

Integration of Google Classroom in Senior High Schools in Ghana (A Case at Ahantaman Girls' Senior High School)

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Abstract: This study analyzes how the introduction of a Learning Management System (Google classroom) leads to persistent innovation in teaching and learning activities at the Ahantaman Girls' Senior High School, Ketan-Sekondi. This qualitative and quantitative case study explores the possibility of using LMS (Google classroom) for online instruction at the senior high school level. Since independence, the educational system in Ghana has undergone many reforms and restructuring to improve the standard of education both in quality and quantity. These reforms are not without political undertones. The use of computers, tablets, phablets, internet and smart phones to improve the standard of education is also growing rapidly in Ghana. However, it seems there is a big gap between the use of learning management system (Google Classroom, Edmodo, Moodle, etc.) among senior high school students in developing nations and senior high school students in developed nations. Although students have access to these gadgets, their usage is causing more harm than good. The case study research revealed that the introduction and integration of the Google Classroom in the teaching and learning process at Ahantaman Girls' SHS improved students' performance and participation in class even though it came with challenges. It is recommended that the use of Learning Management System (Google Classroom) should be encouraged in the second cycle and tertiary institutions in Ghana.

Keywords: Education, Google Apps, Google classroom, ICT, LMS, Online Teaching.

1. INTRODUCTION

"I can say with great confidence that the Internet is going to change education as fundamentally as it changed when we had printed books".

Bill Gates, October 1999

Technology has the ability to make tasks easier. Computers, the Internet, and telephones are wonderful examples to illustrate this advantage of technology. Bill Gates made it clear in his quote that the internet is going to change the face of education in due course and the introduction of Google classroom is an evidence in that regard.

The rapid development of technology has made significant changes in communication and technology in the 21st Century. These changes have also affected the demand of modern society (Amenyedzi, et al, 2011). With the rapid development of technology all across the globe, it impacts permeate all aspect of human life including education. Ghana's education system is not an exception. Educational institutions and policy makers are restructuring education to meet the demand of technology. An attempt to minimize the gap between the use of technology among the Global South and the Global North is of a major concern to educational stakeholders in Ghana.

The crave for sophisticated gadgets such as smart phones, tablets, phablets and laptops among students in the Senior High Schools have become a barrier to the performance in teaching and learning. The love for communication and entertainment using these gadgets are on the increase in Ghana. Students spend a lot of time, money and attention on these gargets; they spend hours on social networks such as Facebook, Instagram, Twitter, WhatsApp etc. using their smart phones, tablets, phablets and computers.

Although it has become a canker and thereby contributing to flop of performance of students, there can be a drastic improvement in terms of performance of students using these same gadgets. Learning Management Systems such as Google Classroom, Edmodo and Moodle can be integrated in the teaching and learning processes in our schools to help improve the performance of students.

Teachers can get benefits of educational technology to motivate student learning and student creativity through cooperative activities while students can use technology to demonstrate their creativity, critical thinking skills, innovation, communication, collaboration, and research skills (Duffy and McDonald, 2011).

Learning Management System is a software application for administration, documentation, tracking, reporting and delivery of e- learning education courses or training programs. There are a lot of learning management systems available, these are; Google Classroom, Moodle, Edmodo, Blackboard, SumTotal system, Skillsoft, Schoology, Desire2learn, Collaborize classroom etc. Learning Management System (LMS) is specifically designed to be used by instructors. Thus, the LMS was considered a potential tool with which to organize and deliver flexible, interactive, and multimedia-rich approaches. (Bongey, 2012)

Google classroom is a new product in Google Apps for Education. It is a Learning Management system that makes it easier to use Google Apps – like Docs and Drive – giving teachers more time to teach and students more time to learn. It is a paperless classroom that brings the traditional classroom into a virtual classroom (Holland & Keeler, 2014). Google classroom is a learning management system that creates courses and assignments, collect assignments, and improve communication, help students, saves time and help teachers to stay organized. It is a means of creating paperless and virtual classroom. It enables the teacher to communicate with class irrespective of location and easily share assignments, materials and messages. Students are also able to respond teacher question or suggestions from their teacher as well as seeking for clarification from their teacher or mates on materials and messages posted.

Google classroom engages both the facilitators and students in a virtual classroom and takes care of all the category of students in the classroom. With the google classroom, students have the opportunity to join the class through a code or teacher adding them. They have the opportunity to turn in assignment, edit and resubmit even when they are not in the school.

The study sought to introduce a learning management system (Google classroom) and evaluate the practicality of integrating the Google Classroom in the teaching and learning process at Ahantaman Girls' Senior High School.

2. METHODOLOGY

The case study was conducted to introduce and integrate Learning Management System (Google classroom) to the students of the Ahantaman Girls' Senior High School, Ketan-Sekondi.

According to Yin (2003), one should choose a case study approach. Yin argues that a case study has a distinct advantage when *“a ‘how’ and ‘why’ question is being asked about a contemporary set of events over which the investigator has little or no control”*. Case study research represents a much broader view. It means conducting an empirical investigation of a contemporary phenomenon within its natural context using multiple sources of evidence (Yin, 2003).

It made use of both qualitative and quantitative research methodology. The instruments used for data collection were participant observation and interviews. The researcher conducted a focus group interview and interviewed the Information and Communication Technology (ICT) teachers who handle the form two classes and also selected form two students from the Visual Art Department. The interview questions used are outlined below:

1. Do you know how to use a smart phone or computer?
2. How often do you have access to these gadgets?

3. How do you find the new method of learning delivery (Google classroom)?
4. What were some of the challenges you encountered?
5. Do you want the other teachers to adopt the Google classroom in the lesson?
6. How would you compare the traditional teaching and learning method with the Google classroom?
7. What were the strengths associated with the integration of the Google classroom?
8. What were the weakness associated with the integration of the Google classroom?

The researcher again observed the teaching and learning process at the ICT laboratory as part of the data collection process. The target population was the form two classes from all the various departments in the school and ICT teachers represented by nine hundred and thirty four (937) in terms of number. The researcher made use of the purposive sampling technique to select the sample for the study. The form two Visual Art students were used as the sample size and represented by fifty two (52) students and one (1) ICT teacher totalling fifty three (53) in terms of number.

3. RESULTS AND DISCUSSION

The data collected for the study is analysed and presented at this section using diagrams, chats, tables and narrations below:

1. Do you know how to use a smart phone or computer?

Students' responses to the first interview questions are presented below in a diagram

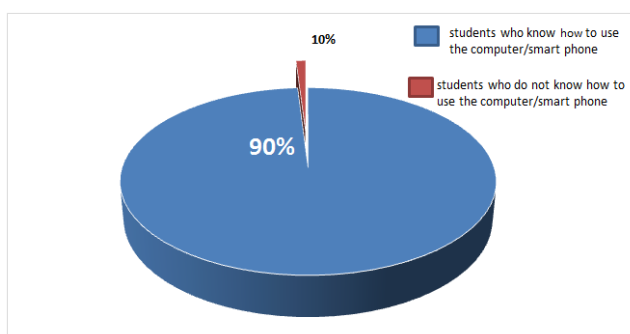


Fig. 1 Proficiency of the use of a smart phone or computer?

The diagram above displays the number of students who have the proficiency of using the computers and smart phones. 90% of the class has the ability and capacity to use the computer or smart phone while only 10% do not know how to use the computer properly. The results show that the majority of the students have good proficiency in computer usage.

2. How often do you have access to these gadgets?

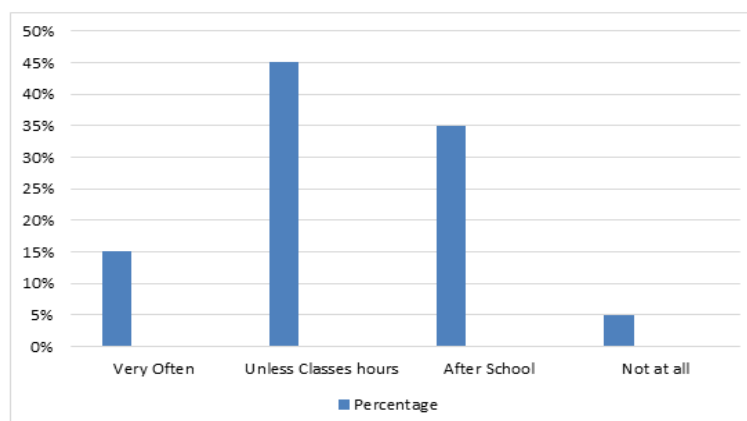


Fig. 2 Accessibility of these gadgets

The chart above shows how students have access to the computers/smart phones. In all 15% of the students have access to the computer and smart phones very often. 45% get access to the gadgets unless classes hours thus during ICT lessons. 35% of the students also get access to them after school hours and 5% don't get access to the gadgets at all.

3. How do you find the new method of learning delivery (Google classroom)?

The focus group interview with the form two visual art students admitted to the fact that the Google classroom is good and should be maintained and integrated in all the teaching and learning processes in the school. It gave them the opportunity to interact with their mates and teachers outside the classroom. It paved way for students who were shy and quiet type to interact and express themselves in the virtual classroom. Students were able to access notes, assignments and tutorials easily using the google classroom.

4. What were some of the challenges you encountered?

Internet connectivity became a huge setback to the implementation of the Google classroom. The computers in the laboratory were not connected to the internet and facilitators and students had to support in terms of data for the wireless modem. The laboratories were most often occupied because other classes were using them for their lessons. Students only get access to the laboratory unless ICT lessons or sometimes after school.

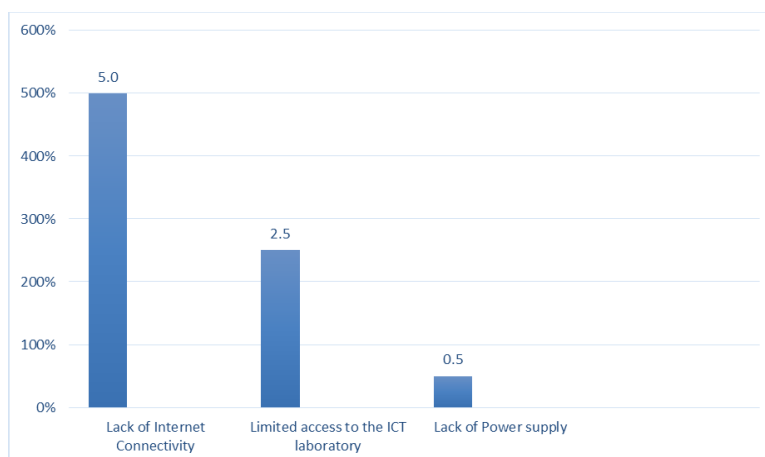


Fig. 3 Problems encountered by students and teachers

5. Do you want the other teachers to adopt the Google classroom in the lesson?

The virtual classroom experience is a laudable one and will change the face of the teaching and learning process if every teacher is brought on board to use the Google classroom in lesson delivery and learning process. Students who for one reason or the other physically absent from the classroom could follow the teaching and learning process, actively get involved, contribute and do assignments and submit respectively irrespective of their location.

6. How would you compare the traditional teaching and learning method with the Google classroom?

The traditional teaching and learning method with the Google classroom both have their merits and demerits. The traditional teaching and learning method ceases during weekends and vacations which affect continuity of the teaching learning process. Students return from vacations and weekends forgetting all that was taught during the previous week or term. This affects the outcome of the results since the senior high school system is not run on semester basis and courses. The final examination is organized at the end of the three year period and are accessed on whatever that was taught during the three year period. The Google classroom seems to engage students in the teaching and learning process anytime and any day within the week. This makes teaching and learning continuous and synchronous.

7. What were the strengths associated with the integration of the Google classroom?

The Google classroom was very useful to both teachers and students in terms of lesson delivery and evaluation. It supports openness towards a more flexible organization of teaching and learning, positive attitude towards the use of technology in education, positive attitude towards new innovative pedagogical methods and openness towards change. Culture for change and promoting change.

Students were able to turn in assignments on time and participated in class discussions and lesson delivery. It enabled the teachers to organize polls, quizzes, assignments, exercises, termly examinations. The programme made it possible for teachers to mark and submit records on time for the continuous assessments. The teaching and learning process was not limited to only contact hours but rather engaged students even during vacations. Favouritism on the part of teachers to students was limited and every student was given the opportunity to be actively involved and their results were genuine.

8. What were the weaknesses associated with the integration of the Google classroom?

Although the implementation and integration of the Google classroom in the teaching and learning process was successful, it had some setbacks. The program was designed to be friendly with teacher students' interaction without considering peer review mechanism which will enable students the urge to learn and work in groups synchronously. Students cannot chat to their friends during group assignments and discussions online.

The implementation faced a challenge of internet connectivity. Although the school has a well-equipped laboratory, the internet was a problem and sometimes students had to contribute to purchase bundle in order for the programme to run effectively. Access to the laboratory was also a challenge. Students had access to the place only when they had ICT on the time table. The laboratories were most at times occupied by other classes.

4. CONCLUSION

There is no doubt that Google classroom would be an effective tool for teaching and learning in Ghanaian senior high schools. It has a closed environment, no private information required from students, students join classes by the invitation of their teacher only, students cannot directly message one another, all communications are archived and teacher has full management control.

Google classroom also promotes flipped classrooms (a pedagogical model in which the typical lecture and homework elements of a course are reversed). It encourages instant messaging and group texting.

The application is very good and can be combined with the traditional teaching and learning method to improve the level of education in the country. Stakeholders should consider proper infrastructure, educational logistics and internet connectivity in schools in order to make use of the Google classroom in the schools' curriculum. Google should also consider adding some elements of gamification (using game elements in non-game context to sustain interest and participation to maximize profit). Gamification is the use of game design techniques and game mechanics to solve problems and engage audiences. There is the need to improve upon the reward and motivational scheme thus considering the introduction of badges, clickers, levels, medals etc. to encourage students' participation which is key to knowledge acquisition.

Certain measures necessary for the innovation, integration and sustenance of the learning management system (Google classroom) in Senior High Schools in Ghana and Africa at large are outlined below.

- Building first class I.C.T. laboratories in our senior high schools connected with high speed internet.
- Consistent In-service training for both ICT instructors and Non ICT Teachers.
- Provision of ICT materials such Books and other relevant devices.
- Enough computers and other ICT tools must be made available for students in schools and at home.

Looking at the challenges faced during the study and considering the advantages of the Google classroom, we strongly recommend Google classroom to all secondary institutions in Ghana as a starting point and later injected into the tertiary levels.

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