas from experiences. According to Igbokwe (2009), a teacher is a facilitator and assessor of students' learning. The role of the teacher is to assist learners to acquire the requisite knowledge, ideas, skills and values through interactive classroom activities (Vermunt, 2014). Thus, the primary role of a teacher is to develop learning activities through which students can acquire meaningful learning. Stronge, Ward and Girant (2011) maintained that the teacher's greatest responsibility is to develop in students a positive attitude towards learning. The teacher needs to predict the possible needs of students and have social learning activities readily available to meet these needs. According to Ronfeld, Farmer, MeQueen and Grissom (2015), teaching should be designed to enable learners to experience a high degree of success. Teachers are also expected to experience greater success in teaching when activities are planned around learners' interests.

The role of the teacher in instructional delivery includes encouraging the continuous process of helping students think and reflect on issue-based contents. However, how well a teacher demonstrates the above roles in Social Studies classrooms, depends on the instructional methods adopted in the teaching and learning process. The teaching of Social Studies requires the use of inquiry-related approaches that promote reflection and associated activities. This process enables learners to think and reflect critically and creatively on issue-based contents of subjects in the curriculum. The researcher wished to try the effect of reflection in teaching Social Studies because other methods stipulated by the curriculum are subsumed in reflection. Reflection is an aspect of thinking that brings about meaningful learning in the classroom. It is popularly referred to as reflective thinking in the literature of education (Melek, Ipek & Edibe, 2015).

The concept of reflective thinking was first introduced by John Dewey (Lambe, 2011). Reflective thinking is a component of the learning process which involves the act of engaging in mental activities for understanding conflicting factors or issues in a situation (Dewey, 1993). Reflective thinking involves thinking, comprising thinking about an issue and evaluating it seriously in the mind (Dewey, 1933). Dewey noted that reflection is the element that turns students' experience into learning. Hence, students come to the classroom with concrete experiences which is an integral part of the learning. Social Studies contents deals with life and living, so students come to the classroom with different thoughts or experience. The experiences can be utilized to improve the interest and learning. Reflective thinking therefore, is the process of drawing inferences from students' experiences to encourage of facilitate meaningful learning. According to Dewey's theory of experiential learning. Reflective thinking is an active engagement of students in learning through careful investigation and activities to bring about meaningful learning (Hong & Choi, 2011).

Reflective thinking supports students taking responsibility for their learning, identifying their goals, assessing themselves, and participating in the learning process. Melek, Ipek and Edibe (2015) added that reflective thinking is learner-centered as it engages learners in series of questions and thinking processes that make learners construct knowledge among themselves without necessarily relying on the teacher for everything. It is anchored on the fact that learners come into class with certain life experiences which when explored brings about effective teaching and learning. The role of the teacher in the reflective classroom according to Timothy (2015) is to explore and filter students' experiences, bringing out the best for the benefit of the entire class. According to Kuz (2014), reflective thinking helps students to investigate, explain, organize, find causes, analyze, generalize, develop hypotheses, predict, assess, and synthesize issues and concepts within the framework of activities such as observation, modeling, writing and debating among others. There are many models of reflective thinking which teachers could adopt in teaching Social Studies in junior secondary schools. These models include Dewey's I-stage model, Neils 2 stage model, Greenway's 3-stage model, Scion's cyclic model, Agrippa's cyclic model, Kolb's 4-stage model, and Gibb's 6-stage model, among others. The researcher sought to combine Kolb's and Gibb's models of reflective thinking to find out the main effects on students' interest, in Social Studies.

Kolb's Experiential Learning model of reflection states that learning involves the acquisition of abstract concepts that can be applied flexibly in a range of situations (Kolb & Kolb 2009). The author believes that the development of a new concept is provided by the new experience. The concept of experiential learning according to Kolb and Kolb (2009) centered on the transformation of information into knowledge. Kolb drew on Dewey's philosophy in proposing a 4-stage cycle model of experiential learning. This model suggests that a student has to be exposed to concrete experience (CE) followed by reflective observation (RO), then the formation of abstract conceptualization (AC) achieved via thinking, planning and analyzing the learning activities or (learning experiences) while the final stage is Active Experiment (AE) which is the stage that the learners develop new principles/concepts by engaging or doing the activities (Cromptley, 2009). This process of reflection makes learning interesting and meaningful through the engagement of students in concrete and abstract thinking.

Gibb's Reflective Cycle Model was developed in 1988. The model gives structure to learning from experiences. It offers a framework for examining experiences, and given its cyclic nature lends itself particularly well to repeated experiences, allowing students to learn and plan from things that either went well or not in the classroom. Gibbs states that it is not sufficient simply to have experience to learn. Without reflecting upon this experience, it could quickly be forgotten, or its learning potential lost. It is from the feelings and thoughts emerging from this reflection that concepts can be made and these generalisations allow new situations to be tackled effectively (Gibbs, 1988). The model is a 6-step model that is designed to help identify students' experiences, areas for development and actions that they can take to enhance their learning. Steps 1-3 of the model relates to what happened during the experience and steps 4-6 focus on how students could improve on the experience and outcome in learning. These processes of thinking can help students to develop their interest, achievement, and retention in Social Studies. Karatek in, Kus, and Sonmez (2010) maintained that students' interest in learning is boosted when engaged in reflective activities where they demonstrate their feeling and share experiences in a supportive classroom. The interest of students is an important factor in the teaching and learning process. This is because students only pay attention and participate actively in a subject, they have interest in learning. The Kolb's and Gibb's models of reflection have stages of learning process which could promote students' meaningful interactions and interest in learning.

The term interest can be defined in two different ways: as an individual's present experience that arouse his action in activities; and as more lasting feelings derived from an event or activity that is enjoyable which results in persistence (Harackiewicz, Smith & Priniski, 2016). Therefore, interest can be a psychological state that increases attention and effort, experienced in particular activities or topic overtime (Soledad, 2019). According to Lilia, Norshariani, Abd, Ria and Lilia (2018), interest is a natural tendency or curiosity to participate in school activities and choose a particular learning task or career. This definition shows that interest is a motivational factor within the learning environment that energizes students' learning and guides academic choices and achievement. Soledad (2019) defined interest as a psychological construct or trait which deals with the environmental conditions that encourage positive response towards learning. These conditions according to Harackiewicz, Smith and Priniski (2016) could be teaching strategies, task presentations, and structuring students' experiences for meaningful learning outcomes. These conditions that arouse students' interest in participating in learning tasks are obtained in reflective thinking classrooms. In the context of this study, interest is referred to as a condition within the learner that could enhance positive attitudes towards learning a concept or contents of Social Studies within the learning environment.

The environment of learning Social Studies therefore must be supportive, encouraging and participatory to enable a learner develop positive interest to learning. Scotland Glaze (2017) suggested that integrating students' experiences in learning process will make them feel a greater sense of competence and intrinsic motivation, and perform better on related tests by developing the students' interest. Hence, if the condition within the environment of learning is not participatory or supportive as it is in reflective classroom, learners tend to decline in classroom activities, but if the condition is supportive and encouraging, it could promote students' interest in Learning (Laine, Veermans, Lahti & Veermans, 2017).

Although these models have been recommended by Educational Research and Development Council (NERDC) as one of the innovative instructional methods in teaching Social Studies to enable learners learn based on experiences. However, in Ebonyi State, many teachers appear to lack the knowledge of these models and are not using them. The researcher's visit to most Junior Secondary Schools in Ebonyi State confirmed this apprehension. There is need therefore to compare two model of reflection in order to determine the instructional benefits and gender interaction effects in the classroom. This underscored the need for the present study.

### ***Statement of the Problem***

In the ever-evolving educational landscape of the 21st century, fostering students' interest in Social Studies remains a significant challenge, particularly at the junior secondary school level in Nigeria. Social Studies, as a subject, plays a vital role in equipping learners with the knowledge, values, and skills necessary for responsible citizenship and social development. However, in Ebonyi State, observable trends in classrooms reveal a persistent low level of interest among junior secondary school students in the subject. This declining interest has been linked to traditional teacher-centered instructional methods that emphasize rote memorization rather than active engagement, critical inquiry, and reflective thinking. Reflective thinking defined as the capacity to critically examine one's beliefs, assumptions, and practices is a cognitive skill that promotes deeper understanding and personal relevance of content. Two prominent models of reflective thinking, such as Kolb's and Gibb's models Reflective Cycle, have been identified as potentially transformative pedagogical tools for enhancing students' intellectual engagement and motivation. Yet, despite their proven effectiveness in other educational settings, there is a dearth of empirical evidence on their application and impact on students' interest in Social Studies within the Nigerian junior secondary school context, especially in Ebonyi State.

The inability of current teaching approaches to stimulate learners' curiosity and sustain their interest raises important concerns about how Social Studies is taught and how instructional strategies can be improved to foster meaningful learning. This concern is particularly urgent given that lack of interest in the subject may translate into poor academic performance, limited civic awareness, and weakened national consciousness—outcomes that undermine the goals of the Nigerian Social Studies curriculum. Therefore, the problem of this study is: *What is the effect of two models of reflective thinking on junior secondary school students' interest in Social Studies in Ebonyi State?* Addressing this problem is critical for identifying evidence-based instructional strategies that can revitalize Social Studies education and promote a more engaged, thoughtful, and socially responsible generation of learners.

### **Purpose of the Study**

The main purpose of the study was to determine the effects of two models of reflective thinking on junior secondary school students' interest in Social Studies in Ebonyi State Nigeria. Specifically, the study was designed to;

1. the effects of Kolb's model and Gibb's model of reflective thinking on students' interest in Social Studies.
2. find out the influence of gender on the interest scores of students taught Social Studies with Kolb's model and those taught with Gibb's model of reflective thinking.
3. determine the interaction effect of Kolb's model and Gibb's model of reflective thinking and gender on junior secondary school II students' interest in Social Studies.

### **Research Questions**

The following research questions guided the study

1. what is the effects of Kolb's model and Gibb's model of reflective thinking on students' interest in Social Studies?
2. What is the influence of gender on the interest scores of students taught Social Studies with Kolb's model and those taught with Gibb's model of reflective thinking?
3. What is the interaction effect of Kolb's model and Gibb's model of reflective thinking and gender on junior secondary school II students' interest in Social Studies?

### **Hypotheses**

The following null hypotheses were tested at 0.05 level of significance to guide the study

- **HO<sub>1</sub>:** There is no significant difference in the mean interest rating of students taught Social Studies using Kolb's and Gibb's models of reflective thinking.
- **HO<sub>2</sub>:** There is no significant difference in the mean interest rating of male and female students taught Social Studies using Kolb's and Gibb's models of reflective thinking.
- **HO<sub>3</sub>:** There is no significant interaction effects of gender, Kolb's and Gibb's models of Reflective thinking and interest rating of students in Social Studies.

### **Methodology**

The study adopted a quasi-experimental research design. The specific design for the study was Pretest Posttest Non-Equivalent Control Group Design. This design according to White and Sabarwal (2014) is a special type of design that allows for the comparison of group that are similar to each other in terms of baseline. The treatment variable is reflective thinking at two models: Kolb's model of reflection (X<sub>1</sub>) and Gibb's model of reflection (X<sub>2</sub>), while the moderating variable is gender at two levels: male (Y<sub>1</sub>) and female (Y<sub>2</sub>). This design is considered appropriate for the study because intact classes were used and it would help to avoid distractions of normal class lessons. The design is symbolically represented as:

A   0<sub>1</sub>   X<sub>1</sub>   Y<sub>1</sub>   O<sub>2</sub>  
 B   0<sub>1</sub>   X<sub>2</sub>   Y<sub>2</sub>   O<sub>2</sub>

**Where A=Experiment group 1**

- B=Experiment group 2
- X<sub>1</sub>=Kolb's Model of Reflection
- X<sub>2</sub> -Gibb's Model of Reflection
- 0<sub>1</sub>=Stands for test before treatment (pretest)
- 0<sub>2</sub>=Stands for test after treatment (posttest)
- Y<sub>1</sub> =Male; Y<sub>2</sub> =Female

The area of this study was Ebonyi State. Ebonyi State is one of the newly created states by the Abacha military administration in 1996 from Abia and Enugu States. Ebonyi State is situated in the South-Eastern part of Nigeria, it is bounded in the south by Abia State, in the north by Benue State, in the west by Enugu and in the East by Cross River respectively. Ebonyi is made up of three Education Zones: Abakaliki, Afikpo, and Onueke with 221 public junior secondary schools. Abakaliki Education zone has seventy-one (71) co-educational junior schools and 7 single or same-sex schools; Onueke zone has fifty-nine (59) co-educational junior secondary schools and 5 single or same-sex schools, while Afikpo Zone has seventy-four (74) junior secondary

schools and 5 single-sex schools. The population of the study comprised all the 23,189 JSSII students from Basic Education Board (EBSUBEB, 2025). The choice of JSSII students is that the class was not preparing for any external examination and more likely to respond to instructions because of their level of maturity. The topics treated fall within JSSII Scheme of work. The sample of the study consisted of 393 students from junior secondary schools in Ebonyi State. Simple random sampling technique was used to select two Education Zones (Abakaliki and Onucke Education Zone) from the three Education Zones in Ebonyi State. Purposive sampling technique was also used to select two schools from each of the two Education Zones selected making it four (4) schools for the experiments. This comprised two schools for the Experimental Group I and two schools for Experimental Group II. Eight (8) intact classes were used (two from each of the four schools). 208 students out of the total sample size of 393 were used for Experimental Group I (103 males and 105 females) and 185 students for Experimental Group II (90 males and 95 females).

The instrument for data collection was Social Studies Interest Inventory (SOSII). The SOSII was made up of two sections A and B. Section A comprised personal profiles of the students. Section B of the SOSII contained items on the Social Studies activities in which students are interested. The inventory was made up of 30 items weighted on a four-point scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). Social Studies Interest Inventory (SOSII), Social Studies Achievement Test (SOSAT) and reshuffled Social Studies Retention Test (SOSRT) together with the lesson plans were face validated by two lecturers from the Department of Arts Education, (Curriculum Studies and Educational Technology) and one lecturer from the Department of Science Education (Measurement and Evaluation Unit), University of Nigeria Nsukka. The reliability of the instrument was established using a trial test method. Thirty (30) copies of the inventory were administered on the same students that answered the achievement test in PRESCO Secondary School Abakaliki. The data collected were subjected to a test of internal consistency using the Cronbach Alpha statistics. The inventory had a reliability index of 0.704.

Teachers in the selected schools served as the experimental teachers in the study and they were trained on how to administer the inventory. Pre-SOSII were administered to the two groups initially before teaching them with the two models of reflective thinking. However, the Post-SOSII were also administered to the subjects two weeks after the treatment. The data collected from the subjects were analysed to answer research questions and the respective research hypotheses. The data collected with SOSII were analyzed using the mean and standard deviation of the test scores and Analysis of covariance (ANCOVA). Mean and standard deviation of the test scores were used to answer the research questions posed while Analysis of covariance (ANCOVA) was used to test the null hypotheses stated at 0.05 level of significance. ANCOVA was appropriate to analyse data in this study because there was no randomization of subjects. Hence, the use of ANCOVA was used to avoid the error of non-equivalence and reduce the initial group differences due to the non-randomization of subjects. It equally helped to block off the effect of pretest on the posttest by treating the pretest as a covariate. Finally, there was a test of assumptions of ANOVA.

## Results

The results of the study were presented in tables based on the three research questions and three null hypotheses developed for the study.

**Research Question 1:** What is the effect of Kolb's model and Gibb's model of reflective thinking on students' interest in Social Studies?

**Table 1: Interest Mean (X) and Standard Deviation (SD) of students taught Social Studies with Kolb's Model and Gibb's Model of Reflective Thinking.**

Groups	Pre-Interest		Post-Interest		Mean diff.
	Mean	SD	Mean	SD	
Group I (N=208)	2.32	.10	2.96	.19	0.61
Exp Group II (N=185)	2.40	.10	2.61	.12	0.25

Data in **Table 1** showed the pre-interest mean and standard deviation of the Experimental Group I (M=2.32, SD=0.10), and that of Experimental Group II (M=2.40, SD=0.10). It could be observed that both experimental groups had almost the same interest level before instructional treatment. It also showed the post-Interest mean and standard scores of Experimental Group I (M=2.96, SD=0.19), is greater than that of the experimental Group (M=2.61, SD=0.12). The indicated that students in Experimental Group I had higher interest in Social Studies than those students in Experimental Group II. It further showed that the mean difference between the pretest and posttest in Experimental Group I was 0.61 and that of Experimental Group II was 0.25. This indicates that students in Experimental Group I had higher mean gain than those in Experimental Group II. This therefore shows that students taught Social Studies with Kolb's model had higher interest scores than those taught with Gibb's model of reflective thinking.

**Research Question 2:** What is the influence of gender on the interest mean scores of students taught Social Studies with Koll's model and those taught with Gibbs model of reflective thinking.

**Table 2: Interest mean scores of students taught Social Studies with Koll's model and those taught with Gibbs model of reflective thinking**

Methods	Gender	N	Pre-Interest Mean Score	SD	Post-Interest Scores	Mean SD	Mean Diff.
Experimental Group I	Male	103	2.31	0.08	2.95	0.19	0.64

Experimental Group II	Female	105	2.33	0.10	2.97	0.21	0.64
	Male	90	2.39	0.11	2.60	0.14	0.21
	Female	95	2.40	0.10	2.61	0.09	0.21

Table 2 showed the pre-interest mean and standard deviation scores of male students in Experimental Group I ( $M=2.31$ ,  $SD=0.08$ ), and that of females in the same group ( $M=2.33$ ,  $SD=0.11$ ). It also showed the pre-interest mean and standard deviation score of males in Experimental Group II, ( $M=2.39$ ,  $SD=0.11$ ), and the females ( $M=2.40$ ,  $SD=0.10$ ). It could be seen that male students had almost the same interest ratings with female students in the same baseline before instructional treatment. The table equally showed the post-interest mean and standard deviation scores of male students in Experimental Group I ( $M=2.95$ ,  $SD=0.19$ ), and the females ( $M=2.97$ ,  $SD=0.21$ ). It equally showed a post-interest mean and standard deviation score of male students in the Experimental Group II ( $M=2.60$ ,  $SD=0.14$ ), and that of female students ( $M=2.61$ ,  $SD=0.21$ ). It showed from the result that after the instructional treatment, both male and female students have the same almost the same interest scores. This shows that male and female students taught Social Studies with Kolb's model had the same interest ratings and the same thing to students taught using Gibb's model of reflective thinking.

**Research Question 3:** What is the interaction effect of Kolb's model and Gibb's model of reflective thinking and gender on junior secondary school II students' interest in Social Studies?

**Table 3: Mean (X) and Standard Deviation (SD) Scores on the Interaction Effect of Kolb's Model and Gibb's Model of Reflective Thinking and Gender on Students' Interest in Social Studies**

Methods	Gender	N	Pre-Interest Mean Score	SD	Post-Interest Mean Scores	SD
Experimental Group I	Male	103	2.32	0.08	2.95	0.19
	Female	105	2.33	0.10	2.97	0.21
Experimental Group II	Male	90	2.39	0.11	2.60	0.14
	Female	95	2.40	0.10	2.61	0.09

Data in **Table 3** revealed the pre-interest mean and standard deviation scores of male students in Experimental Group I ( $M=2.32$ ,  $SD=0.08$ ), and that of females in the same group ( $M=2.33$ ,  $SD=0.10$ ). It also showed the pre-interest mean and standard deviation score of male students in the Experimental group II ( $M=2.39$ ,  $SD=0.11$ ), and that of females ( $M=2.40$ ,  $SD=0.10$ ). It could be seen that male and female students in the entire groups had almost the same interest scores before instructional treatment with little mean differences which are insignificant. The table equally showed the post-interest mean and standard deviation scores show that male students in the Experimental Group I ( $M=2.95$ ,  $SD=0.19$ ), and that of the female students ( $M=2.97$ ,  $SD=0.21$ ). It further showed the post-interest mean and standard deviation score of male students in the Experimental group II ( $M=2.60$ ,  $SD=0.14$ ), and that of female students ( $M=2.61$ ,  $SD=0.09$ ). The result shows that male and female students in the both experimental groups had almost the same mean interest scores. This shows that both Kolb's and Gibb's models of reflective thinking and gender are effective in promoting students' interest in Social Studies.

### Hypotheses

The three hypotheses were tested with Analysis of Covariance (ANCOVA) at 0.05 level of significance.

**H01:** There is no significant difference in the mean interest rating of students taught Social Studies using Kolb's and Gibb's models of reflective thinking.

**Table 4: Summary of Analysis of Covariance on the significant difference in the mean interest rating of students taught Social Studies using Kolb's and Gibb's models of reflective thinking**

Dependent Variable Source	Type III Sum	df	Mean Square	F	Sig.
Corrected Model	12.468	2	6.234	232.493	.000
Intercept	2.594	1	2.594	96.738	.000
Preinterest	.511	1	.511	19.043	.000
Method	12.199	1	12.199	454.972	.000
Error	10.457	390	.027		
Total	3089.074	393			
Corrected Total	22.925	392			
a. R Squared=.544 (Adjusted R Squared=.542)					

From **Table 4** showed that  $F(1,390) = 454.97$ ,  $P < 0.00$ . This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis. This means there is a significant ( $P < 0.05$ ) difference between the interest mean scores of students taught Social Studies using Kolb's model and those taught using Gibb's model of reflective thinking in favour of Kolb's model of reflective thinking.

**HO2:** There is no significant difference in the mean interest rating of male and female students taught Social Studies using Kolb's and Gibb's models of reflective thinking.

**Table 5: Summary of Analysis of Covariance on the Significant Difference in the Mean Interest Rating of Male and Female Students taught Social Studies using Kolb's and Gibb's Models of Reflective Thinking**

Dependent Variable Source	Postinterest Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12.487a	4	3.122	116.042	.000
Intercept	2.607	1	2.607	96.893	.000
Preinterest	.502	1	.502	18.647	.000
Method	12.185	1	12.185	452.931	.000
Gender	.017	1	.017	.624	.430
Method*Gender	.002	1	.002	.064	.800
Error	10.438	388	.027		
Total	3089.074	393			
Corrected Total	22.925	392			

a.R Squared=.545 (Adjusted R Squared=.540)

Data in Table 5 showed that  $F(1,88) = .624, P > 0.80$ . This is not a significant result. Therefore, the null hypothesis which stated that there is no significant difference in the mean interest scores of male and female students taught Social Studies using Kolb's and Gibb's models of reflective thinking was accepted.

**HO3:** There is no significant interaction effects of gender, Kolb's and Gibb's models of Reflective thinking and interest rating of students in Social Studies.

From Table 5, the F-calculated 0.624 under method and gender is not significant at 0.80 which is greater than the P-Value of 0.05 ( $P > 0.05$ ). The null hypothesis which stated that there is no interaction effect of Kolb's model and Gibb's model of reflective thinking and gender on student's interest in Social Studies in junior secondary schools in Ebonyi State was not rejected.

## Discussion of Findings

The study explored the effects of two models of reflective thinking on junior secondary school students' interest in Social Studies in Ebonyi State. The discussion of the findings was based on the three research questions and three null hypotheses developed for the study. The analysis of results on students' interest in Social Studies presented in Tables showed that there is significant differences in the interest mean scores of students taught Social Studies using Kolb's model of reflective thinking and their counterparts taught using Gibb's model of reflective thinking. Students taught Social Studies with Kolb's model had a higher post-interest score ( $M=2.96, SD=0.19$ ) than those taught with Gibb's model of reflective thinking ( $M=2.61, SD=0.12$ ) with mean gain difference of 0.36. This finding indicates that Kolb's model of reflective thinking was more effective in stimulating students' interest in Social Studies than Gibb's reflective cycle. Kolb's experiential learning theory, which follows a four-stage cycle such as concrete experience, reflective observation, abstract conceptualization and active experimentation emphasizes learning through direct involvement and cyclical reflection (Kolb, 1984). This model actively engages students in the learning process, making learning more personal and relevant, which may account for the heightened interest observed.

This finding was support by the report of Akinbobola and Afolabi (2020) that students exposed to experiential-based instruction showed significantly higher interest and engagement in Social Studies compared to those taught through discussion methods. Similarly, Okonkwo and Uka (2021) observed that reflective and interactive models improve classroom attentiveness and interest by allowing students to relate real-life experiences to abstract content. On the other hand, Gibb's model, though valuable for structured reflection, may be more suited for post-event analysis and less engaging in a real-time classroom environment (Moon, 2004). Ifeoma and Odu (2019) argue that while Gibb's model supports self-assessment and critical thinking, its limited hands-on experiential component may not be sufficiently motivating for younger learners at the junior secondary level. Thus, the superiority of Kolb's model in this study may be attributed to its practical, learner-centered, and immersive approach, which aligns with the cognitive and affective needs of adolescents in early secondary school.

The finding of the study also revealed that there is a significant difference between the mean interest scores of students taught Social Studies using Kolb's model of reflective thinking and those taught using Gibb's model of reflective thinking in favour of Kolb's model of reflective thinking,  $F(1,390)=454.97, P < 0.00$ . This suggests that gender had no significant effect on students' interest in Social Studies when either reflective model was used. This aligns with the work of Nwafor and Okebukola (2020), who found that gender does not significantly influence students' level of engagement or interest when active learning strategies are employed. In their study, both boys and girls responded similarly to problem-based and inquiry-based learning methods. This is also in line with Joshua (2014) who submitted that the reflective inquiry in the classroom crates a community of learning where students'

interest and motivation to learning. Consequently, Ibe and Obi (2018) reported that when learners are exposed to reflective teaching methods that promote autonomy and inclusiveness, gender-based differences in classroom participation and interest tend to diminish. This could be because reflective learning encourages individual processing and internalization, which are not inherently gendered traits. This finding also challenges earlier assumptions such as those by Salami (2015), who suggested that female students are often more interested in subjects with affective and social content. The results of this study support a more contemporary understanding that effective pedagogical models can neutralize traditional gender disparities in learner interest.

This study further revealed that there is no interaction effect between gender and instructional treatments; showing that both Kolb's and Gibbs' models of reflective thinking and gender are effective in promoting students' interest in social studies. This means that gender and reflective thinking can bring about students' interest in Social Studies. The absence of a significant interaction effect between the type of reflective model used and gender further confirms that the effectiveness of the teaching model in enhancing student interest is independent of gender. This finding is supported by Obanya (2021), who posited well-designed instructional strategies grounded in experiential and reflective thinking can produce uniform outcomes across demographic subgroups. Moreover, Eze and Uchenna (2020) emphasized that reflective instructional models focus more on cognitive engagement and learner autonomy, both of which are beneficial regardless of gender. Their study found that when students are allowed to reflect on their learning, explore real-world connections, and participate in collaborative learning, they develop intrinsic interest regardless of sex differences. This finding also aligns with Adeyemo (2017), who concluded that gender is a diminishing predictor of interest when innovative, student-centered learning strategies are used, particularly in subjects like Social Studies that inherently promote humanistic values and social understanding.

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### Curriculum Implications of the Findings

The higher interest scores of students taught using Kolb's model of reflective thinking suggest that curriculum planners should consider integrating experiential learning frameworks such as Kolb's into the Social Studies curriculum. These models promote deeper learner engagement, self-reflection and personal connection to content, which can enhance student motivation and sustained interest. Since male and female students demonstrated similar interest levels under both Kolb's and Gibbs' models, this indicates that reflective thinking strategies are effective regardless of gender. Curriculum developers and educators can, therefore, confidently design and implement gender-inclusive instructional materials without bias toward one gender's responsiveness. The absence of a significant interaction effect between the models and gender on students' interest implies that more focus should be placed on how Social Studies is taught, rather than who is being taught. Curriculum implementation should emphasize effective pedagogy that promotes critical thinking, rather than relying on gender-based instructional differentiation. Finally, the results highlight the need for teacher training and capacity-building programs focused on reflective thinking strategies. The curriculum should be supported by periodic workshops and seminars to train teachers on how to effectively utilize models like Kolb's and Gibbs' in classroom instruction.

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### Conclusion

The study examined the effect of two models of reflective thinking-Kolb's Experiential Learning Model and Gibbs' Reflective Cycle on junior secondary school students' interest in Social Studies in Ebonyi State, Nigeria. The findings revealed that students taught with Kolb's model developed significantly higher interest in the subject compared to those taught with Gibbs' model. Additionally, gender did not significantly influence students' interest levels under either model, nor was there a significant interaction effect between model type and gender. These results underscore the effectiveness of experiential and reflective teaching strategies in enhancing learners' engagement and motivation in Social Studies. Therefore, the adoption of learner-centered reflective models, particularly Kolb's, holds great promise for revitalizing Social Studies education and promoting civic responsibility among junior secondary school students.

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### Recommendations

The following recommendations were made based on the findings of the study

1. Educational policymakers and curriculum developers should formally incorporate Kolb's reflective thinking model into the junior secondary Social Studies curriculum. This model should be emphasized in both curriculum design and teacher lesson planning templates.
2. Ministries of Education and educational institutions should organize in-service training, seminars, and workshops to equip Social Studies teachers with practical skills on how to apply Kolb's and Gibbs' reflective models effectively in their teaching.
3. Textbook authors and instructional designers should produce Social Studies teaching materials that embed reflective prompts, case studies, simulations, and real-world tasks aligned with Kolb's model. These materials should encourage students to actively engage in reflective cycles that promote critical inquiry and interest in societal issues.

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