

CHAPTER NINE

Creating Digital Learning Content in Public Tertiary Institutions in Nigeria with Google Classroom During the COVID-19 Pandemic

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Abstract

The outbreak of the COVID-19 virus across the world has made educational institutions resort to the use of various virtual learning platforms for delivery of learning content. This paper therefore explores how a cost-effective virtual classroom like Google Classroom could be used in public tertiary institutions of Nigeria amidst the pandemic, as teachers in the private sector of education have moved courses online due to the closure of schools, colleges, and universities. The paper explored the concept of digital content as any content that is digitally broadcasted, streamed, or contained in computer files and e-learning as any interaction with this digital content. The paper also pointed out the features of the Google Classroom which include assignments, grading, and communication among others. Easy usage and cost-effectiveness were highlighted among others as the benefits of the use of Google Classroom. A guide to digital learning content creation using the Google Classroom was also explored. It was concluded that Google classroom can provide a vital chance to promote blended learning while also aiding the lecturers' professional development. The paper therefore suggested among other suggestions that training of public university lecturers should be organised in order to expose them to techniques for successful digital content creation for use in the Google Classroom.

Keywords: Google Classroom, Digital Learning, Digital Content, COVID-19, Public Tertiary Institutions

Introduction

The use of virtual classroom in teaching in tertiary institutions is not a new concept although some institutions had shy away from its use because of the cost intensiveness; however, the current Coronavirus (COVID-19) pandemic has made institutions and government alike to think of a quick transition of lessons, activities, and assessments to an online learning format as a way of reopening schools that were shut down due to the pandemic. The reality of the Coronavirus (COVID-19) pandemic has also led thousands of teachers to explore remote teaching for perhaps the first time. The COVID-19 pandemic, also known as the coronavirus pandemic, is an ongoing global pandemic of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome

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coronavirus 2 (SARS-CoV-2) (World Health Organization, 2020). The outbreak was first identified in Wuhan, China, in December 2019. The World Health Organization declared the outbreak a Public Health Emergency of International Concern on 30 January 2020, and a pandemic on 11 March. As of 21 June 2020, more than 8.8 million cases of COVID-19 have been reported in more than 188 countries and territories, resulting in more than 464,000 deaths; more than 4.37 million people have recovered (John Hopkins University, 2020).

In Nigeria, the Federal Ministry of Health confirmed a coronavirus disease (COVID-19) case in Lagos State on the 27th of February 2020, which happened to be the first case to be reported in Nigeria since the beginning of the outbreak in China in January 2020 (Nigeria Centre for Disease Control, 2020). Several measures were then taken to curtail the spread of the virus since the virus is primarily spread between people during close contact, most often via small droplets produced by coughing, sneezing, and talking. The Federal Ministry of Education on the 19th of March 2020, via a communiqué, ordered the immediate closure of tertiary institutions, secondary and primary schools nationwide following the outbreak of Coronavirus in the country and as part of measures to contain the spread (BusinessDay 2020). Public Universities have remained shut since then even as the government eases lockdown. There have been calls for public tertiary institutions to fully embrace e-learning as modalities are put in place for resumption, although there are also concerns about the cost implication. The transition to e-learning may be unexpected and rushed, but it doesn't need to be a bad experience, and could possibly be an opportunity in disguise. An alternative to an e-learning centre is the Google Classroom that allows a teacher create learning content from the comfort of his room while the students access it, as long as they have a smart phone and an internet connection.

Concept of Digital Content and E-Learning

Education is one field in which digital content has become incredibly popular. Professionals in this field are realizing how students of any age, including individuals who are being trained on corporate materials, can now store and access all of their content on e-readers and tablets. These days, as asserted by Mullan (2011), you can't go one mouse click without stumbling on digital content. Also known as digital media, digital content comes in many forms, from text and audio and videos files, to graphics, animations, and images. According to Mullan (2011), digital content refers to information available for download or distribution on electronic media. Following this line of thinking, it is safe to say that if you are on the internet, most likely you are looking at, watching, or listening to a piece of digital content. In the context of education then, digital content could be described as any content, including information that is digitally broadcasted, streamed, or contained in computer files, that exists in the form of digital data and is stored on digital or analogue storage in specific formats. When there is an interaction with such digitally delivered content irrespective of the mode of learning, this is termed e-learning.

Olojo, Adewumi and Ajisola (2012) describe e-learning as any technologically mediated learning using computers whether from a distance or in face to face classroom setting, based on a community of learners, teachers, facilitators, and/or experts. Mayer (2001) posited that E-learning theory describes the cognitive science principles of effective multimedia learning using electronic

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educational technology. Asukwo and Vincent (2018) view e-learning as a computer assisted learning which is student-centred and collaborative, with early developments focused on contents that are delivered digitally. According to the authors, recent developments have seen e-learning become prominent, comprising all forms of electronically supported learning and teaching, whether networked or not. Additionally, Asukwo and Vincent (2018) describe e-learning as a process created by the interaction of students with any digitally delivered content, network-based services and/or tutoring support. Olojo *et al.* (2012) also referred the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance as e-learning. Olojo *et al.* opined that e-learning technologies offer learners control over content, learning sequence, pace of learning, time, and often media, allowing them to tailor their experiences to meet their personal learning objectives. Additionally, Olojo *et al.* noted that innovations in e-learning technologies point toward a revolution in education, allowing learning to be individualized (adaptive learning), enhancing learners' interactions with others (collaborative learning), and transforming the role of the teacher. E-learning is particularly attractive because of its flexibility, learner control of the learning process, opportunity to reflect and provide thoughtful responses as well as to use conceptual thinking, option for collaboration, and cause for participants to enhance their ability to function in the e-learning and networked computer mediated environment (Arbaugh, 2000; Rossett, 2002; Arbaugh & Duray, 2002, Asukwo & Vincent, 2018).

Online learning platforms or learning management systems are booming. A survey from Deloitte (2016) showed that 75% of teachers believe that digital learning will completely replace printed textbooks within the next 10 years. It's only a matter of time before the paper classroom disappears. The troubling question now is if our public tertiary institutions are ready for this change and what the possible replacements for this paper classroom are. There are several online learning platforms like the Canvas, Moodle, Edmodo, Schoology, Sakai, Google Classroom, among others. For the purpose of this paper, emphasis will be on the use of Google Classroom.

The Google Classroom

Google Classroom is a free web service developed by Google for schools that aims to simplify creating, distributing, and grading of assignments. The primary purpose of Google Classroom is to organize and modernize the process of sharing files between teachers and students. Google Classroom integrates docs, sheets, slides, gmail, and calendar into a cohesive platform to manage student and teacher communication, thus also helping educational institutions go to a paperless system. Google Calendar was later integrated to help with assignment due dates, field trips, and class speakers. Students can be invited to classrooms through the institution's database, through a private code that can then be added in the student's user interface or automatically imported from a school domain. Teachers can create, distribute and mark assignments all within the google ecosystem. Each class creates a separate folder in the respective user's drive, where the student can submit work to be graded by a teacher. Assignments and due dates are added to google calendar, each assignment can belong to a category (or topic). Teachers can monitor the progress for each student by reviewing revision history of a document, and after being graded, teachers can return work along with comments.

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According to Renard (2016), Google Classroom makes it easy to create classes, distribute assignments, communicate, and stay organized. Teachers can quickly see who has or hasn't completed the work, and provide direct, real-time feedback and grades right in Google Classroom. Assignments appear in your Google Calendar, a way for students to keep track of their homework. All classes have a unique color and keep both the teacher and the students more organized. Students can even set the calendar to get notifications of homework that needs to be done. The major features of the Google Classroom are described thus:

1. **Assignments:** Assignments are stored and graded on the Google suite, allowing collaboration between the teacher and the student or student to student. Additionally, instead of sharing documents that reside on the student's Google Drive with the teacher, files are hosted on the student's Drive and then submitted for grading. Teachers may choose a file that can then be treated as a template so that every student can edit their own copy and then turn back in for a grade instead of allowing all students to view, copy, or edit the same document. Students can also choose to attach additional documents from their Drive to the assignment.
2. **Grading:** Google Classroom supports many different grading schemes. Teachers have the option to attach files to the assignment which students can view, edit, or get an individual copy. Students can create files and then attach them to the assignment if a copy of a file wasn't created by the teacher. Teachers have the option to monitor the progress of each student on the assignment where they can make comments and edit. Turned in assignments can be graded by the teacher and returned with comments to allow the student to revise the assignment and turn it back in. Once graded, assignments can only be edited by the teacher unless the teacher turns the assignment back in.
3. **Communication:** Announcements can be posted by teachers to the class stream which can be commented on by students allowing for two-way communication between the teacher and students. Students can also post to the class stream but won't be as high of a priority as an announcement by a teacher and can be moderated. Multiple types of media from Google products such as YouTube videos and Google Drive files can be attached to announcements and posts to share content. Gmail also provides email options for teachers to send emails to one or more students in the Google Classroom interface. Classroom can be accessed on the web or via the Android and iOS Classroom mobile apps.
4. **Originality Report:** It allows educators and students to see the parts and sections of the submitted work which contains the exact or similar wording to that of another source. For students, it highlights source materials and flags missing citation to assist the student in improving their writing. Teachers can also view the originality report, allowing them to verify the academic integrity of the student's submitted work. On G Suite for Education (free), teachers can turn on originality report for 3 assignments. This restriction is lifted on G Suite Enterprise for Education (paid).
5. **Archive course:** Classroom allows instructors to archive courses at the end of a term or year. When a course is archived, it is removed from the homepage and placed in the Archived Classes area to help teachers keep their current classes organized. When a course is archived, teachers and students can view it, but won't be able to make any changes to it until it is restored.

Benefits of Google Classroom

Over the years, Google Classroom has evolved as a learning management system with the following benefits:

1. It is very easy to use. According to Janzen (2014), Google Classroom's design purposefully simplifies the instructional interface and options used for delivering and tracking assignments; communication with the entire course or individuals is also simplified through announcements, email, and push notifications.
2. It is cost-effective.
3. It is scalable to mobile or smartphone platforms.
4. Facilitates peer discussion.
5. Google Classroom facilitates collaborative learning.
6. Supports a journaling feature.
7. Supports video lectures.
8. Supports the inclusion of video clips from You-Tube.
9. Supports student messaging.
10. Google classroom is designed to save time.
11. It is flexible as it is easily accessible and useable to instructors and learners in both face-to-face learning environments and fully online environment.

Digital Content Creation through Google Classroom

With a laptop or desktop to create a course and/or course modules, and links to YouTube videos and video lectures, lecturers in public tertiary institutions in Nigeria can effectively engage the Google Classroom for lesson delivery as follows:

1. The lecturers navigate to Google Classroom and sign in. They can either search for Google Classroom using Google search or sign in to his/her Google suite using their institutional credentials.
2. After signing in, they click on the + sign in the right-hand corner of the screen to create their course. They will need to name their course and indicate the section of the course as well as the specific subject matter within the course. They can also assign a room number for the course if they have more than one group of students enrolled in the course.
3. Once the course has been created, they click on the + sign to create topics within the course. Topics for their course could take the form of Course Outline, Session 1, Session 2, etc. The created course modules can be sequenced by easily dragging and dropping each module to the preferred level.
4. They then populate their topics with the material required for student learning. Within their topic, they click the + sign and choose to add either: an assignment, a quiz, question, discussion, and/or any material comprising either pdf. document, Word document, a video clip, and/or a PowerPoint presentation.
5. Once they have completed the development of their course in Google Classroom, they can invite their students to join either by clicking on the +sign in the "Students" tab or by sending the students an email with the course code included.

For a successful digital content creation using the Google Classroom, the lecturers should endeavor to include as much video as possible, pre design their topics to ensure there is a clear flow

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to the work, and use the features included with Google Classroom for ease of access such as the Journaling feature, the Quiz feature, and the Question / Discussion question feature.

Teacher/Students Activities in a Google Classroom

Teacher and student's interaction in the Google Classroom are as easy as texting in a social media. A classroom lecture for the day can commence with posting of a comment to the class to ensure they are ready. If the teacher is okay with the responses gotten, he/she can proceed to posting a tutorial video to the platform. When the students are done watching the tutorial video (being the content the teacher created for the purpose of that lesson), they comment or asks questions with regards to the video. This is applicable to other files the teacher would share. Table 1 shows an abridged class interaction of what could possibly transpire in the Google Classroom.

Table 1: Abridged Table of Class activities

	Teacher's Activities	Students' Activities
<p>Lesson Delivery: Lesson is delivered through any material comprising either pdf. document, Word document, a video clip, and/or a PowerPoint presentation.</p>	<p>The teacher uploads a media file to the classroom containing the lesson content to be delivered at that moment. The teacher replies the comments from the students on areas that need clarification.</p>	<p>Students interact with the uploaded media file and write down points; they return to the classroom interface to ask questions on areas not yet understood. This cycle of interaction continues for all topics to be treated during the contact period.</p>
<p>Evaluation: The extent of learning and understanding of the students is ascertained by posting a quiz or an assignment to the classroom interface or students email. Templates like Google forms and Word documents could be used.</p>	<p>The teacher uploads a media file to the classroom or sends an email containing the quiz/assignment to the students. The teacher could also schedule the deadline for submission of such evaluation.</p>	<p>The students download the evaluation file and attempt to answer the questions. In situations where the evaluation is 'multichoice' and created using Google forms, the students need not download but go to the Google form page, fill, and submit the form. The students can also view their grade immediately. Students can't access the quiz/assignment once the deadline scheduled by the teacher elapses.</p>

Conclusion

Helping and monitoring students to learn and implement 21st century skills is one cardinal point of teaching in the 21st century. Inasmuch as the nation is bedeviled with the corona virus pandemic, teachers must be very welcoming to any new technology that would ensure the best learning in the virtual classroom besides the physical classroom if social distancing is to be observed in public tertiary institutions. The paper has discussed the features of Google Classroom that could help

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achieve the pedagogical transition required to cope with the COVID-19, and the benefits it brings. Furthermore, it has been seen that Google classroom can provide a vital chance to promote blended learning while also aiding the lecturers' professional development.

Suggestions

1. Training of public university lecturers should be organised in order to keep them abreast with the current development and trends of using virtual classrooms like Google Classroom.
2. Training of public university lecturers should be organised in order to expose them to techniques for successful digital content creation for use in the Google Classroom.
3. Public university administrators in collaboration with the Federal Government of Nigeria should ensure that there is free internet service in the university campuses to encourage the gradual transition to virtual teaching/learning.

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