# Comparative Effects of Integrated Social Networking Teaching Approach and Glaser's Teaching Method on Government's Students' Achievement and Retention in Imo State

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**Abstract:- The research work was set out to determine the comparative effects of integrated social networking teaching approach and Glaser's teaching method on Government school students' achievement and retention in Imo State. Specifically, the objectives of the study is set out to: ascertain mean achievement scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test; find out mean achievement scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test; determine mean achievement scores of urban and rural secondary school students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test; determine mean retention scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method in secondary schools in the follow-up test; determine mean retention scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method in Secondary schools in the follow-up test; and ascertain the mean retention scores of urban and rural secondary school students taught government using Integrated Social networking teaching approach and Glaser teaching method in the follow-up test. The justification of this study is on the need to solve the problem of poor performance of students in secondary schools subjects especially in government justifies this study. The problem of poor performance of students is a worrying situation to stakeholders in education (parents, teachers, government, and the society at large). There is need therefore, for solution to be proffered for this ugly situation. The outcome of the study will suggest a tested method of teaching that is effective in improving students' interest and achievement in government in secondary schools. Related literatures were reviewed under the major concepts of the study, theoretical framework and empirical review or review of related empirical studies while the methodology has the sample for the study of 111 students who are offering Government in senior secondary school two (SSS2). The sampling technique used was a multi-stage (cluster, purposive and simple random sampling) technique.**

## I. INTRODUCTION

Cognizant of Nigeria's quest for the consolidation of her nascent democratic experience, the teaching and learning of Government as an academic discipline in Nigerian senior secondary schools is basically of great importance to the contemporary Nigerian society. Due to the wide scope of government syllabus, the subject matter no doubt deals with a wide range of issues, which are of great relevance to the students and the society in general. For example, the appropriate teaching and learning of Government as a subject, facilitates suitable character development in students. Proper teaching of concepts such as citizenship, democracy, fundamental human rights, rule of law and nationalism accelerates the positive molding of students' attitudes and character into responsible Nigerian citizens. In fact, the exemplary lives of freedom fighters, nationalist and world leaders are usually sources of emulation and inspiration to several students who perhaps, adopt some of them as role models and aspire to live as responsibly as such personalities (Idoniboye-Obu & Gilbert, 2014 and Gilbert, 2015).

Furthermore, the teaching and learning of the subject matter of Government facilitates the inculcation of civic attitudes in Nigerian students. Supporting this assertion, Gilbert (2015) noted that learners are taught vital civic attitudes required for a free, democratic, just, and egalitarian state. And this also engenders in them respect for the worth and dignity of their fellow citizens and better human relationships. Such attitudes as casting of votes, justice, obedience, legality, fair play, tolerance, love for fellow Nigerian citizens, humility, respect for law and order, fundamental human rights, rule of law, and payment of taxes are essential for peace, stability and advancement of the Nigerian state.

Effective teaching does not occur in isolation, hence, much is needed on the part of the teachers for it to take place. Effective teaching requires the teacher to step outside the realm of personal experience unto the world of the learners (Brown, 2017). It is the learners who must be engaged for learning to occur, the learner is the one who must make the commitment to learn. Newmann, Walter and Gary (2015) pointed out that for learning to be meaningful (authentic), it must be individually constructed. Learning takes place as students' process, interpret and negotiate the meaning of new information. The teachers must identify the appropriate didactic approach that will permit students to broaden their conceptions and become aware that Government is a dynamic instrument in solving real life problems.

Instructional strategies are intentional actions and thoughts used by both teachers and students in order to facilitate acquisition, comprehension, retention and retrieval of new knowledge and skills (Newmann, Walter & Gary, 2015). These strategies could be teaching strategies, learning strategies or both. Effective teaching strategy used could be an important predictor of academic achievement. Teaching students to use learning strategies also produce positive results. According to Newmann, Walter and Gary there are numerous teaching strategies which can also become learning strategies that can help students to become good learners. One of them is social networking which is considered by science educators as an important strategy for both teaching and learning.

In this 21st century educational mobile tools have emerged and show great potential to help students construct and share information and knowledge for learning through computers or mobile devices (Pence, 2007). Educational systems around the world are under increasing pressure to use the new information and communication technologies (ICTs) to teach students the knowledge and skills they need in the 21st century. The influence of these media on learning and teaching environments is growing more each year. Message Applications can reinforce class material and positively influence discussions, collaborative work, and authoring. Educators are experimenting with these technologies hoping to stimulate critical thinking skills, collaboration, and knowledge construction (Newmann, Walter & Gary, 2015).

Education nowadays try to develop new critical skills for the students not only to learn content but technology, offers teachers the ability to transform the quality of instruction—to achieve a more student-centered learning environment, have more differentiated instruction, and develop problem- or project-based learning, and demand higher order thinking skills. Technology integration is affecting higher classroom. Teaching in all settings should encompass student-centred approaches to learning. Technology should not be used only as a tool for demonstration, as an electronic overhead projector or blackboard; rather the use of technology by students should be an integral part of instruction (Minshew & Anderson, 2015). In student-centred approaches to learning, students

become the source for problems investigated. Students and teacher must have opportunities to identify problems, collect and analyze the data, draw conclusions, and convey results using electronic tools to accomplish these tasks. Among these strategies of teaching, the ones that have very well gained popularity with the advancement in ICT and that forms the basis of this study is the social networking using WhatsApp to strengthen the Glaser teaching method.

Social networking have become an essential part of daily life and a valuable means of information dissemination since its evolution in the late 1990s' in most developing countries, and in the early 2000s' in Nigeria. According to Cox (2018) the emergence of social networking has brought about a profound and diverse pool of knowledge, promote liberalization and development. The pace of change brought about by the new social networking sites has had significant effects on the way students live, work, communicate, and play worldwide. Social networking has exploded as a category of online discourse where people create content, share it, bookmark it and network at a prodigious rate. Because of its ease of use, speed and reach, social networking is fast changing the public discourse in society and setting trends and agenda in topics that range from the environment and politics to technology and the entertainment industry (Afolabi, Adedapo & Adeyanju 2016). In the last ten years according to Afolabi, Adedapo and Adeyanju, the online world has changed dramatically; young men and women now exchange ideas, feelings, personal information, pictures and videos at a truly astonishing rate. Seventy-three percent of wired Nigerian teens now use social networking sites. To them social networking is the use of Facebook, Blogs, Twitter, My Space and WhatsApp for the purpose of communication, sharing photos as well as videos. The increased use of Social Networking has become an international phenomenon in the past several years. What started out as a hobby for some computer literate people has become a social norm and way of life for people from all over the world. According to Boyd (2017), teenagers and young adults have especially embraced these sites as a way to connect with their peers, share information, reinvent their personalities, and showcase their social lives.

WhatsApp is a free messenger application that works across multiple platforms like iPhone and android phones. This application is being widely used among undergraduate students to send multimedia messages like photos, videos, audios along with simple text messages. Since internet facility is required for using WhatsApp, lots of information can also be accessed in real time, and sharing that information through technology is both instantaneous and convenient. According to Bere (2012), WhatsApp messenger has the following collaborative features: Multimedia, Group Chat, Unlimited Messaging, Cross Platform Engagements, Offline Messaging, No Charges involved, Pins and Users Name and so on. There is also an emerging evidence that these aspects of WhatsApp has a significant potential to support the learning process and has major implications on pedagogies, allowing direct access to lots of online resources, more focus on student's creativity,

autonomy, and responsibility on one's own learning, (Shuler, 2017; Goodwin, 2016; Amry, 2014).

Robert Glaser's teaching model or the lecture teaching method was developed in 1962. It explains the relationship between teaching and learning. It provides a simple and adequate conceptualization of the teaching process. This model according to Farooq (2014) belongs to the category of psychological models of teaching. Glaser's teaching method is the basic teaching method because: it presents a very basic analysis of the process of teaching in terms of the elements of teaching and it applies to all levels of education be it primary, post-primary and tertiary. The Glaser's teaching method explains the whole teaching-learning process by dividing it into four basic components of Instructional objectives, Entry behaviour, Instructional procedures and Achievement assessment. The Glaser's teaching method is developed on the assumption that every lesson assumes some knowledge on the part of the learner and that through instructional procedure, the teacher guides the learner from entry behaviour to terminal behaviour.

Besides, gender differences in achievement in a learning environment are recognized as an important focus in research. Boys and girls have psychological feelings of different degrees of intelligence and creativity. Culturally, boys and girls have peculiar ways of behaving and thinking. This orientation stems from the homes where they perform different roles or functions (Kleinfield, 2010). Kleinfield reports that this attitude is also carried over to school. While boys may be drawn to subjects such as science and physical education in schools, girls may be drawn to subjects such as social studies and arts. The author noted that girls consistently score higher grades at school in virtually most art subjects while Gunn (2013) asserts that females often perform better than males in languages and liberal arts. Therefore, there is need to determine the influence of gender on students' achievement in Government and also the interaction of gender on students' learning via social networking (WhatsApp). Hence the researcher in this study used gender as a moderating factor.

Another factor which may affect students' achievement in secondary schools is school location. A school could be located in the urban or rural area. Rural schools are generally inferior to urban schools as schools in rural areas lacked human and material resources needed for success at school. The location of school whether urban or rural affects a student's ability to study and perform at the level expected of them. Akubue and Ifelunni (2006) noted that different aspects of school environment (rural and urban) influences students achievement. Akubue and Ifelunni further stated that the individual student's academic behaviour is influenced not only by the motivating forces of his home, scholastic ability, and academic values but also by the social pressure applied by the participants in the school setting.

Also differences in location imply differences in the existence of demographic and socio-economic parameters of the school. As stated by Akubue and Ifelunni (2006) that

because of urban involvement, students in urban schools perform better than those in rural schools in language learning. The reason he gave include the fact that rural students have limited access to reading materials, inadequate reading culture and insufficient graduate teachers in rural schools. Therefore, the location of school has tremendous influence on children's academic achievement.

Retention of what have been learnt by students is an important aspect of the teaching and learning process. This study, therefore, sought to ascertain the effects of integrated social networking teaching approach on students' retention. Retention simply refers to how much a person remembers after an interval of time without practice and that it is the difference between what is initially learnt and what is later forgotten. Haynie, (2013) defines retention learning as learning which lasts beyond the initial testing and it is assessed with tests administered two or more weeks after the information has been taught and tested. Haynie further explained that retention of learning is measured with two tests: the initial test and the delayed retention test. The initial test is the test employed at the time of instruction or immediately thereafter while the delayed retention tests are those tests administered two or more weeks after instruction and initial testing to measure the retained knowledge.

From the foregoing it could be deduced that the utilization of effective teaching tools and methods which abound in local environment may equally enhance students' interest, enhance the teaching and learning of Government and makes students learn very well. Therefore, there is the need to investigate their level of achievement in Government when different teaching methods are used. Specifically in this study the effects of integrated social networking teaching approach on students' achievement in Government was investigated.

## II. STATEMENT OF THE PROBLEM

It is well known that from all the discussions in the background to the study that government is an important subject in our educational system. However, students' learning as portrayed in their external and internal examination results show poor achievements. The Chief Examiner's Report stated in the background to the study showed students poor achievement in government over the years. Many factors may have contributed to these problems of poor achievement and lack of interest in government in Secondary Schools. Some studieshave found that some factors such as unavailability of instructional materials and poor teaching methods contribute to poor achievement of students in the subject. Some teachers of Government seem to ignore alternative ways of teaching that ought to bring the lesson real life to the students.

Also, competence in government as a discipline can be developed through realistic interactions using meaningful and contextualized language. Moreover, time provided for classroom is not enough for practicing knowledge in government, and the classroom itself is more institutionalized and cannot provide real contextualized

interactions. Therefore, there is a need to search for other alternatives, that will help students to interact in a natural situation and acquire a good level of competence in government and improve their achievement in the subject. The researcher has the hunch from the assertion of some authorities as discussed in the background of this study that social media applications such as WhatsApp, Facebook, and Twitter can help to achieve such a goal as they provide a large space for discussions, interactions and free learning. Based on these views and convictions, the researcher decided to examine the effect of WhatsApp particularly on developing motivational levels to enhance students' achievement in government.

Could the poor achievement of students in government be improved by using alternative method of teaching the subject? In particular, could the use of integrated social networking teaching approach particularly WhatsApp bring greater achievement in government? These dissatisfying situation and doubts constitute the problem of this study.

➢ *Purpose of the Study*

The general purpose of this study is to determine the comparative effects of integrated social networking teaching approach and Glaser's teaching method on Government students' achievement and retention in Imo State.

• *Specifically, the study is set out to:*

✓ Ascertain Mean Achievement Scores Of Students Taught Government Using Integrated Social Networking Teaching Approach And Glaser Teaching Method At Post-Treatment Test;
✓ Find Out Mean Achievement Scores Of Male And Female Students Taught Government Using Integrated Social Networking Teaching Approach And Glaser Teaching Method At Post-Treatment Test;
✓ Determine Mean Achievement Scores Of Urban And Rural Secondary School Students Taught Government Using Integrated Social Networking Teaching Approach And Glaser Teaching Method At Post-Treatment Test;
✓ Determine Mean Retention Scores Of Students Taught Government Using Integrated Social Networking Teaching Approach And Glaser Teaching Method In Secondary Schools In The Follow-Up Test; And
✓ Determine Mean Retention Scores Of Male And Female Students Taught Government Using Integrated Social Networking Teaching Approach And Glaser Teaching Method In Secondary Schools In The Follow-Up Test.
✓ Ascertain The Mean Retention Scores Of Urban And Rural Secondary School Students Taught Government Using Integrated Social Networking Teaching Approach And Glaser Teaching Method In The Follow-Up Test.

➢ *Research Questions*

The following research questions guided this study.

• What are the mean achievement scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment tests?
• What are the mean achievement scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test?
• What are the mean achievement scores of urban and rural secondary school students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test?
• What are the mean retention scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method in secondary schools in the follow-up test?
• What are the mean retention scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method in Secondary schools in the follow-up test?
• What are the mean retention scores of urban and rural secondary school students taught government using Integrated Social networking teaching approach and Glaser teaching method in the follow-up test?

➢ *Hypotheses*

The researcher formulated these hypotheses to guide the study.

• The mean achievement scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment tests do not differ significantly.
• The mean achievement scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test do not differ significantly.
• The mean achievement scores of urban and rural secondary school students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test do not differ significantly.
• The mean retention scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method in secondary schools in the follow-up test do not differ significantly.
• The mean retention scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method in Secondary schools in the follow-up test do not differ significantly.
• The mean retention scores of urban and rural secondary school students taught government using Integrated Social networking teaching approach and Glaser teaching method in the follow-up test do not differ significantly.

> *Justification for the Study*

The need to solve the problem of poor performance of students in secondary schools subjects especially in government justifies this study. The problem of poor performance of students is a worrying situation to stakeholders in education (parents, teachers, government, and the society at large). There is need therefore, for solution to be proffered for this ugly situation. These researchers believe that getting the interest of students into the teaching and learning process is a good way to go. Social media is a major source of distraction to students especially at the secondary school level. Incorporating or integrating social media into the teaching and learning process no doubt will capture the interest of the majority of the students, which will form a first step in addressing the problem of poor performance of students.

## III. BRIEF LITERATURE REVIEW

The major concepts discussed are academic achievement, teaching methods, Glaser's teaching models, learning, teaching, social networking, WhatsApp, Government as a secondary school subject, and gender and academic achievement. Academic achievement tends to show their level of competitiveness, creativity, efficiency and productivity both in present and future times of a student. According some literatures reviewed teaching methods are the ways by which the teacher impacts knowledge in an effort to help the learners acquire useful knowledge and skills. Glaser's teaching model explains the relationship between teaching and learning. It is basic model based on basic principles of psychology. Literatures reviewed showed that Glaser Model consists of four elements thus: Instructional Objectives, Entry Behavior, Instructional procedure and Performance Assessment.

Social networking according to the reviewed literatures is a form of social media used for interactive, educational, information or entertainment purposes. Social networking web-sites allow users to make profiles, upload photos and videos and interact with friends and family. WhatsApp on the other hand was defined by literatures as a social network that allows people to access a great deal of information rapidly. The simple operation scheme makes the program accessible to a variety of people of different ages and backgrounds. WhatsApp enables communication with anyone who possesses a Smartphone, has an active internet connection, and has installed the application.

The two main theories are the Technology Acceptance Model theory and social networking theory. The technology acceptance model suggests that the acceptability of an information system is determined by two main factors: perceived usefulness and perceived ease of use. Perceived usefulness is defined as being the degree to which a person believes that the use of a system will improve his performance. Perceived ease of use refers to the degree to which a person believes that the use of a system will be effortless.

The social networking theory is on how people, organizations or groups interact with others inside their network. It consists of a complex system in which the network, individuals, their personal environment, and the social environment have dependency relationships with each other. Each component depends on the others components in a system by drawing on resource in order to satisfy goals.

The empirical studies reviewed all focused on social networking (WhatsApp) and its effect and influence students' achievement. No study known to the researcher focused on Government as the teaching subject, none was done in Secondary Schools in Imo State of Nigeria. In all the empirical studies reviewed, none to the best of the researcher's knowledge sort for the effect of social networking (WhatsApp) on students' achievement in Government. The above and many others are the gaps this study covered.

## IV. METHODOLOGY

> *Design of the Study*

The study adopted a quasi-experimental research design. The design involves intact groups, pre-test, treatments, post-test, non-randomization. The study involves two treatment groups (Integrated Social Networking Teaching Approach (ISNTA) group and Glaser's teaching method (GTM) group). There was no randomization, hence, the students were used as they are in their respective classes. The study involves the use of ANCOVA F-test as post-hoc control.

- *The Design is Symbolically Represented as Shown below:*

Table 1 The Design is Symbolically Represented

| Groups | Pre-tests | Treatment | Post-tests | Follow-up |
|--------|-----------|-----------|------------|-----------|
| ISNTAG | $O_1$ | $X_1$ | $O_2$ | $O_3$ |
| GTMG | $O_1$ | $X_2$ | $O_2$ | $O_3$ |

Where: ISNTAG = Integrated Social networking teaching approach group; GTMG = Glaser teaching method group; $O_1$ = pre-treatment achievement test; $X_1$ = exposure to ISNTA; $X_2$ = exposure to GTM; $O_2$ = post treatment achievement test; $O_3$ = follow-up achievement test.

> *Area of the Study*

Area of this study is Imo State of Nigeria. Imo State is one of the 36 states in Nigeria. The state is in South-East geo-political zone of Nigeria, with Owerri as its capital and largest city. The state has 27 Local Government Areas. Imo state lies within latitude $4°45'N$ and $7°15'N$ and longitude of $6°50'E$ and $7°25'E$ with an area of about $5530km^2$. The estimated population is 4.8 million people, and the population density varies from 710 – 1400 people/square km. The state has one of the highest rural population densities in Nigeria. It is bordered by Abia State on the East, by Delta State on the West, by Anambra State to the North and River State on the South. The local language is Igbo and Christianity is the predominant religion. Imo State is

regarded as one of the educationally advanced States in Nigeria. The state has six educational zones namely, Okigwe zone I, Okigwe zone II, Orlu zone I, Orlu zone II, Owerri zone I, and Owerri zone II. Source: National Bureau of Statistics of Nigeria, NBSN (2007).

➢ *Sample and Sampling Techniques*

The sample for the study is 111 students who are offering Government in senior secondary school two (SSS2). The sampling technique was a multi-stage (cluster, purposive and simple random sampling) technique. The use of these techniques are described below.

The secondary schools constitute clusters in their respective Education zones. Two education zones were randomly sampled from the six education zones of Imo State. This was done by writing the names of the zones on piece of papers; the piece of papers were folded and placed in a container. After, thoroughly shaking the container, one piece of paper was drawn from the container at a time with replacement. In this way, two Education Zones (Orlu Education Zone I and Owerri Education Zone I) were drawn from the six zones. Similarly, four local government areas, LGAs were purposively drawn from the two education zones. This is in order to draw equal distribution of urban and rural secondary schools. Purposive sampling was used to draw only the co-educational schools from each of the four LGAs. This is to ensure uniformity in the characteristics of the students.

From these co-educational schools the researcher selected four secondary schools (two urban and two rural) using simple random sampling technique (by balloting). This was done by writing the names of the co-educational schools on pieces of papers according to their LGAs; the pieces of papers were folded and placed in four containers. After, thoroughly shaking the containers, one piece of paper was drawn from each of the containers, until four schools were drawn. Where more than two urban or rural schools are drawn from LGA, it is not recorded but placed back into the container and the selection repeated. Using purposive sampling, the researcher selected only senior secondary school two (SS2) students. This is because SS1 students have just moved from Upper Basic Three and SS3 were preparing for their Senior School Certificate Examination, SSCE and as a result the time of study was not convenient for the two classes. Therefore, all the students offering Government in SS2 of the sampled schools made up the sample for the study. Also, using purposive sampling technique the researcher drew two Secondary Schools from urban areas and two secondary schools from rural areas of the sampled zones. The essence of using purposive sampling at this stage is to select schools with similar/same characteristics. (See Appendix C for the distribution of the sample in page 131).
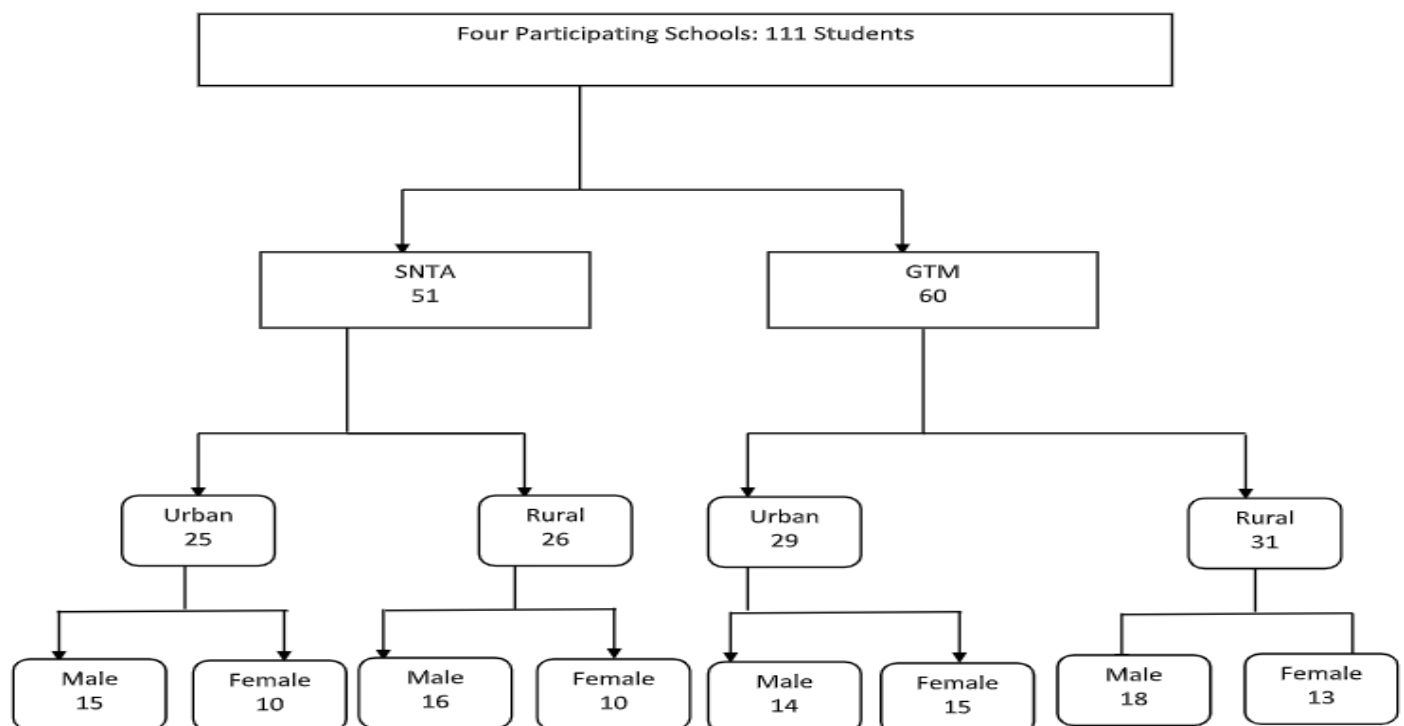

Fig 1 Diagrammatic Representation of Sample Distribution

➢ *Instrument for Data Collection*

The two instruments used for this study were researcher-made Government achievement tests for Pre-test and Post-test. The first instrument is a multiple-choice Government Achievement test for pre-test (GAT-PRE). The second instrument is multiple-choice Government

Achievement test for post-test, (GAT-POST). The two instruments were researcher-made using Government scheme of work and test blueprint, to ensure that the students were tested in content areas that are within their level and to ensure proper content coverage.

> *Procedure for Treatment and Control*
The following procedures were adopted in the administration of the instruments.

- *Pre-Test Session*
Before the treatment, the research subjects were given a pre-test. The tests were administered by the regular Government teachers in the sampled schools who have undergone training. The scripts were marked by the researcher. The pre-test was used to:

✓ *Determine The Students" Initial Knowledge Of The Subject-Matter They Learnt;*
✓ *Determine The Comparability Of The Two Groups (Experimental Groups) With Respect To Their Achievement In The Pre-Test Scores;*

- *Treatment Session*
The main treatment for the study was the teaching of the three topics to senior secondary two (SS2) students offering Government, through the use of WhatsApp using Glaser's teaching model and through using Glaser's teaching model. The students in group one were taught through WhatsApp using Glaser's teaching model, while those in the group two were taught using Glaser's teaching model. The teaching lasted for six weeks. Because the study adopted quasi-experimental research design, there was no control group.

The teaching of both groups was done during the normal school Government periods, using the lesson notes prepared by the researcher. During the period of the experiment, the researcher paid regular and unschooled visits to the sampled schools to ensure that the participating teachers carried out instructions strictly as contained in lesson notes.

- *Post Test Session*
After the treatment, the GAT-POST was administered to the students in the two groups. The scripts were marked by the researcher and the students" scores were recorded.

- *The Retention Test*
Two weeks after the post treatment test, the retention test was administered and as indicated earlier the GAT-post was used as the retention test.

> *Control of Extraneous Variable*
The extraneous variables in this study were controlled through the following procedure:

- *Teacher variables:*
To control the error that may arise as a result of teacher difference, the researcher trained the regular government teachers of the sampled schools for the study. The researcher had few hours training session with the government teachers in the sampled schools.

- *Instructional Situation Variable:*
The researcher issued out instructional guides (lesson plans) to the regular government teachers (research assistants) in the sampled schools for the experimental group I and group II in order to ensure that instructional situation are the same for the two groups. This was done to avoid **Hawthorne effect** (a situation in which research subjects' behaviour are affected not by the treatment but by their knowledge of participation in the study) and **Novelty effect** (increase interest, motivation or participation on the part of the subject, simply because they did something different).

- *Inter group variables:*
To eliminate the error of non-randomization of the subjects, data collected from the study were analyzed using Analysis of Covariance (ANCOVA).

- *Subject Interaction:*
The researcher made sure that the experimental groups were sampled from different schools because of any possible interaction that may arise (inter-class discussion) between the two experimental groups. See appendices G, H and I in pages 144, 145 and 181 for treatment schedule, lesson notes and lesson plans respectively.

> *Method of Data Collection*
The GAT-PRE was administered to the students before the treatment which lasted for six weeks. At the end of the treatment, another test (GAT-POST) was administered. The scores for students in the two groups were recorded accordingly. The test items in both the pre-treatment test, post treatment test and follow-up test were scored one mark each. The maximum mark for both pre- and post-treatment tests was 50, while the highest and lowest marks were one "1" and zero "0".

> *Method of Data Analysis*
The research questions were answered using descriptive statistics (mean and standard deviation). The hypotheses were tested using ANCOVA F-ratio at 95% confidence level.

> *Decision Rules*
For the research questions:

- *Scores ≥ 25 are considered as high scores*
- *Scores < 25 as low scores*
- *For the hypotheses:*

If calculated F-ratio is greater than the critical F-ratio (ie. $F_{Cal} > F_{Crit}$) the null hypotheses is rejected, otherwise they are accepted. Also, if the p-value is less than 0.05, the null hypotheses is rejected, otherwise they are accepted.

## V. ANALYSIS

*A. Results of Data Analysis Concerning Research Question One and Hypothesis One*

> *Research Question One:*
What are the mean achievement scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment tests?

Table 2 Mean Achievement Scores of Students Exposed to
ISNTA and GTM in the Pre-treatment and
Post-treatment Tests

| Group | n | $\overline{X}$Std | $\overline{X}$Std | Pre-treatment | | Post-treatment | |
|---|---|---|---|---|---|---|---|
| ISNTA | 51 | | | 33.04 | 11.10 | 34.75 | 11.16 |
| GTM | 60 | | | 29.12 | 10.58 | 23.62 | 5.68 |

Presented in Table 1 are the mean and the standard deviation achievement scores of students taught Government using Integrated Social networking teaching approach (ISNTA) and Glaser teaching method (GTM) teaching methods at post-treatment and pre-treatment tests. In the pre-treatment test, the mean score of students exposed to ISNTA and GTM are 33.04 and 29.12 respectively. The high mean achievement scores of the students in the two groups is indication that the students used for the study were above average students. However, the students exposed to ISNTA seems to perform better than the students exposed to GTM, the ANCOVA F-ratio however, adjusted for the difference.

On the other hand, in the post-treatment test, the mean achievement scores of the students exposed to ISNTA and GTM are 34.75 and 23.62. respectively. The mean score of the students exposed to ISNTA is appreciably higher than the mean score of their counterparts exposed to GTM. The high mean achievement score of the students in the ISNTA group indicates that ISNTA improved students achievement in Government than GTM. Also, the standard deviation for the students in ISNTA and GTM groups are respectively 11.16 and 5.68. The high standard deviations in the two groups indicate that the scores of the students are further away from the mean. This shows that some of the scores may be far higher or lower than the mean.

➢ *Hypothesis One:*

The mean achievement scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment tests do not differ significantly.

Table 3 ANCOVA Summary Table for Testing Hypothesis One

| Tests of Between-Subjects Effects | | | | | | |
|---|---|---|---|---|---|---|
| Dependent Variable: Post test | | | | | | |
| Source | Type III Sum of Squares | Df | Mean Square | F | Sig. | Partial Eta Squared |
| Corrected Model | 5721.433[a] | 8 | 715.179 | 12.524 | .000 | .496 |
| Intercept | 7168.729 | 1 | 7168.729 | 125.541 | .000 | .552 |
| Pretest | 109.803 | 1 | 109.803 | 1.923 | .169 | .019 |
| Treatment | 3067.564 | 1 | 3067.564 | 53.720 | .000 | .345 |
| Gender | .447 | 1 | .447 | .008 | .930 | .000 |
| Location | 725.088 | 1 | 725.088 | 12.698 | .001 | .111 |
| Treatment * Gender | 4.930 | 1 | 4.930 | .086 | .769 | .001 |
| Treatment * Location | 1319.834 | 1 | 1319.834 | 23.113 | .000 | .185 |
| Gender * Location | 9.200 | 1 | 9.200 | .161 | .689 | .002 |
| Treatment * Gender * Location | 10.354 | 1 | 10.354 | .181 | .671 | .002 |
| Error | 5824.458 | 102 | 57.103 | | | |
| Total | 103165.000 | 111 | | | | |
| Corrected Total | 11545.892 | 110 | | | | |
| a. R Squared = .496 (Adjusted R Squared = .456) | | | | | | |

Presented in Table 2 are the calculated F-ratio and p-value for testing hypothesis one. From the Table and reading along the treatment row, the calculated F-ratio is 53.720, while the p-value is 0.000. These values are compared with the critical value of the variance-ratio F-distribution. The calculated F-ratio is greater than the critical F-ratio of 3.92, while the p-value is less than the 5% point or the significance value of 0.05. Based on these comparisons, the researcher fails to accept the null hypothesis one (stated above) and instead accept the alternative hypothesis. Hence, the mean achievement scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method in the pre-treatment and post-treatment tests differ significantly. The partial Eta square of 0.345 shows that the treatment (ISNTA) contributed 34.50% of the variations in students achievement in Government.

*B. Results of Data Analysis Concerning Research Question Two and Hypothesis Two*

➢ *Research Question Two:*

What are the mean achievement scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test?

Table 4 Mean Achievement Scores of Male and Female
Students Exposed to ISNTA and GTM

| Group | n | $\overline{X}$Std | n | $\overline{X}$Std | Female | | Male | |
|---|---|---|---|---|---|---|---|---|
| ISNTA | 20 | 34.90 | | | 11.62 | 31 | 34.65 | 11.05 |
| GTM | 28 | 23.32 | | | 6.71 | 32 | 23.88 | 4.70 |

The mean achievement scores of the female students taught Government using ISNTA and GTM, as presented in Table 3, are 34.90 and 23.32 respectively. The female

students in ISNTA group has mean achievement score higher than that of their counterparts in GTM group. For the male students exposed to ISNTA and GTM their respective mean achievement scores are 34.65 and 23.88. The mean achievement score of the male students exposed to ISNTA is higher than the mean achievement score of the male students exposed to GTM.

However, when compared across gender, the female students in ISNTA group have mean achievement score slightly higher than that of their male counterparts in the same group. On the other hand, the male students exposed to GTM have mean achievement score higher than that of the female counterparts exposed to the same treatment method.

➢ *Hypothesis Two:*
The mean achievement scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test do not differ significantly.

Table 5 Summary ANCOVA Results for Testing the Significance or Otherwise of the Difference in the Achievement Mean of Male and Female Students

| MS | $df_1$ | $df_2$ | $F_{Cal}$ | p | $F_{Crit}$ | $\eta_p^2$ | Decision |
|---|---|---|---|---|---|---|---|
| 0.471 | 1 | 102 | 0.008 | 0.930 | 3.92 | 0.000 | |
| | | | $H_{02}$ is accepted | | | | |

From Table 4, the calculated F-ratio is 0.008, while the p-value is 0.930, also the partial Eta square is 0.000. The calculated F-ratio is less than the critical value of the variance-ratio F-distribution of 3.92, while the p-value is greater than the 5% point or significance value of 0.05. The null hypothesis two is, therefore, accepted. Hence, the mean achievement scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method in the pre-treatment and post-treatment test do not differ significantly. The partial Eta square of 0.000 indicates that the gender of the students contributed to only 0.000% of the variations in the female and male students' achievement in Government.

*C. Results of Data Analysis Concerning Research Question Three and Hypothesis Three*

➢ *Research Question Three:*
What are the mean achievement scores of urban and rural secondary school students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test?

Table 6 Mean Achievement Scores of Students in Urban and Rural Schools Exposed to ISNTA and GTM

| Group | n | $\bar{X}$ | Std | n | $\bar{X}$ | Std | Urban | | Rural | |
|---|---|---|---|---|---|---|---|---|---|---|
| ISNTA | 25 | 41.20 | 7.90 | 26 | 28.54 | 10.37 | | | | |
| GTM | 29 | 22.17 | 4.99 | 31 | 24.97 | 6.03 | | | | |

The mean achievement scores of the students in urban secondary schools taught Government using ISNTA and GTM, as presented in Table 5, are 41.20 and 22.17 respectively. The students in urban secondary schools

exposed to ISNTA has mean achievement score higher than that of their counterparts exposed to GTM. For the students in rural secondary schools exposed to ISNTA and GTM their respective mean achievement scores are 28.54 and 24.97. The mean achievement score of the students rural secondary schools exposed to ISNTA is higher than the mean achievement score of the students in rural secondary schools exposed to GTM.

However, when compared across school location, the students in urban secondary schools exposed to ISNTA have mean achievement score far higher than that of their counterparts in rural secondary schools exposed to the same treatment. On the other hand, the students in rural secondary schools exposed to GTM have mean achievement score higher than that of the counterparts in urban secondary schools who are exposed to the same treatment or teaching method. This shows that ISNTA is more effective in the urban secondary schools than in rural secondary schools.

➢ *Hypothesis Three:*
The mean achievement scores of urban and rural secondary school students taught Government using Integrated Social networking teaching approach and Glaser teaching method at post-treatment test do not differ significantly.

Table 7 Summary ANCOVA Results for Testing the Significance or Otherwise of the Difference in the Mean Achievement of Students in Urban and Rural Schools

| MS | $df_1$ | $df_2$ | $F_{Cal}$ | p | $F_{Crit}$ | $\eta_p^2$ | Decision |
|---|---|---|---|---|---|---|---|
| 725.09 | 1 | 102 | 12.698 | 0.001 | 3.92 | 0.111 | |
| | | | $H_{03}$ is rejected | | | | |

From Table 6, the calculated F-ratio is 12.698, while the p-value is 0.001, also the partial Eta square is 0.111. The calculated F-ratio is greater than the critical value of the variance-ratio F-distribution of 3.92, while the p-value is less than the 5% point or significance value of 0.05. The researchers, therefore, fail to accept null hypothesis three and instead accept its alternative hypothesis. Hence, the mean achievement scores of urban and rural secondary school students taught Government using Integrated Social networking teaching approach and Glaser teaching method in the pre-treatment and post-treatment test differ significantly. The partial Eta square of 0.111 indicates that the school location of the students contributed to 11.10% of the variations in the mean achievement scores of the students' in both school locations.

*D. Results of Data Analysis Concerning Research Question Four and Hypothesis Four*

➢ *Research Question Four:*
What are the mean retention scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method in secondary schools in the follow-up test?

Table 8 Mean Retention Scores of Students Exposed to
ISNTA and GTM in the Follow-up Tests

| Group | n | X̄ | Std | X̄Std | Post-treatment | | Follow-up | |
|-------|----|-------|-------|-------|-------|-------|-------|-------|
| ISNTA | 51 | | | | 34.75 | 11.16 | 36.96 | 10.41 |
| GTM | 60 | | | | 23.62 | 5.68 | 24.57 | 5.70 |

Presented in Table 7 are the mean and the standard deviation of retention scores of students taught Government using Integrated Social networking teaching approach (ISNTA) and Glaser teaching method (GTM) teaching methods in the follow-up tests. In the follow-up test, the mean retention scores of the students exposed to ISNTA and GTM are 36.96 and 24.57. respectively. The mean retention score of the students exposed to ISNTA is appreciably higher than the mean retention score of their counterparts

exposed to GTM. The high mean retention score of the students in the ISNTA group indicates that ISNTA improved students' retention in Government than GTM. Also, the standard deviation for the students in ISNTA and GTM groups are respectively 10.41 and 5.70. The high standard deviations in the two groups indicate that the retention scores of the individual students are further away from the mean. This shows that some of the scores may be far higher or lower than the mean.

- *Hypothesis Four:*
The mean retention scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method in secondary schools in the follow-up test do not differ significantly.

Table 9 ANCOVA Summary Table for Testing Hypothesis Four

| | **Tests of Between-Subjects Effects** | | | | | |
|---|---|---|---|---|---|---|
| | **Dependent Variable: Followup** | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
| Corrected Model | 11380.797[a] | 8 | 1422.600 | 777.516 | .000 | .984 |
| Intercept | 69.858 | 1 | 69.858 | 38.180 | .000 | .272 |
| Posttest | 5267.813 | 1 | 5267.813 | 2879.101 | .000 | .966 |
| Treatment | 63.232 | 1 | 63.232 | 34.559 | .000 | .253 |
| Gender | .048 | 1 | .048 | .026 | .872 | .000 |
| Location | .338 | 1 | .338 | .185 | .668 | .002 |
| Treatment * Gender | .351 | 1 | .351 | .192 | .662 | .002 |
| Treatment * Location | .351 | 1 | .351 | .192 | .662 | .002 |
| Gender * Location | .000 | 1 | .000 | .000 | .990 | .000 |
| Treatment * Gender * Location | .020 | 1 | .020 | .011 | .918 | .000 |
| Error | 186.627 | 102 | 1.830 | | | |
| Total | 113215.000 | 111 | | | | |
| Corrected Total | 11567.423 | 110 | | | | |
| a. R Squared = .984 (Adjusted R Squared = .983) | | | | | | |

Presented in Table 8 are the calculated F-ratio and p-value for testing hypothesis four. From the Table and reading along the treatment row, the calculated F-ratio is 34.559, while the p-value is 0.000. These values are compared with the critical value of the variance-ratio F-distribution. The calculated F-ratio is greater than the critical F-ratio of 3.92, while the p-value is less than the 5% point or the significance value of 0.05. Based on these comparisons, the researcher fails to accept the null hypothesis one (stated above) and instead accept the alternative hypothesis. Hence, the mean retention scores of students taught Government using Integrated Social networking teaching approach and Glaser teaching method in secondary schools in the follow-up test differ significantly. The partial Eta square value of 0.253 shows that the treatment (ISNTA) contributed 25.30% of the variations in students retention in Government.

*E. Results of Data Analysis Concerning Research Question Five and Hypothesis Five*

➤ *Research Question Five:*
What are the mean retention scores of male and female students taught Government using Integrated Social

networking teaching approach and Glaser teaching method in Secondary schools in the follow-up test?

Table 10 Mean Retention Scores of Male and Female
Students Exposed to ISNTA and GTM

| Group | n | X̄ | Std | n | X̄ | Std | Female | | Male | |
|-------|----|-------|-------|----|-------|------|-------|------|-------|------|
| ISNTA | 20 | | | | | | 37.20 | 10.94 | 31 | 36.81 | 10.23 |
| GTM | 28 | | | | | | 24.25 | 6.56 | 32 | 24.84 | 4.92 |

The mean retention scores of the female students taught Government using ISNTA and GTM, as presented in Table 9, are 37.20 and 24.25 respectively. The female students in ISNTA group has mean retention score higher than that of their counterparts in GTM group. For the male students exposed to ISNTA and GTM their respective mean retention scores are 36.81 and 24.84. The mean retention score of the male students exposed to ISNTA is higher than the mean retention score of the male students exposed to GTM.

However, when compared across gender, the female students in ISNTA group have mean retention score slightly higher than that of their male counterparts in the same

group. On the other hand, the male students exposed GTM have mean retention score higher than that of their female counterparts exposed to the same treatment or teaching method.

➤ *Hypothesis Five:*
The mean retention scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method in Secondary schools in the follow-up test do not differ significantly.

Table 11 Summary ANCOVA Results for Testing the Significance or Otherwise of the Difference in the Retention Mean of Male and Female Students

| MS | $df_1$ | $df_2$ | $F_{Cal}$ | p | $F_{Crit}$ | $\eta_p^2$ | Decision |
|---|---|---|---|---|---|---|---|
| 0.048 | 1 | 102 | 0.026 | 0.872 | 3.92 | 0.000 | |
| | | | $H_{05}$ is accepted | | | | |

From Table 10, the calculated F-ratio is 0.026, while the p-value is 0.872, also the partial Eta square is 0.000. The calculated F-ratio is less than the critical value of the variance-ratio F-distribution of 3.92, while the p-value is greater than the 5% point or significance value of 0.05. The null hypothesis five is, therefore, accepted. Hence, the mean retention scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method in Secondary schools in the follow-up test do not differ significantly. The partial Eta square of 0.000 indicates that the gender of the students contributed to only 0.000% of the variations in the female and male students' retention in Government.

*F. Results of Data Analysis Concerning Research Question Six and Hypothesis Six*

➤ *Research Question Six:*
What are the mean retention scores of urban and rural secondary school students taught government using Integrated Social networking teaching approach and Glaser teaching method in the follow-up test?

Table 12 Mean Retention Scores of Students in Urban and Rural Schools Exposed to ISNTA and GTM

| Group | n | $\bar{X}$ | Std | n | $\bar{X}$ | Std |
|---|---|---|---|---|---|---|
| | | Urban | | | Rural | |
| ISNTA | 25 | 42.92 | 7.26 | 26 | 31.23 | 9.82 |
| GTM | 29 | 23.21 | 5.30 | 31 | 25.84 | 5.85 |

The mean retention scores of the students in urban secondary schools taught Government using ISNTA and GTM, as presented in Table 11, are 42.92 and 23.21 respectively. The students in urban secondary schools exposed to SNTA has mean retention score higher than that of their counterparts exposed to GTM. For the students in rural secondary schools exposed to SNTA and GTM their respective mean retention scores are 31.23 and 25.84. The mean retention score of the students in rural secondary schools exposed to SNTA is higher than the mean retention score of the students in rural secondary schools exposed to GTM.

However, when compared across school location, the students in urban secondary schools exposed to ISNTA have mean retention score far higher than that of their counterparts in rural secondary schools exposed to the same treatment. On the other hand, the students in rural secondary schools exposed to GTM have mean retention score higher than that of the counterparts in urban secondary schools who are exposed to the same treatment or teaching method.

• *Hypothesis Six:*
The mean retention scores of urban and rural secondary school students taught government using Integrated Social networking teaching approach and Glaser teaching method in the follow-up test do not differ significantly.

Table 13 Summary ANCOVA Results for Testing the Significance or Otherwise of the Difference in the Mean Retention of Students in Urban and Rural Schools

| MS | $df_1$ | $df_2$ | $F_{Cal}$ | p | $F_{Crit}$ | $\eta_p^2$ | Decision |
|---|---|---|---|---|---|---|---|
| 0.338 | 1 | 102 | 0.185 | 0.668 | 3.92 | 0.002 | |
| | | | $H_{06}$ is accepted | | | | |

From Table 6, the calculated F-ratio is 0.185, while the p-value is 0.668, also the partial Eta square is 0.002. The calculated F-ratio is less than the critical value of the variance-ratio F-distribution of 3.92, while the p-value is greater than the 5% point or significance value of 0.05. The researcher, therefore, accept the null hypothesis six. Hence, the mean retention scores of urban and rural secondary school students taught government using Integrated Social networking teaching approach and Glaser teaching method in the follow-up test do not differ significantly. The partial Eta square of 0.002 indicates that the school location of the students contributed to only 0.20% of the variations in the mean retention scores of the students in both school locations.

## VI. SUMMARY OF FINDINGS

➤ *Presented below are Summary of Findings.*

• The mean achievement scores of students taught Government using Integrated Social networking teaching approach is significantly higher than that of the counterparts exposed to Glaser teaching method.
• The mean achievement scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method do not differ significantly.
• The mean achievement scores of urban and rural secondary school students taught Government using Integrated Social networking teaching approach and Glaser teaching method differ significantly.
• The mean retention scores of students taught Government using Integrated Social networking teaching approach is significantly higher than that of their counterparts exposed to Glaser teaching method.

- The mean retention scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method in Secondary schools in the follow-up test do not differ significantly.

- The mean retention scores of urban and rural secondary school students taught government using Integrated Social networking teaching approach and Glaser teaching method in the follow-up test do not differ significantly.

➢ *Benefits of Findings*

- The study revealed that the mean score of the students exposed to Integrated social networking teaching approach (ISNTA) is significantly higher than the mean score of their counterparts exposed to Glaser teaching method (GTM). This finding implies that ISNTA can be used by teachers in secondary school improve students' achievement in Government.

- The study revealed that the mean achievement scores of male and female students taught Government using Integrated Social networking teaching approach and Glaser teaching method in the pre-treatment and post-treatment test do not differ significantly. This finding implies that ISNTA is not gender biased. The implication to the Government teachers in secondary schools is that they can use ISNTA to teach students the subject irrespective of their gender.

- The study revealed that the mean achievement scores of urban and rural secondary school students taught Government using Integrated Social networking teaching approach and Glaser teaching method in the pre-treatment and post-treatment test differ significantly. This finding implies that ISNTA is biased towards students' school location. The implication of this finding to Government teachers and curriculum planners is that they should put into consideration students' school location when choosing social networking as a teaching approaching.

- The study revealed that the mean retention score of the students exposed to ISNTA is significantly higher than the mean retention score of their counterparts exposed to GTM. This finding implies that ISNTA can be used to sustain students learning and help the students retain what they have learnt. The implication of this finding to the Government teachers is that they can comfortably use ISNTA to teach students the subject often, since ISNTA not only improve students' achievement but also helped them to retain information and sustain learning.

- The study revealed that the mean retention scores of male and female students taught Government using Integrated Social networking teaching approach (ISNTA) and Glaser teaching method (GTM) in Secondary schools in the follow-up test do not differ significantly. This finding implies that ISNTA is not gender biased and as a result can be used to teach both male and female students.

- The mean retention scores of urban and rural secondary school students taught government using Integrated Social networking teaching approach and Glaser teaching method in the follow-up test do not differ significantly. This finding implies that ISNTA is biased towards students' school location as urban students benefited more.

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