A QUALITATIVE STUDY ON TEACHERS' AND STUDENTS' PERSPECTIVES ON THE INTEGRATION OF DIGITAL STORYTELLING IN MAP READING INSTRUCTION

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Abstract
This qualitative study examined the perspectives of geography teachers and students on the integration of digital storytelling (DST) in map reading instruction. Semi-structure interview and focus group discussion were held with teachers and students respectively to generate qualitative data for the study. The participants comprised nine geography teachers and 381 students from two senior secondary schools in Ibadan metropolis, Nigeria. Content analysis was used to analyze qualitative data. The findings implied that geography teachers and students considered digital storytelling as an appropriate pedagogical tool that could make map reading more realistic and connected to a real-life situation. Challenges like erratic power supply, inadequate digital devices, and lack of technological skills were identified by teachers and students as major impediments to the effective integration of DST in map reading classroom. It is, therefore, recommended that schools should be provided with adequate infrastructures that would enable effective integration of DST into the learning space.

Keywords: Active engagement, digital storytelling, emerging technologies, local videos, map reading instruction, pedagogical tool.

Introduction
The instructional process is rapidly becoming technology driven and teachers at all levels of education are expected to incorporate different kinds of technologies to their instructional toolkits. The complexities in teaching-learning process had necessitated the need for teachers and students to embrace effective integration of technological tools in enhancing classroom activities. With the increasing growth of technology in education, there is a continuous emphasis among scholars on the integration of digital tools in teaching-learning process at various levels (Karakoyun & Yapıcı, 2016).

In spite of the strategic roles of ICT in education, understanding teachers' perspectives could determine the success rate of technology integration within the instructional process. The global funding dedicated to educational technology continues to rise, with a view to ensuring that teachers are able to leverage the capabilities of digital tools to engage learners in classroom activities (Adkins 2018; Shulman, 2018). Yet, most of the teachers still find it difficult to seamlessly integrate technology across different subject areas, as many of them perceive ICT as devices that would change their roles within the instructional system (Rebora, 2016; Glendinning, 2018; Hyndman, 2018). This inability to integrate technology into teaching-learning process is increasingly affecting active engagement of students in classroom activities in different areas of specialization, especially in some perceived difficult subjects like mathematics, sciences, geography among other disciplines. It should be noted that these subjects are central to the growth and development of countries around the world.

It is an established fact that functional geography equips the citizens with requisite skills and knowledge to interact positively with the environment. Also, the knowledge, skills and competencies acquired in map reading activities stimulate effective learning of other aspects of geography and could also be extended to different areas of specialization. In other words, geographers across the world often define geography around maps and map reading activities. Also, it is usually with maps that spatial relations can best be observed, analyzed and interpreted, as maps enrich the study of Global Positioning System (GPS) and Geographical Information System (GIS) which are the 21st Century directional tools that influence human activities in this modern world. Geographers usually employ the use of different types of maps among which are sketch map, atlas map and topographical map. Topographical map is a fundamental instrument in map reading exercise. It depicts the specifics of landforms in a geographical environment using map symbols on a large sheet of paper (Bello, 2018). The process of reading topographical map provides the basic skill that could be deployed in developing a diverse range of knowledge in other areas of geography and some social science subjects.

However, map reading has been identified as one of the most difficult components of geography, as many students believe that the concept is full of abstract topics that are disconnected from real life situations. The challenge is complicated by the lecture method usually adopted by geography teachers, especially in Nigeria. Studies had shown that the present 'talk and chalk' method of teaching map reading contributes to the poor learning outcomes, especially at the senior secondary level of education (Egunjobi, 2014). Falode (2014) assert that the level of engagement in many conventional map reading classrooms is quite low as students do not actively participate in classroom activities.

It has been established that the systematic integration of technology could play crucial roles in improving students' level of engagement in the classroom activities. Therefore, map reading remains a strategic component of geography that requires effective integration of technology to engage learners in classroom activities and reduce the level of abstractness associated with the concept. This is well-encapsulated in the words of Amosun (2016), that secondary school teachers are consistently using teacher-centered method which has not yielded positive outcomes and if teaching and learning of map reading would become productive, it is imperative for teachers to change their methodologies and incorporate more student-centered approach to classroom instruction. Falode (2014) suggests that one way to bring about more practical change in the learning outcomes and engage students in map reading activities is by using student-centered technique through the integration of computer assisted instruction approach to teaching and learning process. Egunjobi (2014) has emphasized the need to leverage the capabilities of technology to enrich map reading instruction and improve students' academic achievement in the concept. Scholars have utilized different modes of computer-based instructions like simulation, digital games and puzzles among others to improve academic performance of geography students in map reading (Amosun, 2002; Egunjobi, 2014).

One of the emerging technologies that could be used by geography teachers to overcome the challenges of abstractness and low level of engagement in map reading classroom is digital storytelling. Digital storytelling provides an appropriate convergent platform for traditional storytelling and technology to effectively interact and facilitate classroom activities. Digital Storytelling had been touted as a technology-based instructional strategy that allows students and teachers to interact directly with digital tools and makes learning more realistic and

connected to real life situation. Therefore, it is increasingly forming part of humans' lives, and it is at the threshold of becoming an important part of teaching and learning as well (Bello, 2018). Evidences abound in literature that digital storytelling has the capabilities to enhance classroom instructions across different disciplines. According to Dogan (2012), the more educational stakeholders understand DST capabilities, the more they will utilize its instructional benefits to facilitate classroom activities. Gregori-Signs (2014) affirms that digital storytelling is a strategy that allows students to evaluate the reality within their immediate environments and produce the interpretations of the phenomena. This basically improves acquisition of knowledge-based skills and interaction within socio-cultural settings. In their research, Smeda, Dakich and Sharda (2014) found that the capability of digital storytelling to personalize students' learning experiences usually improves self-confidence and enhances social and psychological skills. This perspective emphasizes that DST improves all-round development of students within the learning space. Stenhouse, Tait, Hardy and Sumner (2013) affirm that digital stories provide creative ways for teachers and students to narrate stories with the combination of voiceover, image, videos and probably soundtrack. This is evident in a study carried out that Chigona (2013), which revealed that students were able to acquire technological skills during digital storytelling process as they learn from peers and teachers. Adedoja and Bello (2016) assert that DST encourages students to become co-constructors of knowledge, which in turn improves learning outcomes in different subject areas.

The basic benefits of digital storytelling had been well established in literature from these different perspectives, what remains unclear are the opinions of geography teachers and students in effectively integrating this pedagogical tool to engage learners in map reading activities. In this case, it becomes imperative to investigate the perspectives of geography students and teachers concerning the integration of digital storytelling in map reading instruction. It is expected that this study would guide educational stakeholders to plan and implement DST to enhance effective map reading, especially at the senior secondary school level. Since DST is still an emerging pedagogical tool in Nigeria, geography teachers and students were exposed to digital storytelling package that explains some topics in map reading.

Statement of the Problem

Map reading remains a strategic component of geography as it connects other aspects of the subject. However, this important component is generally being considered as a difficult concept by the students, due to the lecture method usually adopted by most geography teachers. Different technological tools and strategies have been introduced to promote students' interest in map reading, especially at the secondary school level. It has been established that integration of DST could go a long way in stimulating students' interest and improving their learning outcomes in all subject areas. However, what remains unclear are the perspectives of teachers and students in effectively integrating this pedagogical tool to engage learners in map reading activities. Thus, it is important to investigate the views of geography students and teachers concerning the integration of digital storytelling in map reading instruction.

Research Questions

The following three research questions were raised to guide the study:

(i) What are the benefits derivable from using digital storytelling for classroom instruction?

(ii) What are the major challenges faced by Geography teachers and students in using digital storytelling for classroom instruction?

(iii) Do Geography teachers and students embrace digital storytelling to support classroom instruction?

Methodology

The study adopted a qualitative research design to generate qualitative data from geography teachers and students on their perspectives on the integration of DST in map reading class. DST is an emerging strategy, especially in this part of the world, thus, teachers were instructed to use DST package developed by the researcher to teach students some concepts of map reading. This allowed participants to experience the strategy before giving their views on the benefits and challenges in using DST for instructional delivery.

The population comprised all senior secondary students from senior secondary schools in Ibadan metropolis. Two schools from Ibadan metropolis were purposively selected to participate in the study. The criteria for the purposive selection of the schools include; availability of computers to deliver the instruction, availability of alternative power supply in case of power outage and readiness, willingness of the school to participate in the study and availability of geography teacher and geography students in the school. Intact classes of 381 SSS II geography students were selected as participants in the study. Also, 9 geography teachers in the two schools participated in the study.

Semi-structured interview was used to seek the perspectives of geography teachers on the integration of DST to engage students in map reading activities in Nigerian secondary schools. The interview guide contained questions and probes that were meant to elicit responses from the teachers on the benefits and challenges in using DST for map reading instruction. In the same vein, the students were placed in focus group discussion (FGD) of 8 in a group to engender effective interaction and cross-fertilization of ideas. This generated qualitative data for the study

Since digital storytelling is still an emerging strategy in Nigeria, in-service geography teachers utilized digital storytelling package created by the researcher on four topics to teach students for four weeks. These topics are: identification of features on topographical map (Valley), identification of features on topographical map (Spur), identification of features on topographical map (Ridges) and methods of representing relief on topographical map (Contour).

At the end of the exercise, semi-structured interview and focus group discussion were held for teachers and students respectively to seek their views on the integration of DST in map reading classroom. In all, two sessions of focus group discussion were held with students and also two sessions of semi-structured interview were also conducted with teachers. Teachers in the two schools were categorized as Teachers A and Teachers B, indicating 5 teachers from category A and 4 teachers from category B. Students from the two schools were also categorized into categories A and B. There were 8 students in each group, making a total of 24 groups in category A and 23 groups in category B.

The qualitative data were content analyzed to examine the views of geography teachers and students on the integration of digital storytelling in map reading activities in Nigerian secondary schools.

Results and Discussion

Answers to the Research Questions

Research Question One: What are the benefits derivable from using digital storytelling for classroom instruction?

Many geography teachers commented that digital storytelling made teaching less difficult especially in describing some abstract concepts in map reading. The teachers believed that this strategy made learning more real as teachers were able to relate classroom instruction with landforms in students' immediate environment. Teacher A1 specifically commented that *"the major benefit that geography teacher could gain from using digital storytelling is in the area of relating the features on the topographical map to the features in learners' local community"*. This comment could be due to the efficacy of local videos that were used for the package. The instructional package was embedded with local videos of secondary school student exploring his environment to properly understand the features on the topographical map. The teacher further reiterated that *"digital storytelling made learning more interesting and engaging to the students, which could improve learning outcomes"*. This is well corroborated by Kotluk and Kocakaya (2015), Karakoyun, Kocakaya and Kotluk (2016), Kocakaya and Kotluk (2016) in their studies that creating, designing, developing and integrating physics digital stories have positive effect on high school students' and pre-service physics teachers' 21st century skills such as creativity, intra and inter personal relations, critical thinking. DST can also enhance motivation, attitude and interest toward physics.

Teacher B3 affirmed that *"this teaching strategy produced a lively and participatory classroom interaction"*. One intriguing comment was made by teacher A5 that *"digital storytelling enhanced the level of students' engagement in map reading activities, as they were able to pay close attention to the details of the instructional package"*. This might not be unconnected with the combined power of technology and storytelling in the package, which could engendered active participation of students in classroom activities. This is in line with Barrett's (2006) assertion that DST facilitates the convergence of four student-centered learning strategies: student engagement, reflection for deep learning, project-based learning, and the effective integration of technology into instruction. Thus, the teacher concluded that "digital storytelling could make classroom activities more interesting and allow students to learn with technology, which is part of their daily activities". With great excitement, Teacher B4 commented *"yes, this method greatly contributed to the accomplishment of the objectives of teaching map reading in the classroom".*

Geography students commented that digital storytelling has encouraged them to attend geography class. Group A5 specifically affirmed that *"this strategy motivated them to 'stay' in geography class"*. In other words, digital storytelling motivates students to effectively participate in classroom activities. Students believed that the strategy has equipped them with necessary skills to identify different features on the topographical map and that map reading became more interesting. Students also believed that they could understand and identify features in their immediate environments after classroom instruction. Group B11 further reiterated that *"digital storytelling allowed them to properly understand the fact that features on the topographical map could be found in students' local community".* Therefore, geography students concluded that *"map reading became less abstract with the use of digital storytelling*

for instructional delivery". Other comments include: improved ability to use contour lines to identify features on topographical map, and that digital storytelling allowed students to think deeply.

Research Question Two: What are the major challenges faced by Geography teachers and students in using digital storytelling for classroom instruction?

Geography teachers mainly commented that using digital storytelling for instructional delivery could be time consuming, if not properly planned. Teacher B3 remarked that *"this strategy required teachers to be efficient time managers, if the objectives of the lesson would be realized".* Generally, all the teachers noted that epileptic power supply could be a major hindrance to the effective use of digital storytelling for instructional delivery. They commented that it would be difficult for them to bear the cost of fueling generator for every map reading class. Teacher A2 affirmed that *"using this strategy could be difficult unless regular electricity supply could be maintained in the school".* In the same vein, geography teachers commented on the need to train both in-service and pre-service teachers to acquire skills in designing and developing digital storytelling package for classroom instruction. They believed that many teachers do not possess the required skills to use digital tools to develop digital storytelling package and therefore recommended regular training and workshops for teachers to ensure sustainability in using the strategy.

On the part of the students, they remarked that many of them were scared of using computers for classroom instruction. Classroom observation during the experiment revealed this anxiety in many groups, as students sometimes hesitated to use computer for classroom activities. Group B9 asserted that *"many students were not familiar with the use of computer for class activities".*

Research Question Three: Do geography teachers and students embrace digital storytelling to support classroom instruction?

On the part of the teachers, they commented that digital storytelling should be used to engage students in all subject areas. Teacher A1 wrote *"I have come to a reasonable conclusion that digital storytelling should be employed by every teacher to motivate students to learn better in the classroom".* They also believed that this strategy had exposed them to technique of relating classroom activities with learners' immediate environment.

The students noted that they have learnt to pay detailed attention to classroom activities because digital storytelling required them to listen carefully to the instructional content and make meaning out of it. Group A17 affirmed that *"this package taught students to be good listeners and concentrate on the class activities at all times".* Group B12 remarked that *"digital story encouraged geography students to move round the community and see the natural landforms as they appear on the earth surface".* In other words, the compelling powers of digital storytelling equip students with knowledge to relate classroom activities with the landforms in the community.

Students have also learnt that there are other effective ways of learning map reading rather than the conventional method usually employed by most geography teachers in secondary schools. Their comments indicated that they accepted and embraced the use of this strategy for map reading activities. Group A19 asserted that *"we agree that digital story should be used to*

teach all aspects of geography, including map reading". These comments could be due to the capabilities of media in digital storytelling to engage students in classroom activities and ensure proper attention to the details of instructional content. This is in line with Adedoja and Bello, (2016) that DST remains a veritable tool that could be used to facilitate learning across all subject areas. Also, students commented that using this strategy to learn map reading, they have been able to conclude that features on the map are the landforms in students' immediate environment. Other comments from the students include: this strategy promoted interaction in the classroom, students have learnt to be tolerant and confident among other comments.

Conclusion

This study examined teachers and students' perspectives on the integration of DST to engage students in map reading activities in Nigerian senior secondary schools. Geography teachers and students affirmed that DST engaged students in instructional content. In other words, DST engenders active engagement with classroom instruction and therefore makes map reading connected to students' environment. Specifically, participants are of the opinion that the disconnection between map reading activities in the classroom and geographical landforms in their environment could easily be bridged with the systematic integration of this strategy in instructional process. It could, therefore, be concluded that geography teachers need to adopt pragmatic approach to demystify map reading by leveraging the capabilities of DST in instructional delivery. This would go a long way in making map reading more interesting and connected to real life situation.

Recommendations

The following recommendations are made, based on the findings from the study:

i. Teachers should leverage the capabilities of DST to teach all aspects of geography, especially map reading.
ii. Secondary schools should be provided with adequate facilities like computers and power supply, with a view to maximizing the instructional benefits derivable from integrating DST in map reading classroom.
iii. Teachers and students require adequate training to acquire skills in the development and utilization of this strategy for instructional purposes.

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