# Maps as instructional resources and scholarly performance of junior secondary school students in social studies

Favour Onamrewho Atubi Department of Social Science Education, Delta State University, Abraka, Nigeria

Abstract

**Purpose** – The purpose of the research was to, first, investigate if the use of maps as instructional resources will boost scholarly performance and, second, examine if gender can moderate the effect of map usage on scholarly performance.

**Design/methodology/approach** – The study was a quasi-experimental pre-test and post-test. A sample of 260 JSS II Students from 8 schools were selected through the purposive sampling technique. A Social Studies Scholarly Performance Test (SSSPT) with a reliability index of 0.79 was the instrument for data collection. The students were assigned into two groups: control and experimental. Both groups were pre-tested taught for a timeline of six weeks and thereafter post-tested.

**Findings** – The study reported a significant increase in the scholarly performance of students taught with maps; a significant difference occurred in the scholarly performance of both groups and gender did not moderate the effect of maps.

**Research limitations/implications** – The social studies teachers used for the study did not have previous knowledge or map skills; this could have affected the outcome. Secondly, the treatment took place for just six weeks, and the time allotted for social studies in the school timetable was used. This may not have given the students enough time to master map interpretation.

**Practical implications** – A major implication of the study is that results will show that maps can promote the scholarly performance of students in social studies. Secondly, the fact that gender did not moderate the effect of maps suggests that maps are gender-friendly.

**Social implications** – The results of the study, if implemented, would make social studies teachers to become inventive and resourceful in the use of maps as instructional resources for junior secondary students' scholarly performance in social studies without taking gender into consideration.

**Originality/value** – This study is a product of the researcher's doctoral thesis; therefore, it is original and has value. The results are the product of a painstaking study carried out by the author for a period of three years on the effect of instructional resources on social studies students' scholarly performance. Maps were one of the instructional resources studied for the award of a Ph.D. degree.

Keywords Maps, Scholarly performance, Junior secondary schools, Social studies,

Gender and instructional resources

Paper type Research paper

### Introduction

The problem of unsatisfactory scholarly performance in most school subjects including social studies both in school (internal) and external examinations is demoralizing. Hence, the low scholarly performance of junior secondary school students in social studies as observed,

© Favour Onamrewho Atubi. Published in *Arab Gulf Journal of Scientific Research*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at http://creativecommons.org/licences/by/4.0/ legalcode

¢

Arab Gulf Journal of Scientific Research Emerald Publishing Limited e-ISSN: 2536-0051 p-ISSN: 1985-9899 DOI 10.1108/AGJSR-07-2023-0346

Received 27 July 2023 Revised 24 November 2023 Accepted 30 January 2024

performance social studies

School students'

arouses doubts on the effect of instructional methods and resources used by social studies teachers in junior secondary schools (Umudi, 2012; Atubi, 2021). Scholarly performance refers to students' achievement of short termed educational goals. Kassaring, Mones, & Lehmann (2018) submitted that scholarly performance is the most important aspect of any educational process and research in the field of education.

Since schools are built for learners, the scholarly performance of learners is used as a yardstick in assessing the effectiveness of the entire school system. Scholarly performance has always been measured by test scores or examinations results neglecting the effect of other factors such as learning environments, strategies and learning resources on students scholarly performance (Oluwatosin & Bamidele, 2014). Therefore, it is worthwhile to investigate whether instructional resources like maps can boost the scholarly performance of students in social studies.

Generally, there seems to be low awareness among social studies teachers on the increasing relevance of maps, also teachers are ill – prepared to teach social studies with maps (An, Cashman, & Tillman, 2022). In the same vein, Bednarz, Acheson, and Bednarz (2006) disclosed that generally students are not efficient map users. Perhaps this poor skill in map usage can be attributed to low level of application of maps in some topics that could have been better presented with maps. This low level of map skills and usage in promoting the scholarly performance of social studies students constitute the problem this study seeks to resolve. Teaching social studies with maps signifies giving students the skills of map reading, map interpretation and map production; it can also develop their problem solving skills by exposing them to the real world as depicted by maps. The knowledge and skills of maps are tools which can be beneficial in helping students solve a good number of problems, like finding the location of places to understanding coded information, thereby broadening students' horizon of knowledge (Gersmehl, 2005).

Man exists in a spatial world and not in a vacuum, human activities are carried out in this space and all experiences of man are acquired in space as well. A map therefore as a representation of space serve as the best tool to satisfy man's curiosity about the earth. The greater ability a student has to read and understand maps, the greater and better will the student be at interpreting and visualizing the world in which the student live. Maps can help the learner to understand the similarities and differences between people, places and how these similarities and differences affects the actions and activities of man. Akengin (2012) and Reed (2014) submitted that with maps students can gain insightful information about the physical and human environments. Geospatial World (2018) argued that maps help to spur up imaginations and inspire inquiry into the unknown, in modern times the relationships between places and regions have been studied with maps.

Unal (2012) explained that in social studies issues and occurrences are always explained in relation to space where they exist or occur, this means that maps are engaging as maps help students to identify places without being there physically thereby contributing to socialization in the process. Furthermore, maps are very important considering the fact that maps help in solving environmental problems such as understanding the abuse of nature and its resources (Gokce, 2015). Since all phenomenon occur in space and maps represents space, students with map skills are good at collecting data about space. They can take charge of important responsibilities in the immediate environment. Therefore, maps can help students to learn major social studies concepts, aid students' future and introduce them to a globalized world.

Based on these backgrounds, teaching students with maps could assist students' to learn, read, analyze, interpret and create maps, it can help the students to reason spatially and assist them in solving problems encounter in the physical environment. It is against this backdrop that the researcher wishes to undertake this study; to explore the benefits of maps and the effect they can have on the scholarly performance of social studies students in Junior Secondary schools.

### Concept of maps

The use of maps can be dated back to 2,300BC (Yousaf, Aziz, & Hassan, 2012), maps were on Babylonian clay tablets and were studied for centuries. A map is a depiction of the earth surface; maps show mostly physical features but can also be used to present information on human activities and relationships. Maps help to present information in a simple and visual form, they teach about the location of places, countries and the distance between them, maps are the best tools for representing space. Maps make difficult information to become easy to analyze, maps support spatial thinking and help students to visualize places and countries in affinity to one another by making the students to become proficient in geographical skills (Dorbecker, 2019).

An indication of the unfolding importance of maps is the growing interest among psychologists, geographers and scientists in spatial reasoning, the type of reasoning that supports studying and interpreting maps (Bednarz *et al.*, 2006). Map knowledge help the mind to use and analyze spatial information, concepts and graphs in the course of thinking in order to be coordinated and well informed. Travelers, sailors and explorers have always made use of Global Positioning Systems with the aid of maps to find location and locate their destinations. The most popular internet searcher Google now gives map users map scales and remotely sensed visual displays maps which internet users can view from all point. Organizations make information available through printed and online maps, for examples census data maps, land use maps, town planning maps and others. Today animated and still maps are now commonly used in newspapers and social media, this is to help people relate well in spatial interactions and development, (Bednarz *et al.*, 2006).

Spatial knowledge and understanding improves when students study maps (Guskey, 2005), it becomes simpler for the student sensory faculty about the world to develop and as this study of maps continue and sooner or later the students will begin to see themselves as world citizens (Catling, 2005; Bailey & Fox, 1996; Kayer, 2012). Maps are used daily in televising weather forecast, in newspapers for illustration, on the internet to express social, political activities and events. This common but powerful and flexible tool has immense benefits for understanding many real life daily problems students encounter such as learning about places to having an understanding of the weather in order to plan their day. Dorbecker (2019) affirmed that maps are visualization tools and therefore should be considered a necessary aspect of digital education in social studies, by enhancing geospatial analysis.

The world today is becoming a global village because of transportation and information communication technology; therefore, a good world knowledge in social studies which can be provided through the study of maps is becoming imperative. Maps are becoming very useful to people on a daily basis because they offer expressions of data in electronic and print media, maps can present bulky information in a quick visual form. It offers first-hand information to students and gives accurate information on distance, direction and human relationships. The appropriate use of maps in social studies is like taking a shorter route to save time and effort.

### Maps and scholarly performance in social studies

The distinctive nature of social studies, demands that teachers need to deviate from traditional teaching resources to innovative instructional resources especially those provided by modern technological advancement like maps. Sardone (2017) highlighted that shifting from teacher centered instructional methods to student/visual instructional methods will remove the abstract nature of learning in the social studies curriculum, and this may help to improve the test scores of students in the long run. According to National Association of Geoscience Teachers (NAGT) (2013) using maps provokes curiosity, encourages inquiry and stimulate the skill of problem solving. Saripudin, Ratmaningsih, and Anggraini (2022) emphasized the relevance and application of maps as teaching resources have an ultimate

School students' performance social studies

# AGJSR

goal towards enhancing and improving the scholarly performance of social studies students. Several studies such as Yousaf *et al.* (2012), Bednarz *et al.* (2006), Gokce (2015) and Geospatial World (2018), investigated the effect of maps on social studies students' performance and attested that maps are related to social studies content and can improve students' scholarly performance.

Bednarz *et al.* (2006) pointed out that the growing interest in use of maps in the world today not only by geographers but by scientists and psychologists, because maps support spatial learning and reasoning. Teaching students with maps can help in understanding social studies concepts better, read, interpret and analyze maps effectively. Similarly, Yousaf *et al.* (2012) proved that maps and globes are effective resources in the teaching of social studies lessons by comparing the performance of students taught with maps and those taught without maps. The results revealed that the use of maps did not only enhanced the academic performance of students, but also increased their class attendance, participation, homework performance and interest. The understanding and assimilation level of the cognitive domain of students' taught with maps greatly improved compared to that of students' taught without maps. The maps aspect of geography in social studies provides a permanent, capable and applicable knowledge about the world, this is required for critical analysis and evaluation of world issues/problems by students of social studies.

The relevance of maps and other image representations have become even more imperative to both geographers, educators and social studies researchers. This can be largely attributed to the growth and diffusion of maps; as maps play an integral role in expressing and recreating human activities in space (Bednarz *et al.*, 2006; Adeyemi & Ajibade, 2020). For instance, the United States election map of 2004 where blue states represented states won by democrats and red states represented those won by republicans, constructed by geographers from the University of Michigan provided a better and precise picture of votes casted in the elections (see Figure 1).

Gokce (2015) examined how maps can be used in improving the study of social studies by reemphasizing the importance of map as a part of "spatial perception skills". Maps are major resources, in helping people to perceive space, understand spatial problems and make life easier (Gersmehl, 2005). Primarily people live within geographical space, hence people should be curious to learn about their space and maps are veritable resources of learning about space.

Akengin (2012) posited that students gain more knowledge about the relationship that subjects like geography and social studies have with human and physical processes through maps. Similarly, Unal (2012) stated that people, events and concepts in social studies are always explained in reference to the place they exist or where they are observed. Therefore, studying social studies with maps assist students in adjusting to their immediate environment which is beneficial to the socialization attainment of an individual. Gokce (2015) and An *et al.* (2022) advocated the use of maps in training social studies trainee teachers, as this will assist in training the students on the strategies, methods and techniques that can be used to incorporate maps as instructional resources for social studies.



**Figure 1.** A map showing picture of precise votes casted in a USA election

Source(s): Bednarz et al. (2006)

On the other hand, the effect of gender on academic performance of students has been an educational issue of concern to researchers in the social studies educational space. A study by Yusuf and Adigun (2010) reported no significant effect of gender on students' academic performance in Ekiti state. Okereke (2011) and Awodun and Oyenini (2018) submitted similar findings. However, Akpochafo (2001), Adeyemi and Ajibade (2020) and Yousaf *et al.* (2012) reported a contrary finding where the study discovered significant effect of gender on the scholarly performance of male and female students in social studies. Whether the biological construct of gender will impact the scholarly performance of junior secondary school students in social studies or not was also determined by this study.

School students' performance social studies

### **Research procedure**

The study design was quasi-experimental pre-test and post-test experimental and control groups of randomized classes. A sample of 260 junior secondary school students who are in their second year, from eight government-owned secondary schools in Delta State was used for the study. The schools were selected through a purposive sampling technique and were spread across the three senatorial districts of the state namely Delta North (3 schools), Delta Central (3 schools) and Delta South (2 schools) (see Table 1).

The decision to make use of 3 schools from Delta North and Central was due to the fact that there are more schools in these senatorial districts than in Delta South.

The main instrument for data collection was a test prepared by the researcher with the help of two social studies teachers and one expert in measurement and evaluation. The instrument was titled "Social Studies Scholarly Performance Test" (SSSPT), and it consisted of 50 objective questions from the topics taught the participants during the quasi-experiment. The face and content validity of the SSSPT was done by two senior academics in the Department of Social Studies, Delta State University, Abraka, Nigeria; one expert of test and measurement and three junior school social studies teachers, who have been teaching the subject for so many years. An initial draft of the instrument was submitted to each of these people for necessary corrections and adjustments. They removed some questions, added a few and corrected others. Some of the options were adjusted in a way that they all have similar length and characters for it to be suitable and useable. Their comments and remarks were added to develop the contents of the SSPT; it was on this basis that a final copy of the SSPT was produced and used for the study.

The reliability of the SSPT was ascertained with the test-retest method. Thirty copies of the instrument were administered twice, within two weeks' interval in-between the two administrations to thirty (30) JSS II Social Studies students of Alaka, Grammer School Ozoro, in Isoko North Local Government Area (LGA). This is outside the LGAs to be used for the

Senatorial district	Sample school	Class size	Group	
Delta North	Obiaruku Grammar School	32	Experimental	
	Umutu Mixed Secondary School	34	Control	
	West End Mixed Secondary School, Asaba	32	Experimental	
Delta Central	Abraka Grammar School	32	Control	
	Ogbe-udu Secondary school	33	Experimental	
	Gana Mixed Secondary School, Sapele	32	Control	
Delta South	Essi College, Warri	33	Experimental	
	Dom-Domingos College, Warri	32	Control	
Total	Eight Schools	260		
Source(s): Fieldworld	k (2022)			

 Table 1.

 A factorial matrix showing schools sampled for the study

study. The scores from the first and second administrations of the instrument were correlated with SPSS using Pearson Product Moment Correlation Coefficient (PPMC) statistics, a coefficient value of 0.79 was obtained. This indicated that the instrument is reliable for this study.

The treatment was administered by eight social studies teachers who acted as research assistants for the study. Since the lesson was designed to improve social studies map skills, the students were first of all pre-tested. Comprehensive training, lesson plans and notes designed by the researcher were given to the teachers. Lessons were taught with the use of wall maps related to three topics the topics were "Position of Nigeria (see Figure 2), Political Division of Nigeria (see Figure 3) and Ethnic groups in Nigeria (Figure 4)". The Nigeria and world maps were provided by the researcher and the lesson took the following steps for the experimental groups.

Step I: Students in both groups were first of all pre-tested.

*Step II:* Introduction, here the students were introduced to the topic/unit e.g. the physical environment of Nigeria. This was to mentally prepare them ahead for the main task.

*Step III:* The teachers presented the lesson and positioned the three maps of Nigeria on the wall (Researchgate, 2021) (Figures 2–4), the teachers gave detailed explanation to achieve the stated objectives. This they did by presenting and explaining the content of the lesson by incorporating the maps, displayed into the main lesson. After these students performed the class activities, analyzing and observing the maps to have a deeper understanding about the topic and asked questions.

*Step IV:* Evaluation, this means that the lesson has ended, the teacher quizzes and questions the students to get feedback on the extent of instructional objectives achieved. The teacher did this by interacting orally and by giving the class a written assignment.

The control groups received no treatment, the lesson plans and lesson notes only were used for them, and maps were not used as instructional resources for this group. This routine continued for a period of six weeks after which the students were post-tested, the results of the first and second test were analyzed and presented below.



Source(s): Researchgate (2021)

**Figure 2.** A map of the world showing the position of Nigeria



Source(s): Researchgate (2021)



various ethnic groups in Nigeria

Source(s): Researchgate (2021)

RQ1. What is the effect of map instructional resources on the scholarly performance of junior secondary social studies students?

Table 2, shows a pre-test mean score of 36.64 for the and a post-test mean score of 62.34 for students taught social studies with maps instructional resources. These findings revealed a

Figure 4. A map showing the AGJSR mean difference of 25.66. This implies there is a positive of effect of maps instructional resources on scholarly performance of junior secondary school students in social studies. Similarly, Figure 5 show the difference in the pre-test and post-test mean score of only the experimental group, emphasizing the effect of maps on scholarly performance of the students. This effect was tested for statistical significance in hypothesis 1.

*RQ2.* What is the difference in the pre-test and post-test mean score of students taught with maps and that of those taught without maps?

Table 3, shows a pre-test mean score of 32.05 and post-test mean score of 39.64 for the control group. While a pre-test mean score of 36.68 and a post-test mean score of 62.34 for students taught with maps as instructional resources. These findings revealed a mean difference of 25.66 mean gain for the map (treatment) group and a mean gain of 7.59 for the control group. This implies there is a positive effect of using maps as instructional resources in promoting the scholarly performance of junior secondary school students in social studies. In a similar vein, Figure 6, demonstrates the difference in post-test scores of the experimental and control groups and ascertained the effect of maps on scholarly performance. The effect was tested for statistical significance in hypothesis 2.

*RQ3.* How well does gender moderate the effect of maps instructional resources on scholarly performance of junior secondary social studies students?

Table 4 and Figure 7 showed the moderating effect of students' gender on maps instructional resources and scholarly performance of junior secondary school social studies students. Posttest for male students showed a mean score of 31.98 and 30.36 for the female students with

Table 2. Mean and standard	Test		n	Mean	SD	Mean gain
deviation pre-test and post-test mean scores of map group, showing the effect of maps on scholarly performance	Map Group	Post-test	130	62.34	8.98	25.66
	Source(s): Author	Pre-test or's computation	130	36.68	9.55	



**Figure 5.** A pie-chart showing the pre-test and posttest mean scores for treatment group

Source(s): Adapted from Table 2

mean difference of 1.62. Thus, the moderating effect of gender on maps was 1.62. This effect of gender is insignificant; however, this was tested for statistical significance in hypothesis 3.

*H1.* There is no significant effect of maps as instructional resources on the scholarly performance of junior secondary social studies students.

School students' performance social studies

Table 5 data shows the test for hypothesis 1 which states that there is no significant effect of maps as instructional resources on the scholarly performance of junior secondary social studies students. The test indicated a grand mean of 25315.9, F (1, 259) = 56.536 and p = 0.000. Since the *p*-value is less than 0.05 level of significance. The null hypothesis 1 is hereby rejected and alternative hypothesis accepted that there is significant effect of maps instructional resources on the scholarly performance of junior secondary social studies students.

Test		п	Mean	SD	Mean gain	
Мар	Pre-test	130	36.68	8.79	25.66	
Control	Post-test Pre-test	130 130	62.34 32.05	8.98 9.76	23.00	Table 3. Mean and standard deviation showing the
Source(s): At	Post-test athor's computation	130	39.64	9.55	7.59	difference in post-test scores of map and control groups



Source(s): Adapted from Table 3

Dependent variable	Mean	Mean gain	SD	
Post-test (male)	31.98	1.00	4.806	Table 4.
Post-test (female)	30.36	1.62	4.698	Test of moderating effect of gender
Source(s): Author's computa	tion			on maps

# Figure 6.

A bar graph showing the difference in pretest and post-test mean scores for both control and map groups



	Source	Sum of squares (SS)	df	Mean of squares (MS)	F	P-value
Table 5.ANCOVA grand mean	Treatment (maps)	3330.0	1	3330.0	56 536	0.00
table showing effect of maps on social studies students' scholarly performance	Error <i>Total</i> Source(s): Author's o	13663.6 <i>25315.9</i> computation	258 <i>259</i>	58.9	00.000	0.00

*H2.* There is no significant difference in the pre-test and post-test mean score of students taught with maps and that of those taught without maps.

The results from Table 6, showing results for hypothesis 2, indicated a grand mean of 35075.7, F (1, 129,129) = 92.486 and p = 0.001. Since the p-value is less than 0.05 level of significance. The null hypothesis 2 is hereby rejected and alternative hypothesis accepted. Therefore, there is significant difference in the scholarly performance of students taught with maps instructional resources and that of taught without the use of maps. This difference is in favour of the map group; hence, we can confidently submit that maps has a positive effect on the scholarly performance of junior secondary social studies students.

*H3.* Gender do not have any moderating effect on maps instructional resources and scholarly performance of junior secondary social studies students.

Table 7, reveals the result of the tested hypothesis 3 where a grand mean of 51559.2, F (1, 34, 234) = 2.841 and p = 0.093 was reported. Thus, since the p-value obtained 0.093 is higher than

1	13165.4		
129 129 259	27.49 142.35	92.486	0.001
	129 129 259	129         27.49           129         142.35           259         259	129     27.49       129     142.35       259     142.35

0.05 level of significance, the null hypothesis statement is accepted that gender do not have any moderating effect on maps and scholarly performance of junior secondary social studies students in Delta State.

### Discussion

Hypothesis one results revealed a significant effect of maps instructional resources on social studies students' scholarly performance as the post-test mean score of the map group was significantly higher than their pre-test mean score. maps used as instructional resources appeared to have facilitated involvement in learning and by implication instructional resources of maps have positive effect on students' scholarly performance. This has also proved that maps are significant instructional resources to be considered for enhancing student's interest and scholarly performance as maps present information in a simplified form and make difficult concepts to become easy.

Maps boost spatial thinking by helping students to visualize places, hence they are a veritable visualization tools. This finding is consistent with that of National Association of Geoscience Teachers (NAGT) (2013), whose study submitted that maps provoke curiosity and improves the skill of inquiry. Other studies that are in line with this finding includes Bednarz *et al.* (2006), Yousaf *et al.* (2012), Gokce (2015) and Geospatial World (2018). These studies supported the fact that maps aid spatial learning and reasoning in social studies, thereby promoting the scholarly performance of students.

Results from hypothesis two confirmed significant difference in the scholarly performance of the two groups of participants in the study, with the map group recording a higher scholarly performance than the control group. This finding is in tandem with Gokce (2015), Sardone (2017) and Adeyemi and Ajibade (2020). All studies emphasized the place and beauty of using maps for social studies instructions as a way of improving the scholarly performance of learners. As maps are a pragmatic way of learning about the world.

Findings from hypothesis three indicated that there is no significant or moderating effect of gender on maps instructional resources and social studies students' scholarly performance. This gender equilibrium may be caused by teachers' non-usage of maps before the experiment. Therefore, interest of students were stimulated to learn, the result was a balance scholarly performance of both gender. Both gender had equal access and factors like interest and peer influence may have played a major role. Therefore, an atmosphere of gender balance characterized the use of this map resources. This finding is line with Yusuf and Adigun (2010), Okereke (2011) and Awodun and Oyenini (2018). These studies demonstrated that there is no significant or moderating effect of gender on students' scholarly performance. Moreover, this finding is at variance with the studies of Akpochafo (2001), Adeyemi and Ajibade (2020) and Yousaf *et al.* (2012), which submitted male dominance in scholarly performance as male students out performed their female counterparts in the studies.

Source	Sum of square (SS)	df	Mean of squares (MS)	F	P-value	
Treatment (Maps)	262.8	1	262.8	2 841	0.093	Table 7.           ANCOVA grand mean
Gender Error <i>Total</i> Source(s): Author's o	29649.4         24           21647.0         234           51559.2         259           : Author's computation         259	1235.3 92.50	2.011	0.000	table on the moderating effect of gender and maps on social studies students' scholarly performance	

School students' performance social studies

## AGISR Conclusion

Maps in this study provided a good empirical ground that they can help in boosting junior secondary school students' academic performance in social studies. They are practicable resources among many others for bringing new understanding of to social studies. Maps present information in a simplified form and make difficult concepts to become easy, they boost spatial thinking by helping students to visualize places; hence, they are veritable instructional resources. Maps when used as instructional resources in social studies can help students to become world class citizens, promote their performance and can do much more. Therefore, the study concluded that maps have significant and positive effect on the scholarly performance of junior secondary students in social studies. Finally, the study reported no significant moderating effect of gender in the use of map instructional resources and scholarly performance of students in social studies.

### Limitations and implications

The nature of maps, require skill for its interpretation, the social studies teachers used for the study may not have previous knowledge nor any training on map skills apart from those acquired from in this study. Their low level of skill is a limitation and could have affected the results for the study. Secondly, the map group were favored more than the control group, this accounted for their superior performance. Thirdly, the treatment took place for just six weeks and only the time for social studies lessons in the schools time table were used. This may not give students enough time to master map interpretation.

A major implication of the study is that the data and results generated from this study will help to reveal that maps can help in promoting scholarly performance of students especially in social studies. Another implication rests on the fact that maps are visual-based resources; therefore, they are enhancers in the comprehension of social studies lesson.

The study will also make social studies teachers improve their competence and quality of teaching, through the application of maps when teaching topics and concepts related to location of people and places in order to boost students' comprehension through visual knowledge.

#### References

- Adeyemi, B. A. & Ajibade, Y. A. (2020). The comparative effect of brainstorming and games teaching methods. African Journals Online, 5(3), 64–80.
- Akengin, H. (2012). Effects of using case-study method in Social Studies on student's attitudes towards the environment. *International Electronic Journal of Environmental Education*, 2(2), 119–127.
- Akpochafo, W. P. (2001). Effects of expository, discovery and discussion methods on acedemic achievement in junior secondary social studies. Unpublished P.hD. Thesis, Delta State University, Abraka Nigeria.
- An, S., Cashman, T., & Tillman, D. (2022). Preservice teachers' use of pedagogy to conceptualize distortion in world maps. *Journal of International Social Studies*, 12(2), 1–21.
- Atubi, F. O. (2021). Effect of selected instructional resources on academic performance of upper basic social studies students in Delta state. An Unpublished Ph.D. Thesis submitted. Abraka: Delta State University.
- Awodun, A. O., & Oyenini, A. D. (2018). Influence of school location, on students academic achievement in Junior secondary school basic science in Ekiti, Stae, Nigeria. *Journal of Emerging Technologies and Innovative Reseach*, 5(6), 125–128.
- Bailey, P., & Fox, P. (1996). Teaching and learning with maps. In P. Bailey, & P. Fox (Eds.), Geography teacher's handbook (pp. 112–122). Sheffield: Geographical Association.
- Bednarz, S. W., Acheson, G., & Bednarz, R. S. (2006). Maps and map learning in social studies. Social Education, 70(7), 398–404.

- Catling, S. (2005). In C. Lee, & C. C. Hung (Eds.), *Developing children's understanding and use of maps in primary school Social Studies: Exploring pedagogy and content*. Singapore: Marshall Cavendish Education.
- Dorbecker, M. (2019). 10 Reasons why maps are important. Map Shop. Available from: www. mapshop.com
- Geospatial World (2018). Why GIS in education matters. Available from: https://www.geospatialworld. net>blogs
- Gersmehl, P. (2005). Teaching geography. The Gullford, New York.
- Gokce, N. (2015). Social Studies in improving students map skills: Teachers opinion. *Educational sciences. Theory and Practice*, 15(5), 1345–1362.
- Guskey, T. R. (2005). Mapping the road to proficiency. Educational Leadership, 63(3), 32-36.
- Kassaring, V., Mones, E. & Lehmann, S. (2018). Academic performance and behavioural patterns. EPJ Data Science, epidatascience. doi: 10.1140/epids/s/1368.
- Kayer, E. (2012). Social studies in improving students' maps skills: Teaching opinions. In N. Gokce (Ed.), Educational Sciences: Theory and Practice (Vol. 15, pp. 1345–1362).
- National Association of Geoscience Teachers (2013). Teaching with maps. Available from: serc. carleton.edu/k12/maps.html
- Okereke, C. (2011). Influence of gender, school location and use of games simulation on school achievement in chemistry. *Journal of Research in National Development*, 9(1), 381–387.
- Oluwatosin, S. A., & Bamidele, E. F. (2014). Self-concept and academic performance of secondary school students in chemistry. *International Journal of Social Sciences and Educational*, 4(4), 946–952.
- Reed, T. (2014). Thinking maps: An innovative way to increase sixth grade students' achievement in social studies. An Unpublished Ph.D. Submitted to Harvard University.
- Researchgate (2021). Available from: https://www.researchgate.net/figure/Nigeria-Map-showing-the-Ethnic-Constituents\_fig1\_290211693
- Sardone, N.B. (2017). Using games, comic strips and maps to enhance teacher candidates, e-learning practice in social studies. In *International Association for Development the Information Society* (IADIS). International Conference on e-learning.
- Saripudin, D., Ratmaningsih, N., & Anggraini, D. (2022). Smart maps Indonesian based on augmented reality as digital learning resources of social studies. *The New Educational Review*, 67(1), 172–182.
- Umudi, B. A. (2012). Content implementation in junior secondary school Social Studies in Nigeria. *Nigeria Journal of Curriculum and Instruction*, 20(1). Available from: www. globalacademicgroups.com
- Unal, F. (2012). Social Studies in improving students map skills: Teachers opinions. Educational Sciences. In N. Gokce (Ed.), *Theory and Practice* (Vol. 15, pp. 1345–1362).
- Yousaf, S., Aziz, S., & Hassan, H. (2012). Effectiveness of maps and globes in social studies teaching. International Journal of Social Sciences and Education, 3(1), 183–187.
- Yusuf, M. A., & Adigun, J. T. (2010). The influence of sex, school location and type on students academic performance. *International Journal of Education Science*, 2(2), 81–85.

#### **Corresponding author**

Favour Onamrewho Atubi can be contacted at: favouratubi20@gmail.com

For instructions on how to order reprints of this article, please visit our website: www.emeraldgrouppublishing.com/licensing/reprints.htm Or contact us for further details: permissions@emeraldinsight.com School students' performance social studies