

**In Search of a More Effective Strategy: Using the 5E Instructional Strategy to Teach Civic Education in Senior Secondary Schools in Ilorin, Nigeria**

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**Abstract:**

The sociopolitical and economic structure of Nigeria is being threatened by youth incivility, while civic virtues in all spheres of life are gradually declining. This study examined the effects of the 5Es instructional strategy on the literacy scores of students in Civic Education. A research question was raised with the corresponding hypothesis. Two intact classes in two different schools were selected for this study from the available secondary schools. Seventy-seven students participated in the study, in which the experimental group consisted of 39 students while the control group consisted of 38 students. The 50-item multiple-choice objective Civic Education Literacy Test (CELT) was used for collecting data. The validated CELT was tested for reliability, and a value of 0.68 was obtained. Analysis of Covariance was used in determining the significant differences between the two groups. The results revealed that there was a statistically significant difference between pretest and posttest literacy scores of students taught Civic Education using the 5Es instructional strategy. Thus, the study recommended that teachers should expose students to the 5Es instructional strategy in the classroom to develop students' generic skills and civic competence.

**Key words:** 5E instructional strategy, civic education, civic competence, literacy score

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### **Introduction**

The drive towards re-engineering the process of teaching and learning civic education in the Nigerian basic and senior schools has become imperative, especially in the face of dwindling levels of national consciousness, social harmony, and patriotic zeal.

As far back as the 1980s, it became painfully evident that the nonexistence of civic education and patriotic orientation had led to disorientation in schools and the larger society. The consequences were felt in all strata of Nigerian society. It was on this premise that the Political Bureau set up by former President Ibrahim Babangida suggested, in March of 1987, the establishment of a Directorate for Social Mobilisation (MAMSER), which eventually transformed into the National Orientation Agency (NOA) (Ajibola & Audu, 2014).

Okam and Lawal (2011) noted that the events of the recent past have shown that Nigeria is on the brink of losing its much-cherished sense of nationhood, cultural identity, and hospitable spirit. There is a prevalent trend of corruption, indiscipline, disrespect for elders and the rule of law, abusive security forces, poverty, unemployment, and illiteracy. Others include injustice, minority marginalization, internal colonization by national dominant groups in league with globalizing and multinational capital, growing inequalities between rich and poor, insecurity, crime, violence, and terrorism. Nigeria as a country is also battling pollution, urban decay, lack of basic hygiene, the spread of incurable diseases, ethnic cleansing, deteriorating education, and lack of commitment to duty. There are also several cases of abductions, ethnic conflicts, massive corruption, Biafra agitation, a growing rate of cyber-crime among youth, Shiite groups, and the menace of Boko Haram, among others, which, according to Okam and Lawal (2011), are some of the manifestations of negative values in the Nigerian society. These threaten the sociopolitical and economic structure of Nigeria and contribute to the gradual decline of civic qualities in all spheres of life. Because of their far-reaching impact on national development, significant value reorientation is necessary.

In all these, the school cannot be left out. One should, therefore, commend the National Orientation Agency and the National Technical Committee on Education for the introduction of civic education and initiating the writing of textbooks on the subject for Nigerian schools. According to the Federal Republic of Nigeria (2014), civic education is introduced to the Nigerian education system at basic and senior school levels to inculcate national consciousness, civic literacy and civic competence, and the right kind of values and attitude through effective teaching of civic education.

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Besides, civic education promotes the understanding of the relationships between man and woman, the government and the society. To this end, teachers are critical to the success of this bold initiative. It is gratifying, therefore, to observe that the National Orientation Agency working in collaboration with other members of the technical committee undertook a capacity-building program for teachers at all levels for the sustainability of civic education in the Nigerian school curriculum. It should be noted that the evolvment and sustenance of appropriate levels of social and national consciousness is the responsibility of all citizens. While the government provides the enabling opportunities for individuals and groups to make valid contributions to reviving a value-based nationalistic spirit, it is important to note that education through effective teaching of civic education holds the key to ensuring that citizens exhibit acceptable standards of socialization through the school (Ezegbe, Oyeoku, Mezieobi, & Okeke, 2013).

Former Director-General of the National Orientation Agency Alhaji Idi Faruk said in a 2011 address that the decision to reintroduce civic education was based on a critical analysis of the democratic history of Nigeria and a comparative research of advanced democracies in other nations. According to him, the finding was that countries that invested heavily in the socialization of their citizens through the school breed citizens who possess civic consciousness, competence, and high rates of literacy. It can therefore be assumed that many of our national challenges, especially in the civic sphere, are a consequence of the inability of Nigerian schools to efficiently teach the appropriate skills and right types of attitudes to the younger generation. This may be caused by teachers' use of inappropriate instructional strategies, which can make it very easy to assimilate learned materials as well as permanent internalization.

However, it is observed that the strategies employed by teachers in Nigerian schools have been teacher-centered. The emphasis has been the transmission of civic information rather than civic literacy and civic competence. An observation of classroom interaction of civic education in secondary schools indicates that teachers are likely to be faced with the challenges of how to effectively teach the curriculum content of civic education to achieve its stated objectives. This might be why Ikwumelu and Oyibe (2011) maintained that when classroom teachers effectively teach the curriculum contents of a subject, it will instill in the students an inquiry attitude that will bring about the development of values in their learning. On the other hand, Downey and Kelly cited in Bozimo and Ikwumelu (2008) observed that ineffective teaching does not encourage the development of social awareness and social understanding because students still take for granted what their teachers offer, probably as a result of utilization of inappropriate instructional strategies.

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Despite different scholarly findings on modern trends in teaching, Adesoji (2004) noted that teachers still make use of teacher-centered strategies like lecturing, storytelling, dictation, and so on, because of the overcrowded classrooms and overloaded curriculum and infrastructural facilities. These invariably have resulted in teachers' reluctance to explore other teaching strategies besides the traditional lecture method. This position remains in this contemporary time of advancement in technology and civilization (Adesoji, 2004). Learner-centered instructional strategies have repeatedly shown to be superior to the traditional teacher-centered instructional strategies. The learner-centered instructional strategies help to promote mastery learning and ensure long-term retention or depth of understanding of course content. It improves students' level of critical thinking, learning from experience, and creative problem-solving skills, as well as the formation of students' positive attitudes (Oesterreich, 2003).

Students who learn through learner-centered instructional strategies could achieve more success than their counterparts exposed to teacher-centered instructional strategies, considering the difference in the level of their participation in the learning process (Amosun, 2002). For example, Pagnotti (2012) conducted a quasi-experimental study that involved 68 middle school students in America in determining the effects of civics-based video games on students' civic engagement. The researcher found that civic-based video games did not enhance civic engagement but also reported a significant difference in the mean changes in civic engagement scores of those students who spent more time playing civic-based video games.

It is proclaimed, however, that the relevance of learner-centered instructional strategies for effective teaching and learning process includes active learning, student engagement, and other activities that involve students. A learner-centered lesson engages students in the difficult work of learning and with explicit skill instruction. It teaches students how to think, solve problems, analyze arguments, evaluate evidence, and generate hypotheses. According to Weimer (2012), learner-centered instructional strategies—especially the 5Es instructional strategy—encourage students to reflect on what they are to learn and how they are to learn it, motivate learners by giving them some control over learning processes, and encourage collaboration. Learner-centered instructional strategies shift the focus of activity from the teacher to the students. The strategies also help students formulate questions of their own, and discuss, explain, debate, or brainstorm during class.

Mbakwem (2005) is equally of the view that a subject's efficacy depends on the nature and quality of the learning experience that is associated with it. Ikwumelu and Oyibe (2011) added that it is not only the content of the subject that determines its effectiveness but also the quality

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of learning experiences, which are in some cases dependent upon teachers' effective application of instructional strategies that enhance active participation of students in and out of the classroom. They advocate for the application of learner-centered instructional strategies in carrying out civic education classroom interaction, since the strategies aimed at promoting learning by doing through guided discovery among students and the teacher in the classroom setting serve to enhance effective decision making while analyzing social issues.

### **Statement of the Problem**

Nigeria is a vast country with many human and material resources; however, it is observed that despite our resources, Nigeria is ranked high among the most corrupt nations in the world, according to Transparency International (2017). Apart from the problem of corruption, Nigeria is also bedevilled with other social vices such as armed robbery, kidnapping, lack of integrity, examination malpractices, election manipulation, lack of civic competence, and so on. These social menaces may be a circumstance of the deteriorating nature of education, of which unprofessional and inappropriate instructional strategies adopted by teachers are a major part. Also, there seems to be an urgent need for social and educational researchers to intervene in an attempt to restructure and discover better strategies for transmitting civic education to the students. Most studies reveal that the learner-centered strategy is considered one of the best strategies for impacting knowledge and attitudes. However, there is need to investigate the validity of the importance accorded learner-centered instructional strategies, including the 5E instructional strategy.

It is observed that there is a scarcity of studies on the effect of the 5Es instructional strategy on civic education. Most available studies were experimental and adopted different instructional strategies than the 5E strategy. For instance, Igba and Nwafor (2016) studied the effects of the jigsaw co-operative instructional strategy on senior secondary students' achievement in civic education in Ebonyi State. Owede (2017) conducted a study on the effects of jigsaw and social learning instructional strategies on senior secondary students' achievement in civic education in Bayelsa State. Adeniran, Akinyemi, and Aremu (2016) examined the effect of Webquest on civic education of junior secondary school students in Nigeria, while Nuhoglu and Yalcin (2006), Madu and Amaechi (2012), and Ajaja (2013) focused on science-oriented subjects (physics and biology, respectively).

Perhaps the scarcity of studies on the effect of 5Es on civic education resulted from the belief that the 5Es instructional strategy is meant for teaching only science-based subjects and not arts

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or commercial subjects. Many of the studies (both foreign and local) were carried out mainly on science-oriented courses. For instance, Bybee et al. (2006) conducted a study on the history and effectiveness of the 5Es instructional strategy in the teaching of sciences in the United States. What this implies is that there is the need for a study to consider the effect of the 5Es instructional strategy on students' performance in the arts and social sciences in Nigeria. To fill the gap in the literature, this study is aimed at investigating the effectiveness of the 5Es instructional strategy in the teaching of civic education in Ilorin metropolis.

### **Purpose of the Study**

The study investigated the effectiveness of 5Es instructional strategies in the teaching of civic education in senior secondary schools in Ilorin, Nigeria. Specifically, the study examined the effect of 5Es on the senior school students' civic literacy scores.

### **Research Question**

This research sought to proffer an answer to the research question:

1. Is there any difference between the civic literacy scores of students taught using the 5Es instructional strategy and those taught with the conventional method?

### **Research Hypothesis**

One hypothesis was postulated in this study:

**Ho<sub>1</sub>:** There is no significant difference between civic literacy scores of students taught using the 5Es instructional strategy and those taught using the conventional method.

### **Review of Related Literature**

**Civic Education in Nigeria:** According to Utulu (2011), civic education should introduce learners to the process of democratic socialization and promote support for a democratic culture among citizens. Cheng (2009) affirmed that civic education is responsible for preparing students to become sensible, active, and responsible citizens in facing challenges arising from their society. Okam and Lawal (2011) perceived civic education as the means whereby individuals become socially and politically aware, integrated into the social environment, and acquire social skills and competence in order to become socially responsible for efficiency and growth, all in the interest of the state. Dagunduro (2012) explained that civic education is a concept that deals with the themes, concerns, and procedures through which people of all ages acquire knowledge, abilities,

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and characters necessary for individual and national development. Ajibola and Audu (2014) stated that civic education is one of the subjects taught in schools to inculcate sound moral values in the youths. Additionally, Ajao (2013) opined that civic education is the kind of education through which individuals and citizens acquire useful and positive habits, attitudes, and beliefs that help them live as useful and functional members of the society. Civic education is designed to help people learn how to become active, informed, and responsible citizens. The objectives of Civic Education in Nigeria as stated by the Nigerian Educational Research and Development Council are:

- a. Promoting the understanding of the inter-relationship between man and woman, the government and the society.
- b. Highlight the structure of government, its functions and the responsibilities of government to the people and vice-versa;
- c. To enhance the teaching and learning of emerging issues.
- d. Inculcate in the students their duties and obligations to the society. (NERDC, 2008)

***Teacher-centered versus Learner-centered Instructional Strategies:*** For the objectives of civic education to be achieved, teachers should actively engage learners in the teaching and learning process. The goals can only be achieved when the teacher makes use of instructional strategies that are learner-friendly. Instructional strategies are the classroom practices that teachers use to guide students through the learning process (Wiggins & McTighe, 2008). The Teaching Resource Guide (TRG, 2014) defined instructional strategy as the step-by-step activities a teacher employs to help activate students' curiosity about a class topic. The instructional strategy ideally engages the students in learning, probes their critical thinking skills, keeps them on task, engenders sustained and useful classroom interaction, and generally enables and enhances students' learning of course content.

There are two major classifications of instructional strategies: teacher-centered instruction and learner-centered instruction. At its most extreme interpretation, teachers are the main authority figure in a teacher-centered instructional strategy. Students are perceived as "empty vessels" who passively listen and receive knowledge from their teachers through lectures and direct instruction, with an end goal of positive performance from testing and assessment. In this style, teaching and assessment are viewed as two separate entities, and student learning is measured through objectively scored tests and assessments.

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As the primary teaching strategy under the teacher-centered instructional strategy, direct instruction utilizes passive learning, or the idea that learners can learn what they require through listening and watching exact instruction. Teachers act as the sole supplier of knowledge, and under the direct instruction strategy, teachers often utilize systematic, scripted lesson plans. Direct instruction programs dictate what the teacher should say and do, and activities that students should master, for every minute of the lesson.

Because it does not include student preferences or give them opportunities for hands-on or alternative types of learning, direct instruction is extremely teacher-centered. It is also fairly low-tech, often relying on the use of textbooks and workbooks.

Traditionally, lecturing is the most common method of teacher-centred instruction. Others are storytelling, dictation, and book study. The new approach is to apply various methods and shift teacher-centered instructional strategies to more student-centered approaches. According to Anvar, Khademi, Meshkibaf, Fereidouni, and Ebrahimi (2006), there are many reasons to shift to student-centeredness. To them, student-centered learning is more aligned with the lifelong learning skill, which is essential for the workforce in the information era. It includes learning how to learn, team skills, communication skills, problem solving, interacting, and processing information. In a student-centered instructional strategy, the emphasis is on planning, teaching, and assessment around the needs and abilities of the students. A student-centered instructional strategy helps to design effective instruction for the diverse learning needs of every student in the class.

- a. To plan any lesson, the teacher must first think of the students, rather than the content, and so we are assured that the students' needs are being considered. Student-centered instructional strategy has been proven effective in its ability to teach students the material they need to know.
- b. Students taught in a student-centered classroom retain more material for longer periods of time. In order to learn, the brain cannot simply receive information; it must also process the information so that it can be stored, assimilated, and recalled.
- c. The teacher is not obliged to be the sole, infallible source of information and the students are allowed to explore, experiment, and discover on their own. The students are not just memorizing information, but they are encouraged to work with and use the information alone or with peers.

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- d. For this, the teacher must design activities that let students take the initiative and that let students discover meaningful information on their own. They must also get to know the students on an individual basis so that they can better respond to the individual needs and interests of the students. In general, teachers need to focus on the students' needs, abilities, and interests.
- e. Teachers need to "look at how students learn."

Examples of student-centered instructional strategies include cooperative learning (such as Jigsaw, Student Achievement Division, Peer-tutoring, Think-Pair-Share, etc.), 5Es, individualized instruction, question and answer instructional strategies, inquiry, etc. In the opinion of the researchers, the employment of 5Es will promote learning from experience, learning by doing, and discovery learning.

**5Es Instructional Strategy:** The 5Es instructional strategy evolves from the constructivist approach, which allows students to actively participate in the learning process as it encourages learners to explore, experience, and discover various subjects, and as a result, it can be considered an effective method for teaching (Yadigaroglu & Demircioglu, 2012). In studies conducted using the 5Es instructional strategy, evidence suggested that the strategy increases the success of students, elevates their conceptual understandings, and positively changes their attitudes (Kor, 2006; Saglam, 2006). The 5Es instructional strategy arouses students' interest (Clark, 2003), motivates them, and enhances their cognitive development (Wilder & Shuttleworth, 2004). According to Atay and Tekkaya (2008), the 5Es instructional strategy has an impact on students' understanding of cognition, helps them take responsibility and actively participate in lessons, helps them have fun during lessons, and increases their academic achievement (Evans, 2004). Also, it increases interest in lessons and achievement, especially for students with low grades (Demircioğlu, Ozmen, & Demircioğlu, 2004).

Empirical research examining the effect of a specific instructional strategy on students' academic performance is nothing new. For example, Adesina, Okewole, and Bodunrin (2014) studied the effect of advance organizers on learning civic education in lower primary schools and found that the advance organizers were learning strategy aided learning. Ayo-Vaughan and Amosun (2016) assessed the effects of two modes of active learning strategies on school-age children's civic competence in leadership value concepts in social studies and civic education. The significant effect of treatment on school-age children's civic competence was found. A paucity of study exists on the effects of 5Es on students' achievement in civic education, as many studies

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such as Nuhoglu and Yalcin (2006), Madu and Amaechi (2012), and Ajaja (2013) focused on science-based subjects like physics and biology; however, they have all attested to the positive effect of the 5Es instructional strategy on students' academic performance. It is based on this background that this study deems it necessary to investigate the effect of the 5Es instructional strategy on civic literacy scores of secondary school students in Civic Education in Ilorin metropolis, Nigeria.

Developed in the 1980s, the 5Es instructional strategy was designed to provide an instructional strategy that encourages a constructivist approach to education while introducing aspects of behaviorism and cognitivism (Jobrack, 2010). The strategy has been widely employed by science educators and is useful in other subject areas as well. The origins of the strategy can be traced to the work of Johann Herbart, John Dewey, and Jean Piaget. The rationale behind the strategy is to commence with students' current knowledge, make connections between current knowledge and new knowledge, make available direct instruction of ideas the students would not be able to learn on their own, and provide opportunities to demonstrate understanding (Bybee et al., 2006).

The 5Es instructional strategy allows learners to build or construct new ideas on top of their prior experience and ideas, and it can be used with students of all ages, including adults. Each of the stages of the 5Es describes a phase of learning: Engage, Explore, Explain, Elaborate, and Evaluate.

- a. Engage:* This phase attempts to capture students' attention and interest. Students get focused on a situation, event, demonstration, or problem that entails the content and abilities that are the aims of instruction. From the teacher's point of view, asking a question, posing a problem, or presenting a discrepant event are all illustrations of strategies to engage learners (Bybee, 2014). The Engagement phase tries to activate prior knowledge and determines student preconceptions. Preconceptions, misconceptions, or naive conceptions are prevalent in society and are often immune to conventional instruction (Clement & Stephens, 2008). This student-centered phase should be a motivational opportunity that can bring about a desire to learn more about the topic introduced (Duran & Duran, 2004). This phase should also capture students' interest and make them curious about the topic and concepts.
- b. Explore:* Immediately after the Engagement phase, which supports a mental focus on the concept, the Exploration phase provides learners with a common, concrete learning experience. This student-centered phase integrates active exploration. Students are motivated to apply process skills such as observing, questioning, investigating, testing

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predictions, hypothesising, and communicating with other peers (Duran & Duran, 2004). Bybee (2014) explained that Exploration experiences should be designed for introduction and description of the concepts, practices and skills of the instructional sequence. Students are expected to have experiences and the occasion to formulate explanations, investigate phenomena, observe patterns, and develop their cognitive and physical abilities. The teachers' role in the Exploration phase is to introduce the activity, describe the appropriate background, provide adequate materials, and counter any misconceptions. After this, the teacher takes up a passive role with the tasks of paying attention, observing, and directing students as they clarify their understanding and begin reconstructing scientific concepts and developing their abilities.

- c. Explain:* Optimally, the Explanation phase allows active participation in the learning process by both the teacher and students. It is a period for introduction of common terms that provide students entry into the topic introduced. (Tanner, 2010). Students are given the opportunities to express their conceptual understanding or to show new skills or behaviors. Jobrack (2010) opined that the teacher could address concerns that students might miss the objective of the lesson, or might even develop misconceptions. According to Duran and Duran (2004), this can also be called the "minds-on" phase, and it is more teacher-directed and guided based on students' prior experience during the Exploration phase. Prior experiences should be used as contexts of the explanation (Bybee, 2014).
- d. Elaborate:* Elaboration Theory, which emerged from Cognitivism Learning Theory, is reflected in this phase. The notion is that for the most effective learning to take place, teaching should be organized in increasing order of difficulty (Jobrack, 2010). According to Duran and Duran (2004), students partake in learning experiences that extend, expand, and enrich the concepts and abilities developed in the previous phases. The motive is to orchestrate the transfer of concepts and abilities to related, but new, situations (Bybee, 2014). Students are advised to inquire for understanding from their peers or to come up with new ideas or strategies based on the new skills they have learned.
- e. Evaluate:* Bybee (2014) reported that in the evaluation phase, the teacher should involve students in experiences that are understandable and in lieu of those of prior phases and matching the explanations. Assessment in an inquiry-based procedure and is very different from that in conventional lessons. Both formal and informal assessment approaches are adequate and should be included (Duran & Duran, 2004). During the evaluation, teachers provide opportunities for students to demonstrate their knowledge

or mastery of the concepts and skills that have been explored. While Evaluation can be an in-class quiz or exam, it need not be restricted to these modalities (Tanner, 2010). The 5Es, along with adequate instructional materials, can play a substantial role in providing quality education. The 5Es can transform the class from a traditional setting into a place where every student's needs are considered.

The focal point of this study is in lieu with one of the principles for designing the new Senior School Curriculum, which is to develop autonomous learning capabilities in students, or assist students in learning, by developing their generic skills and interest, as articulated by the Nigerian Educational Research and Development Council (2008) for Secondary Schools in Nigeria (Awofala & Awolola, 2011).

### **Theoretical Framework**

This study is underpinned by the constructivist view of learning. The 5Es classroom is designed to foster a constructivist theory of learning. "The core of constructivist theory is the idea that learners must individually discover and transform complex information if they are to make it their own" (Slavin, 2006, p. 243). Constructivist learning is the process of establishing a connection between former and new knowledge and integrating each new experience with existing knowledge. According to the constructivist learning theory, knowledge is developed while it is transmitting from an unbalanced to an equilibrium situation. If a new experience overlaps with former understanding, it will be readily added to the existing knowledge, and the individual can rapidly give meaning to new knowledge (Olsen, 1999; Doolittle, 2001). If a new experience does not overlap with previous knowledge, the individual will likely respond in one of four ways:

- a. Destroying the existing knowledge.
- b. Modifying existing former knowledge to conform to the new knowledge.
- c. Modifying the new knowledge to conform to the former knowledge.
- d. Rejecting the new knowledge. (Hand & Treagust, 1991)

Constructivism is a philosophical view of how we come to understand or know. It is, in our mind, most closely attuned to the pragmatic philosophy of Richard Rorty (1991). This will characterize the philosophical view regarding three primary propositions:

- a. ***Understanding is in our engagement with the environment.*** This is the thrust concept of constructivism. We cannot talk about what is learned independently from how it is

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learned as if a variety of experiences lead to the same understanding. Preferably, what we know and understand is determined by the content, the context, the activity of the students, and, perhaps most importantly, the goals of the learner. This is due to the fact that understanding is an individual construction; we cannot share comprehension, but we can assess the degree to which our understandings are compatible.

- b. *Cognitive conflict or puzzlement is the stimulus for learning and determines the organization and characteristics of what is learned.*** There is some stimulus for learning when we are in a learning environment; the learner has a purpose for being there. That goal is not only the goal for learning, it is a primary factor in determining what the learner attends to, what prior experience the learner brings in constructing an understanding, and, basically, what understanding is eventually constructed. In Dewey's terms, it is the "problematic" that leads to and is the organizer for learning (Rochelle, 1992). According to Jean Piaget, it is the need for accommodation when current experience cannot be assimilated in the existing schema (vonGlaserfeld, 1989).
- c. *Knowledge evolves through social negotiation and the evaluation of the viability of learners understandings.*** The social environment is crucial to the development of our understanding as well as to the growth and development of the body of propositions we call knowledge. At the individual level, other individuals are a primary mechanism for testing our understanding.

Constructivism as a theory justifies the putting together of new ideas by interpreting new experiences in light of prior knowledge so that the new ideas come to make sense to the learner (Cobern, 1995). The strengths of constructivism lie in the construction of knowledge and what that means for students and teachers. A constructivist view of learning suggests that "as we experience something new, we internalize it through our past experiences or knowledge constructs we have previously established" (Crowther, 1997 in Akpan& Beard, 2016). The primary duty of a teacher is to enable children to think outside the box by making connections that result in valid internalized meanings unique to them. In 5Es, the teacher leads the children through exploratory activities that enable them to investigate on their own and come to conclusions as to what is happening in the immediate environment (Martin, 2003).

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A typical constructive classroom environment is task-oriented and designed to enhance hands-on and minds-on learning for all students similar to those encountered in the real world. This type of learning environment should focus on authentic tasks identical to what people see in everyday practice, similar to on-the-job experiences that would benefit all students (Larson & Keiper, 2007). In a constructivist classroom, the class focuses on problem-based learning (PBL), real-life problem solving, independent investigation, and the pursuit of personal interests, simulation, discussion collaborative learning, think-pair-share, and the utilization of higher-order thinking skills. Research studies in cognition, authentic learning, and student engagement support claims that a student-centered instructional strategy is useful for all students, including students with special needs (Larson & Keiper, 2007).

### **Methods**

The study used a quasi-experimental design which employed pre-test/post-test. Two secondary schools were sampled, after which the sampled schools were randomly selected and randomly assigned to experimental and control groups. The experimental group had an intact class of 39 students and the control group had an intact class of 38 students (conventional), making a total of 77 students. The instrument employed in this study for data collection was the Civic Education Literacy Test (CELT). This study used split-half to measure the reliability of the CELT. The CELT was administered once to Senior School II students in a school that did not participate in this study, after which the value of reliability index (0.68) was obtained using the Spearman-Brown Prophecy Formula. The employment of Spearman-Brown Prophecy is justified because it accommodates dichotomous (e.g., right-wrong) answers that characterized the test. To test the hypotheses, Analysis of Covariance (ANCOVA) was used. The data were run using a Statistical Package for Social Sciences (SPSS 24.0) window version.

### **Results**

#### **Research Question**

1. Is there any difference between the civic literacy scores of students taught using 5Es instructional strategy and those taught with the conventional method?

In order to answer the research question, the mean was used to determine the mean gain scores of the two groups, as shown in Table 1.

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**Table 1: Mean Gain Score of the Experimental and Control Groups**

Group		Posttest	Pretest	Mean Gain Score
Treatment	Mean	59.64	37.23	22.41
	N	39	39	
	Std. Deviation	11.03	13.45	
Conventional	Mean	40.21	29.58	10.63
	N	38	38	
	Std. Deviation	10.26	10.57	

The findings in Table 1 show the importance of the 5Es instructional strategy to students' civic literacy in civic education. The 5Es treatment group demonstrates higher civic literacy than their counterpart taught using a traditional strategy in civic education. These findings reveal that the mean gain score of students taught using the 5Es instructional strategy is 22.41, while the mean gain score of those taught using a traditional strategy is 10.63; the mean score of those taught using the 5Es 5Es instructional strategy (59.64) is greater than the mean of those taught using a traditional strategy (40.21).

**Ho<sub>1</sub>:** There is will be no significant difference between the civic literacy scores of students taught using the 5Es instructional strategy and those taught using a conventional strategy.

**Table 2: Results of Analysis of Covariance on the Differences Between the Experimental and Control Groups**

Source of variance	Sum of squares	df	Mean square	F	Sig.
Corrected strategy	3381.757 <sup>a</sup>	2	1690.878	43.505	.000
Intercept	2221.645	1	2221.645	57.162	.000
Pretest	2558.900	1	2558.900	65.839	.000
Group	580.633	1	580.633	14.939	.000

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Error	2604.014	67	38.866
Total	57232.00	70	
<b>Corrected Total</b>	<b>5985.771</b>	<b>69</b>	

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a. R squared = .565 (Adjusted R squared = .552) F(1, 67)= 14.939, e. = .000

Table 2 shows the result of a one-way between-group analysis of covariance conducted to determine the effect of 5Es instructional strategies on senior school students' civic literacy scores in Civic Education in Ilorin, Nigeria. The independent variable was the type of intervention strategy (5Es & Control), and the dependent variable consisted of post-test scores on the Civic Education Literacy Test administered after the intervention was completed. Pre-test scores on the Civic Education Achievement Test administered before interventions were used as the covariate in this analysis. Preliminary checks were conducted to ensure that there was no violation of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes, and reliable measurement of the covariate. After partial out the effect of pre-test scores, because it includes the variable whose effects we want to "partial out" in the analysis in order to separate them from the other effects, there was a significant difference between the post-test scores of experimental and control groups on the Civic Education achievement test, (F (1,67 =14.94, P = 0.00)). Since P value is less than .05, the stated null hypothesis is rejected. Therefore, this result concludes that there is significant effect of the 5Es instructional strategy on senior school students' literacy in Civic Education in Ilorin, Nigeria.

### **Findings**

The following findings are based on the results of this study:

1. The finding indicates that the mean score of those taught using the 5Es instructional strategy is 59.64, greater than the mean of those taught using the traditional strategy, 40.21. In addition, the mean gain of literacy score of students taught using the 5Es instructional strategy is 22.41, while those taught using traditional strategy had a score of 10.63. Also, there was a statistically significant difference between the literacy scores of students in Civic Education taught using 5Es and those taught using the conventional strategy. The 5Es instructional strategy enhances higher civic literacy scores than when taught using traditional strategy. In otherwords, the mean gain scores of those taught using 5Es instructional strategy is greater than the mean gain scores of those taught using the conventional strategy.

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### **Discussion of the Findings**

The finding indicates that the teaching strategies used by the teacher have a significant effect on the learning strategies used by students. It was hypothesized that the 5Es instructional strategy used by the teacher would not affect the civic literacy of the students. However, this study reveals that 5Es instructional strategy has a significant effect on students' literacy scores in civic education in Ilorin. The finding indicates that those taught using 5Es instructional strategy have greater understanding of civic knowledge than those taught using traditional strategy. Furthermore, the finding, reveals that the students taught using 5Es instructional strategy learn more effectively than those taught using traditional strategy.

The finding also reveals that the hypothesis, which states that there is no significant effect on students' literacy score in civic education, was rejected. This is borne out of the fact that the value is  $F(1,67 = 14.94, P = 0.00)$  where  $P < .05$ . It can be deduced from the result reported above that the 5E instructional strategy allowed students to internalize the concept of civic education, thereby not only showing improvement in their knowledge of civic education but also in their thoughts and actions. This finding agrees with Kor (2006) and Saglam (2006) in studies conducted using the 5Es instructional strategy, concluding that the strategy increases the success of students, elevates their conceptual understandings, and positively changes their attitudes in the sciences. It is also in line with Atay and Tekkaya (2008), who discovered that the 5Es instructional strategy has an impact on students' understanding of cognition, helps them take responsibility and actively participate in lessons, helps them derive pleasure from lessons, and increases their academic achievement. Also, the finding tallies with Demircioğlu, Ozmen, & Demircioğlu (2004), who observed that the 5Es instructional strategy helps students, especially those with low grades, increase their interest in lessons and achievement.

The finding in this study supports Nuhoglu and Yalcin (2006), Madu and Amaechi (2012), and Ajaja (2013), who found that 5Es has a positive effect on students' achievement in the sciences, as they have all attested that the 5Es instructional strategy allows students to discover and construct learning, leading to improved academic performance.

### **Conclusion and Recommendations**

The 5Es approach exhibits the use of constructivism, a learning strategy that draws on students' existing knowledge, beliefs, and skills. With a constructivist approach, learners can synthesise new understanding from prior learning and new information. During students' exposure to the 5E instructional strategy, students showed an improved understanding of civic education

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concepts as they were given the opportunity to discover and develop their own learning. As such, the classroom was transformed into a place where divergent views were expressed based on their prior experience. Furthermore, the long-term effect of the 5E instructional strategy cannot be determined immediately. It can only be assumed that based on the result and observations made, the 5E instructional strategy can help to achieve the objectives of the new senior secondary school civic education curriculum.

It is based on the finding and discussion that the study recommends the following:

- i. Curriculum planners should integrate the 5Es instructional strategy into the senior secondary school civic education curriculum, as it has been found to improve the literacy scores of students.
- ii. Teachers should expose students to the 5Es instructional strategy by incorporating the strategy into their lesson plans and executing it properly for students' achievement.
- iii. Seminars and workshops on the 5Es for secondary school teachers to enhance students' performance.
- iv. Teacher education in the universities and colleges of education should integrate the 5Es instructional strategy into their methodology curriculum to expose the teacher education students to the instructional strategy.

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