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EFFECT OF JIGSAW AND INDIVIDUALISED STRATEGY ON STUDENTS' INTEREST AND ACHIEVEMENT IN CHRISTIAN RELIGIOUS STUDIES IN JUNIOR SECONDARY SCHOOLS IN NASARAWA STATE, NIGERIA

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Abstract

The study investigated the effect of jigsaw and individualized strategy on students' interest and achievement in Christian Religious Studies in Nasarawa State, Nigeria. Four research questions were answered in the study, four null hypotheses were formulated and tested at 0.05 level of significance. The research design for this study was quasi-experimental research design. The population of the study was 3,606 Upper Basic II students in 60 public junior secondary schools. A sample of 306 Upper Basic II students from 10 schools was used for this study. The instruments for data collection were Christian Religious Studies Achievement Test (CRSPT) with reliability coefficient of 0.86 and Christian Religious Studies interest scale (CRSIS) with reliability coefficient of 0.87. The data collected were analyzed using mean and standard deviations to answer the research questions and Analysis of Covariance (ANCOVA) to test the null hypotheses. Among many, the findings revealed that: there was significant difference in the mean interest of Upper Basic II students taught Christian religious studies using Jigsaw method and those taught using conventional teaching method ($F(1,201) = 29.698$; $p = 0.000 < 0.05$). There was significant difference in the mean achievement scores of

Keywords; Jigsaw Strategy, Individualized Strategy, Christian Religious Knowledge, Interest Academic achievement

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Upper Basic II students taught Christian religious studies using Jigsaw method and those taught using conventional teaching method ($F(1,201) = 5.891$; $p = 0.016 < 0.05$). There is significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method; There is significant difference in mean academic scores of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. It was recommended that; school authorities should create the enabling environment for in-service training for Christian religious studies teachers to learn more on jigsaw method for effective academic achievement in Christian Religious Studies; Christian religious studies teachers should adjust their teaching pattern and recognize students' ownership of ideas using individualized strategy to boost students' retention in the subject.

Introduction

Education is an important social activity of any society and a process of learning in order to develop physically, socially, emotionally, intellectually, morally and economically (Edward, 2018). Agbe (2022) defines education as the process by which society through colleges, universities and other institutions transmit its cultural heritage and accumulated knowledge from one generation to the other. Oluwalola, Olaoluwa, and Ojo (2022) regard education as a process by which a community seeks to open its life to all individuals within it and enables them to take part in it. The importance of education in the overall development of human beings cannot be overemphasized. Education is the bedrock of any developed, underdeveloped or developing nation (Nigeria inclusive). Alumode (2018) maintains that education is the vehicle for rapid national development as it raises the young ones who will effectively manage the economy.

The extent to which the values of education are achieved however depends on the activities or strategies of teachers who organize, coordinate, direct and instill morals in order to achieve desired goals and objectives. Similarly, according to Ugwu 2018, education is the process of acquiring and transferring knowledge, information, norms, and values, from one person, institution or society to another. It is an instrument for national development and social change. Education therefore, may be defined as a purposive, conscious or unconscious, psychological, sociological, scientific and philosophical process which brings about the development of the individual to the fullest extent and maximum development of society in such a way that both enjoy maximum happiness and prosperity.

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Today, the Nigerian vision for education as enshrined in the National Policy on Education (FRN, 2013) and it is to equip individuals; meanwhile Christian Religious Studies came as a result of the pursuance of the attainment of Nigerian vision for education. CRS as a school subject is designed specifically to achieve this aim. Christian Religious Studies (CRS) plays a very important role in promoting sustainable education and development of the society. Achieving this requires lots of virtues such as morality, discipline, equity, fairness, love, kindness and empathy from the teacher to learner (Onaiyekan, 2014). This makes the study of CRS indispensable, especially, during the formative years of the child, and therefore provided the rationale for its study in our educational institutions, Upper Basic and secondary schools as contained in National Policy on Education (FGN, 2013).

CRS as a field of study offers academic and scholarly explanations, of fundamental Christian teachings and values, which help in shaping the issues in the contemporary world (Enyioke & Mozie, 2012). It is aimed towards character building and the development of responsible members of the society. It helps in streamlining students' thought processes, character, morality and aspirations. Meeting the objectives of the CRS for junior secondary schools would require effective teaching and learning of the subject. This in turn requires innovative and inclusive strategies in the teaching and learning of the subject. This has become an issue of serious public concern, given the poor achievement of students in competitive examinations and more so, the rascal, unruly behaviour, immorality, drug addiction, social disorders and vices that are prevalent among the youths in the society.

Christian religious studies (CRS) as one of the religious subjects taught in secondary school in Nigerian takes a central position in ensuring moral and spiritual wellbeing of individuals in the society. The key roles of CRS in equipping the individuals and ensuring high level of morality is made clear in the objectives of CRS at the secondary school level which include; to provide more opportunities for Nigerian youths to learn more about God and thereby develop their faith in God; to enable the youths to accept Christ as their saviour; to help the youths develop Christian attitude and moral values among many (Universal Basic Education Curriculum (UBE, 2013).

The teaching of CRS at the Upper Basic II level is aimed at achieving the objectives of the discipline at that level which include, preparation for useful living in the society, and, preparation for higher education (FRN, 2013). The National Curriculum of Christian Religious Studies for secondary schools listed the objectives to guide the teaching of the subject as follows: to provide more opportunities for the Nigerian youths to learn more about God and thereby develop their faith in Him; to enable the youth to accept Christ as saviour; to enable the youth to recognize Jesus as the founder and sustainer of the

Christian church; to enable the youth to accept the guidance of the Holy Spirit in their daily activities; among others.

It is also enshrined in the National Curriculum of Christian Religious Studies for secondary schools that different methods could be used for teaching CRS at the secondary school level, however the commonest include: lecture method, project method, discussion method, inquiry method, field trips among others. National Teachers' Institute (NTI, 2014) notes that these methods override the indoctrinatory methods of teaching CRS since these methods are generally classified as traditional teaching methods. Shamija and Garba (2011) posit that in several classroom situations, the use of the conventional lecture method where the teacher employs the 'chalk and talk' method (otherwise called the lecture method), without significant participation of students remains passive during the class process. While this may be easier for the teacher to adopt and implement, it is detrimental to the academic development of students. Basic Education Certificate Examination (BECE) results records, confirms that students' achievement in Christian Religious Studies has been very poor generally and the increase number of school dropout in the area of study is a clear pointer of the theme. More reports of students' achievement in the Basic Education Certificate Examinations (BECE) recent showed that 50.02% and 35.82% failed CRS in 2023 and 2024 respectively. The researcher observed that many students are losing interest in Christian Religious Studies leading to poor retention hence, call for investigation into possible instructional strategies that can enhance students' interest and achievement in CRS.

According to Ojekwu and Ogunleye (2020) the jigsaw classroom is a cooperative learning method designed in the late 1970s to improve the academic achievement of minority children by reducing intergroup conflict and increasing self-evaluations. Despite its high popularity, the available evidence for the effectiveness of this method seems scant and mixed, with neither meta-analysis nor systematic review. In addition, the author opines that the essence of the learning strategy was to reduce interracial segregation and foster cooperation among the students. In order to achieve this objective, the class is divided into small groups. The essence of doing this is to create an atmosphere of interdependence among the students.

In Jigsaw classroom, the students act interdependently to assist and learn the academic content from each other. This is based on the fact that Jigsaw learning strategy revolves around task specialization. Each student is assigned a specific task of the lesson module to work on, after which they are expected to teach the other members of the group. In this aspect, the students are expected to achieve significant level of mastery of the lesson tasks assigned to them. Jigsaw-based cooperative learning is a learning strategy in which lesson contents are subdivided into different parts of information and given to groups of

students who would later explain to each other their parts and these results in the whole jigsaw puzzle to be completed.

There is a growing body of evidence that students' interest could be enhanced when they actively participate in activities regarding lesson objectives and lesson outcomes (Wiseman & Hunt, 2023). Thus, interest and participation underpins the paradigm of cooperative learning strategy where the students are the main drivers of the process in their active engagement and participation. *Factors such as the integration of game elements, cooperation between students in teams, and an inclusive environment play a key role in stimulating greater interest in learning. Jigsaw learning strategy not only improves achievement, but also creates high motivation for students to understand the learning material better.*

Also, Individualized instruction is one of the systems which consider individual differences and needs of students in teaching process, and offer instructional approaches appropriate to differences of students which potentials and principles can be hareness for improved interest and academic achievement of students' in CRS. Individualized strategy is a teaching method employed to meet individual differences. Dorier and Gauer (2019) envisaged individualized strategy of teaching as a situation where student gets primary control over what he/she studies for how long, where, when and with whom. It is an individual based, student paced strategy to mastery of instruction, wherein students typically learn independently of their classmates. It is designed for use in situations where the time available to students for instructions is restricted and inadequate. It is geared towards teaching individual learners, not group of learners. What is to be learned is divided into units and the students must understand each unit before moving to the other.

Achievement is the outcome of education, the extent to which a student achieves educational goals or how well a student meets standards set by government and institutions (Ezeudu, 2016). Achievement may be defined as the act of successful measure of knowledge gained through education process usually indicated by test scores, grade point average and degree (Bitrus, 2014). Students' poor achievement could affect their interest in the subject.

Interest refers to concentration or curiosity over something and can be conceptualize differently by different scholars. According to Agbo (2012), interest increases students' success in the learning tasks. It is an important variable in learning when one becomes interested in an activity one is likely to be more deeply involved in the activity (Imoko & Agwagah, 2016). Adedeji (2017) stated that interest is activity which tends to increase the likelihood that individuals formulate goals relating to that activity and invest more time and effort to achieve and retain them. In this study, interest means a state or disposition

towards CRS learning or attention that students give to CRS after they are exposed to Jigsaw and individualized strategies.

Statement of the Problem

The consistent and poor achievement in core subjects at the upper basic level of education in Nigeria has often been blamed on ineffective teaching strategies adopted by many teachers. The Researcher observes that many Christian Religious Knowledge teachers present lessons in a manner that does not stimulate learners' interest in the subject. The researcher has equally observed that many students are losing interest in Christian Religious Knowledge thereby leading to poor academic achievement of students in both internal and external examinations. It is on this note that the researcher investigated the use and effectiveness of Jigsaw and Individualized strategies on upper basic II students in Christian Religious Studies in Nasarawa State.

It has also been observed by the researcher that many teachers use of traditional teaching method (talk and chalk method) in teaching and learning which are often devoid of learners' participation and low thinking critical skills. Besides, such strategies do not allow learners to interact, collaborate and be purposely involved in the learning process. These conventional strategies often do not also give room for students' problem-solving skills.

Also, results of the Basic Examination Certificate in Education (BECE, 2023) released by the Nasarawa State Examination Board showed that many students had low credit passes in Christian Religious Studies and it might be as a result of lack of interest, which resulted in lack of retention. This may not be unconnected to students' poor interest in Christian Religious Studies due to inappropriate teaching strategies.

Objectives of the Study

The purpose of this study is to investigate the effect of Jigsaw and individualized Strategies on Students' Interest and achievement in Christian Religious Studies in Nasarawa State. Specifically, the study sought to:

1. Investigate the interest of students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method.
2. Determine the academic achievement of students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method.
3. Ascertain the interest of students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method.
4. Examine the academic achievement of students taught Christian Religious Studies using individualized strategy method and those taught using conventional teaching method.

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Research Questions

The study was guided by the following research questions:

1. What is the difference in the mean interest ratings of students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method?
2. What is the difference in the mean achievement scores of students taught Christian religious studies using Jigsaw method and those taught using conventional teaching method?
3. What is the difference in the mean interest ratings of students taught Christian religious studies using individualized strategy and those taught using conventional teaching method?;
4. What is the difference in the mean achievement scores of students taught Christian religious studies using individualized strategy method and those taught using conventional teaching method?

Statement of Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

Ho1: There is no significant difference in the mean interest ratings of students taught Christian religious studies using Jigsaw method and those taught using conventional teaching method.

Ho2: There is no significant difference in mean achievement scores of students taught Christian religious studies using Jigsaw method and those taught using conventional teaching method.

Ho3: There is no significant difference in the mean interest ratings of students taught Christian religious studies using individualized strategy and those taught using conventional teaching method;

Ho4: There is no significant difference in mean achievement scores of students taught Christian religious studies using individualized strategy method and those taught using conventional teaching method.

Theoretical Framework

Theoretically, this study is anchored on the constructivism theory developed by Papert (1968). Constructivism developed by Seymour Papert 1968 is a theory of knowledge learning and construction that argues that humans generate knowledge and meaning from interaction between their experiences and their ideas. During infancy, it is an interaction between their experiences and their reflexes or behavior patterns. Piaget called these systems of knowledge schemata. The tenets of constructivism and how they make up the whole theory include the following:

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a) Knowledge is constructed. This is the basic principle, meaning that knowledge is built upon other knowledge. Students take pieces and put them together in their own unique way, building something different than what another student will build. The student's previous knowledge, experiences, beliefs, and insights are all important foundations for their continued learning.
b) Learning is an active process. Learning involves sensory input to construct meaning. The learner needs to do something in order to learn, it's not a passive activity. Learners need to engage in the world so they are actively involved in their own learning and development. You can't just sit and expect to be told things and learn, you need to engage in discussions, reading, activities, etc.
c) Learning is a social activity. Learning is directly associated to our connection with other people. Our teachers, our family, or peers, and our acquaintances impact our learning. Educators are more likely to be successful as they understand that peer involvement is key in learning. Isolating learners isn't the best way to help students learn and grow together.

The theory is relevant as an anchorage need to make the learner an active partaker, the instructional methods involved in this study. Papert's theory of constructivist learning has had wide range of impact on learning and teaching methods in education and is an underlying theme of many education reforms movement. The theory holds that learners make meaning of what is taught in the classroom when they are given the opportunity to participate actively in the learning process. Constructivism supports the use of individualized strategy and Jigsaw strategy. This strategy involves students working together under the direction of the teachers to achieve a learning goal.

Literature Review

Concept of C R S

Christian Religious Studies is a multi-disciplinary academic field devoted to research into Christian beliefs, behaviours, and institutions. It describes compares, interprets, and explains Christian Religion, emphasizing systematic, historical and cross-cultural perspectives. Christian Religious Studies according to Barnaby (2017) is a subject concerned with the up-bringing, instructing and informing students on Christian beliefs and practices as found in the Holy Bible and Christian traditions. CRS is a subject that bases its teaching on the life and teaching of Jesus Christ. As a teaching subject, it is not only geared towards converting people to Christianity, but is necessary for value formation, orientation and reorientation on of value system as well as spiritual upliftment of the student. Ali and Akubue in Njoku (2009) observed that, CRS is a subject which aims at

developing and fostering in the lives of the students Christian attitudes and values such as respect to life, obedience to constitutional authority, responsible self, selfless series to God and humanity. To them, CRS is seen as an academic discipline that is designed to provide the leaner with moral and spiritual transformation. This shows that CRS is the study of Christian lifestyles such as love, caring, patience, faith, forgiveness and hope in God as well as good relationship among men.

Concept of Jigsaw Strategy

The jigsaw technique was designed by social psychologist Elliot Aronson to help weaken racial cliques in forcibly integrated schools and later adapted by Robert Slavin (Okeke, 2016). It is a method of organizing classroom activity that makes students dependent on each other to succeed. The teacher using this strategy breaks classes into groups and breaks assignments into pieces that the group assembles to complete the (jigsaw) puzzle. Jigsaw strategy is a mode of learning in which students of different levels of ability work together in small groups to achieve a purpose (Akinbobola, 2016). Students in a group interact with one another, share ideas and information, seek additional information and make decisions about their findings to their class (Kort, 2021). It encourages teachers to use alternative assessment techniques, further reducing the emphasis on competitive examinations (Slavin, 2020). According to Johnson (2016) Jigsaw strategy promotes more positive attitudes towards the instructional experience than competitive or individualistic methodologies. In addition, cooperative learning should result in positive effects on students' achievement, interest and retention in learning.

Concept of Individualized Strategy

Individualized instruction stems from the idea that diversity influences students' interest and behaviour in learning. Students learning and achievement can be affected by diversity of issues such as culture, language, learning style, and personality (Johnson, 2018). Accordingly, Mobark (2014) stated that learning is an individual thing no matter how many students are to a teacher. Individualized instruction is one of the systems which consider individual differences and needs of students in teaching process, and offer instructional approaches appropriate to differences of students. Individualized strategy is a teaching method employed to meet individual differences. Dorier and Gauer (2019) envisaged individualized strategy of teaching as a situation where student gets primary control over what he/she studies for how long, where, when and with whom. It is an individual based, student paced strategy to mastery of instruction, wherein students typically learn independently of their classmates. It is designed for use in situations where the time available to students for instructions is restricted and inadequate. It is geared towards

teaching individual learners, not group of learners. What is to be learned is divided into units and the students must understand each unit before moving to the other. At each unit, a formative test is administered to determine the level of understanding of each student. This helps to ensure that all students, the fast as well as the slow learners, are exposed to as much course materials as they would ordinarily encounter. At the end of each course, achievement test is administered to each student to determine level of mastery.

Individualized instruction demands that the teacher assume some roles (Keefe & Jenkins, 2012). Individualized instruction requires teachers to give up the traditional educator roles such as discipline providers and information distributor in teaching-learning process. Teachers must have more than curricular knowledge and strategies to individualized instruction effectively. Teachers act as a guide to facilitate learning, a mentor, a friend or a consultant in individualized instruction. In this context, teachers have an important role during the planning, implementing and evaluating of teaching-learning activities in the educational environment where the individualized instruction is used (Nguyen, Le & Ngo 2022).

Concept of Interest

Interest, according to Adam (2020), means attention to something. In this context, interest means attention to study and learn Christian Religious Studies. Furthermore, Adeleye (2014) views interest as the curiosity to do something. In the context of this study interest means the curiosity to study Christian Religious studies. The application of curiosity in the study of Christian Religious Studies by students could enhance their achievement both in internal and external examinations. Interest, according to Agbo (2012), increases students' success in the learning tasks. Interest is an important variable in learning because when one becomes interested in an activity; one is likely to be more deeply involved in the activity (Imoko & Agwagah, 2016). Interest is a subjective feeling of concentration or curiosity over something.

Concept of Academic Achievement

Academic achievement is seen as the knowledge attained or skills acquired shown in the school subjects. To indicate such achievement, test scores or marks are assigned by the teachers. It is the school evaluation of the classroom work on the basis of the grades awarded. According to Ede and Nwaodo (2009), the term achievement in school work means how well or bad one's academic work or assignment is accomplished. They further explained that bad accomplishment means poor achievement and this is failure, while a good accomplishment or well accomplished work or assignment means good achievement and this is a pass.

Onoja (2013) puts it that academic achievement means how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers using varied teaching techniques. Ameh (2012) says, it is the ability to study and remember facts and being able to communicate your retained knowledge either verbally or written. According to Odeyimi (2015), the term students' achievement refers to how an individual is able to demonstrate his/her intellectual abilities. It could be summed up that the achievement of students in their academic endeavour could fall on either side of scale of balance, good or bad. This study is aimed at investigating the effect of jigsaw instructional strategy on students' interest and academic achievements in C R S in junior secondary schools.

Jigsaw strategy has proven to provide several benefits (Walmsley & Muniz, 2003) to the students' learning. One of the benefits is through the promotion of learning for every student and building heterogeneity among students (Li & Lam, 2013). Furthermore, Jigsaw learning promotes academic achievement (Othman et al., 2012; Zahara, 2010) of the students through the stimulation of critical thinking (Li & Lam, 2013). It encourages students to actively construct their own meaning from the information gained beforehand with any information they acquired (Michael, 2006). It enables students to find a relation between the theories taught with real-life problems and to analyze issues by finding a way to improve the situation. Li and Lam (2013) mentioned that Jigsaw learning improved the communication skills of the students in terms of managing conflicts. This is because students aimed to reach a same goal that requires them to work together (Veenman et al., 2002). Due to the same-shared goal, members in the group tend to deal with arguments efficiently, ensuring each and every member agrees to a same decision.

In the same vein, Individualized instruction could also benefit students when they struggle with a concept or subject. There is no pressure for a struggling student to move past a concept before fully grasping it. The student can spend as much time as he or she needs on a topic in order to achieve mastery. This eliminates the stress that comes with struggling with a topic. When students understand that they will get the time and instruction they need, it frees them to focus on learning. Individualized instruction also provides students with the opportunity to learn in ways that interest them, thereby, increasing their interest of the subject matter and the entire subject.

Empirical Review

Some studies that are closely related to the present study are reviewed as follows:

Ojekwu and Ogunleye (2020) investigated the effects of jigsaw learning strategy on science students' achievement and interest in Biology in selected schools in Eleme Local

Government Area, Rivers State, Nigeria. The findings indicated significant difference in the science students' achievement and interest scores across the experimental and control groups (P<0.05). In both cases, students taught with the Jigsaw strategy achieved greater improvement in their mean scores than those taught with the conventional lecture method.

Furthermore, Nwachukwu and Johnson (2020) investigated the effects of jigsaw on students' achievement and interest in Basic Technology in junior secondary school in Rivers State. Result shows that Jigsaw Teaching Method (JTM) significantly improved students' academic achievement and interest. However, jigsaw teaching strategy did not affect students' interest and achievement based on gender.

Again, Nwankwo and Okigbo (2021) conducted a study on the effect of jigsaw teaching strategy (JTS) on academic achievement and retention of senior secondary two (SS2) students in chemistry in Aguata Education Zone, Anambra State. Findings of the study revealed that JTS strategy significantly enhanced achievement and retention scores of SS2 students in chemistry more than the conventional teaching method.

Similarly, Orji and Ogar (2020) investigated the effect of Jigsaw-based Learning Strategy on Junior Secondary School student's achievement in Basic Science in Gwagwalada Area Council of the Federal Capital Territory (FCT) Abuja. The study revealed that Jigsaw Learning Strategy was more effective in teaching Basic Science than conventional strategy.

Also, Nnamani and Oyibe (2016) conducted a study on effects of individualized instructional method on secondary school students' interest in social studies in Onueke Education zone of Ebonyi State. It was revealed that the mean interest scores of secondary school students who were taught social studies using individualized instructional method was higher than the mean interest scores of those taught social studies using lecture method. The study also revealed that female secondary school students who were taught social studies using individualized method obtained higher mean scores than their male counterparts. The study further revealed that the mean achievement scores of secondary school students who were taught Social Studies using individualized method was higher than the mean achievement scores of those who were taught Social Studies using conventional methods, also female secondary school students who were taught Social Studies using individualized method obtained higher mean scores than male students who were taught Social studies using conventional method.

Dawal (2021) studied the impact of individualized instructional strategy on the achievement of students in Basic Science and Technology in a covid-19 preventive classroom management in Plateau State, Nigeria. The results revealed that Individualized Strategy (IIS) is superior to the conventional method in facilitating the achievement of

students in Basic Science and Technology. It also revealed that the mean scores for females were higher than that of the males for the group taught with IIS.

Methods

Research Design

The research design for this study is quasi-experimental research design, precisely non-equivalent control group design. Quasi-experimental research design according to Nworgu (2015) is an experimental design where random assignment of subjects to experimental and control groups are not possible. This study is quasi-experimental because intact classes were used for selection of each sample. The treatment group and the control group were both be given pre-test before treatment and a post-test after treatment.

Population

The population of this study consists of Upper Basic II students in Nasarawa State. The State has 60 public junior secondary schools. These schools have a population of 3,606 Upper Basic II students (Planning Research &Statistic Unit, Nasarawa State Ministry of Education, 2025). The choice of Upper Basic II students is anchored on the fact that the class is not preparing for any certificating examination unlike the Upper Basic 3 classes, hence are expected to have time for the research and the CRS is part of the curriculum of Upper Basic II class.

Sample and Sampling Procedure

A sample of 306 Upper Basic II students from 10 schools was used for this study. Multi-stage sampling technique was use in composing the sample. Multi-staged sampling technique was chosen because it enable the researcher sample the students along the local government areas in the State.

Instrumentation

Christian Religious Studies Achievement Test (CRSPT) and Christian Religious Knowledge interest scale (CRSIS) developed by the researcher was used for data collection from the respondents. The CRSPT consists of 30 multiple choice items with A, B, C and D. Each of the items in the CRSPT carries three marks. The test items were developed using Upper Basic II Christian Religious Studies text books based on the content to be taught in the lesson. While The CRS interest scale (CRSIS) was used to assess students' interest in Christian Religious Studies. The CRSIS is divided in two sections of A and B. Section A, focused on the personal data of respondents while section B contains the items that helps

the researcher to determine students' interest in Christian Religious Studies. The CRSIS is structured in line with the four - point scale of: Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, Strongly Disagree (SD) = 1. The responses were assigned value point of 4, 3, 2, and 1 for positive statement and the reverse for negative statements.

Validity of Instruments

The Christian Religious Studies Achievement Test (CRSPT) and Christian Religious interest scale (CRSIS) was subjected to content and face validations. The content and face validations was done by three experts and the collective validity index obtained is 0.76 and 0.82 respectively.

Reliability of Instruments

The CRSPT and CRSIS items were subjected to trial testing to ascertain the reliability of the instruments. The scores obtained from the trial testing were used to determine the internal consistency and reliability coefficient of the instruments using Kuder-Richardson formula (KR-20) for CRSPT and Cronbach Alpha for CRSIS. The reliability index obtained for both instruments are 0.87 and 0.86 respectively.

Method of Data Analysis

Data collected was analyzed with respect to the research questions and hypotheses formulated for the study. Mean and standard deviations were used to answer the research questions. Analysis of Covariance (ANCOVA) was used to test all the null hypotheses at 0.05 level of significance.

Data Analysis and Presentation

Research Question 1: What is the difference in the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method?

Table 1: Mean Interest of Upper Basic II Students taught Christian Religious Studies using Jigsaw Method and Conventional Teaching Method

Strategies		PreCRSIS	PostCRSIS	Mean gain
Jigsaw Method	Mean	2.23	3.13	0.90
	N	100	100	
	Std. Deviation	1.10	0.46	

Strategies		PreCRSIS	PostCRSIS	Mean gain
Conventional Teaching Method	Mean	2.54	2.62	0.08
	N	104	104	
	Std. Deviation	0.81	0.98	
Mean difference				0.82

Table 1 shows the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method. The table shows that 100 students were taught Christian Religious Studies using Jigsaw method and 104 students were taught Christian Religious Studies using conventional teaching method. The table shows that the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method is 2.23 with a standard deviation of 1.10 in pre-test and 3.13 with a standard deviation of 0.46 in post test. The mean interest of Upper Basic II students taught Christian Religious Studies using conventional teaching method is 2.54 with a standard deviation of 0.81 in pre-test and 2.62 with a standard deviation of 0.98 in post test. Table 1 further shows that the mean gain in interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method is 0.90 while that of students taught Christian Religious Studies using conventional teaching method is 0.08. The difference in the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method is 0.82 in favour of students in Jigsaw method class.

Research Question 2: What is the difference in the mean academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method?

Table 2: Mean Academic Level of Upper Basic II Students taught Christian Religious Studies using Jigsaw Method and Conventional Teaching Method

Strategies		PreCRSPT	PostCRSPT	Mean gain
Jigsaw Method	Mean	8.50	33.20	24.70
	N	100	100	
	Std. Deviation	2.88	16.91	
	Mean	19.68	25.56	5.88

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Strategies		PreCRSPT	PostCRSPT	Mean gain
Conventional Teaching Method	N	104	104	
	Std. Deviation	11.16	7.44	
Mean difference				18.82

Table 2 shows the mean academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method. The table shows that 100 students were taught Christian Religious Studies using Jigsaw method and 104 students were taught Christian Religious Studies using conventional teaching method. The table shows that the mean academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method is 8.50 with a standard deviation of 2.88 in pre-test and 33.20 with a standard deviation of 16.91 in post test. The mean academic level of Upper Basic II students taught Christian Religious Studies using conventional teaching method is 19.68 with a standard deviation of 11.16 in pre-test and 25.56 with a standard deviation of 7.44 in post test. Table 2 further shows that the mean gain in academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method is 24.70 while that of students taught Christian Religious Studies using conventional teaching method is 5.88. The difference in the mean academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method is 18.82 in favour of students in Jigsaw method class.

Research Question 3: What is the difference in the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method?

Table 3: Mean Interest of Upper Basic II Students taught Christian Religious Studies using Individualized Strategy and Conventional Teaching Method

Strategies		PreCRSIS	PostCRSIS	Mean gain
Individualized Strategy	Mean	2.55	3.15	0.60
	N	102	102	
	Std. Deviation	1.05	0.44	
	Mean	2.54	2.62	0.08

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Strategies		PreCRSIS	PostCRSIS	Mean gain
Conventional Teaching Method	N	104	104	
	Std. Deviation	0.81	0.98	
Mean difference				0.52

Table 3 shows the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. The table shows that 102 students were taught Christian Religious Studies using individualized strategy and 104 students were taught Christian Religious Studies using conventional teaching method. The table shows that the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy is 2.55 with a standard deviation of 1.05 in pre-test and 3.15 with a standard deviation of 0.44 in post test. The mean interest of Upper Basic II students taught Christian Religious Studies using conventional teaching method is 2.54 with a standard deviation of 0.81 in pre-test and 2.62 with a standard deviation of 0.98 in post test. Table 1 further shows that the mean gain in interest of Upper Basic II students taught Christian Religious Studies using individualized strategy is 0.60 while that of students taught Christian Religious Studies using conventional teaching method is 0.08. The difference in the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method is 0.52 in favour of students in individualized strategy class.

Research Question 4: What is the difference in the mean academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy method and those taught using conventional teaching method?

Table 4: Mean Academic Level of Upper Basic II Students taught Christian Religious Studies using Individualized Strategy Method and Conventional Teaching Method

Strategies		PreCRSPT	PostCRSPT	Mean gain
Individualized Strategy	Mean	8.50	33.56	25.06
	N	102	102	
	Std. Deviation	2.86	17.94	
Conventional Teaching Method	Mean	19.68	25.56	5.88
	N	104	104	

Strategies		PreCRSPT	PostCRSPT	Mean gain
	Std. Deviation	11.16	7.44	
Mean difference				19.18

Table 4 shows the mean academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. The table shows that 102 students were taught Christian Religious Studies using individualized strategy and 104 students were taught Christian Religious Studies using conventional teaching method. The table shows that the mean academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy is 8.50 with a standard deviation of 2.86 in pre-test and 33.56 with a standard deviation of 17.94 in post test. The mean academic level of Upper Basic II students taught Christian Religious Studies using conventional teaching method is 19.69 with a standard deviation of 11.16 in pre-test and 25.56 with a standard deviation of 7.44 in post test. Table 5 further shows that the mean gain in academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy is 25.06 while that of students taught Christian Religious Studies using conventional teaching method is 5.88. The difference in the mean academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method is 19.18 in favour of students in individualized strategy class.

Tested Hypotheses

Ho1: There is no significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method.

Table 5: ANCOVA of interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and conventional teaching method

Dependent Variable: PostCRSISj

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	22.488[a]	2	11.244	20.329	.000	.168
Intercept	156.573	1	156.573	283.090	.000	.585
PreCRSISj	9.561	1	9.561	17.286	.000	.079
Strategiesj	16.426	1	16.426	29.698	.000	.129

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Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Error	111.170	201	.553			
Total	1814.789	204				
Corrected Total	133.658	203				
a. R Squared = .168 (Adjusted R Squared = .160)						

Table 5 shows that F(1,201) = 29.698; p = 0.000 < 0.05. Thus, the null hypothesis is rejected. This implies that there is significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method. Therefore, there is significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method. The partial eta square of 0.129 obtain for strategies means that 12.9 percent of Upper Basic II students' interest in Christian Religious Studies is accounted for by the experimental strategy.

Ho2: There is no significant difference in mean academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method.

Table 6: ANCOVA of academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method and conventional teaching method

Dependent Variable: PostCRSPTj

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1504.166[a]	2	752.083	4.441	.013	.042
Intercept	48087.630	1	48087.630	283.966	.000	.586
PreCRSPTj	.588	1	.588	.003	.953	.000
Strategiesj	997.566	1	997.566	5.891	.016	.028
Error	34037.874	201	169.343			
Total	224460.000	204				
Corrected Total	35542.039	203				

a. R Squared = .042 (Adjusted R Squared = .033)

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Table 6 shows that F (1,201) = 5.891; p = 0.016 < 0.05. Thus, the null hypothesis is rejected. This implies that there is significant difference in the mean academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method. Therefore, there is significant difference in the mean academic level of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method. The partial eta square of 0.028 obtain for strategies means that 2.8 percent of Upper Basic II students' academic level in Christian Religious Studies can be attribute to the experimental strategy.

Ho3: There is no significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method.

Table 7: ANCOVA of interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and conventional teaching method

Dependent Variable: PostCRSISi

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	40.699[a]	2	20.349	43.949	.000	.302
Intercept	89.663	1	89.663	193.650	.000	.488
PreCRSISi	26.428	1	26.428	57.079	.000	.219
Strategiesi	14.185	1	14.185	30.636	.000	.131
Error	93.993	203	.463			
Total	1852.797	206				
Corrected Total	134.691	205				
a. R Squared = .302 (Adjusted R Squared = .295)						

Table 7 shows that F (1,203) = 30.636; p = 0.000 < 0.05. Thus, the null hypothesis is rejected. This implies that there is significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. Therefore, there is significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. The partial eta square of 0.131 obtain for strategies means that 13.1 percent of Upper Basic II students' interest in Christian Religious Studies is accounted for by the strategies employ.

Ho4: There is no significant difference in mean academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method.

Table 8: ANCOVA of academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy and conventional teaching method

Dependent Variable: PostCRSPTi

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3617.294[a]	2	1808.647	8.902	.000	.081
Intercept	51986.358	1	51986.358	255.860	.000	.558
PreCRSPTi	328.591	1	328.591	1.617	.205	.008
Strategiesi	1370.303	1	1370.303	6.744	.010	.032
Error	41246.085	203	203.183			
Total	224430.000	206				
Corrected Total	44863.379	205				

a. R Squared = .081 (Adjusted R Squared = .072)

Table 8 shows that F (1,203) = 6.744; p = 0.010 < 0.05. Thus, the null hypothesis is rejected. This implies that there is significant difference in mean academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. Therefore, there is significant difference in mean academic level of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. The partial eta square of 0.032 obtain for strategies means that 3.2 percent of Upper Basic II students' academic level in Christian Religious Studies is accounted for by the strategies.

Summary of Findings

The data collected were analyzed using mean and standard deviations to answer the research questions and Analysis of Covariance (ANCOVA) to test the null hypotheses at 0.05 level of significance. The findings revealed that:

1. There was significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method.
2. There was significant difference in the mean achievement scores of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method.

3. There is significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method.
4. There is significant difference in mean academic scores of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method.

Discussion of Findings

The study investigated the effects of Jigsaw Strategy on Upper Basic II Students' Interest and Achievement in Christian Religious Studies Curriculum in Nasarawa State. Discussion of findings was tailored along the variables in the study as guided by the answers to the research questions and test of null hypotheses.

Finding of the study revealed that there was significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method. This implies that the use of Jigsaw method enhanced Upper Basic II students' interest in Christian Religious Studies better than conventional teaching method. The finding agrees with Okeke (2015) whose study reveals that Jigsaw instructional strategy improved students' interest in quadratic equation than lecture method. The finding concurs with Ojekwu and Ogunleye (2020) that significant difference in the science students' interest scores across the experimental and control groups as students taught with the Jigsaw strategy achieved greater improvement in their mean scores than those taught with the conventional lecture method.

Finding of the study again revealed that there was significant difference in the mean achievement scores of Upper Basic II students taught Christian Religious Studies using Jigsaw method and those taught using conventional teaching method. This implies that Christian Religious Studies are better taught using Jigsaw method than conventional teaching method. The finding agrees with Orji and Ogar (2020) study which revealed that Jigsaw Learning Strategy was more effective in teaching Basic Science than conventional strategy. The finding also agrees with Nwankwo and Okigbo (2021) whose study revealed that JTS strategy significantly enhanced achievement scores of SS2 students in chemistry more than the conventional teaching method.

Finding from the study further shows that there is significant difference in the mean interest of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. This finding is in connection with previous studies that show the efficacy of individualized strategy in improving students' interest. For instance; Nnamani and Oyibe (2016) in their stud, revealed that the mean interest scores of secondary school students who were taught

social studies using individualized instructional method was higher than the mean interest scores of those taught social studies using lecture method.

Finding from the study finally revealed that there is significant difference in mean academic scores of Upper Basic II students taught Christian Religious Studies using individualized strategy and those taught using conventional teaching method. This finding corroborates the findings of previous studies which demonstrate the effectiveness of individualized strategy in enhancing students' academic achievement. For example, Dawal (2021) in his study revealed that Individualized Strategy (IIS) is superior to the conventional method in facilitating the achievement of students in Basic Science and Technology; Also, Nnamani and Oyibe (2016) revealed that the mean achievement scores of secondary school students who were taught Social Studies using individualized method was higher than the mean achievement scores of those who were taught Social Studies using conventional method.

Conclusion

The study has established that jigsaw strategy have significant effect on students' interest in Christian Religious Studies compared to conventional teaching method. Similarly, the study ascertained that the use of jigsaw strategy have significant effect on students' academic level in Christian Religious Studies compared to conventional teaching method. Also, the study established that individualized strategy of teaching, if properly utilized and applied, has the potentials of enhance and improving students' interest and academic achievement in CRS.

Therefore, it was concluded that jigsaw strategy is a better instructional strategy that enhances students' interest in Christian Religious Studies and is beneficial to students in Christian religious studies class. The study also concluded that jigsaw strategy enhanced students' academic level in Christian Religious Studies and advantageous to students in Christian religious studies teaching and learning.

Recommendations

The following recommendations were made in the light of the findings of this study:

1. School authorities should create the enabling environment for in-service training for Christian religious studies teachers to learn more on jigsaw and individualized methods for effective academic achievement in Christian Religious Studies.
2. Christian religious studies teachers should adjust their teaching pattern and recognize students' ownership of ideas using individualized strategy to boost students' retention in the subject.

3. Curriculum planners should modify the Christian religious studies curriculum to focus on the students centered pedagogical techniques that can assist in achieving the national education goals.

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