USING GOOGLE APPLICATION FOR EDUCATION TO SUPPORT BLENDED LEARNING IN TEACHER EDUCATION IN NIGERIA

ABDULLAHI, Shehu Ringim
Information and Communications Technology Centre,
FCT College of Education Zuba-Abuja,
shehuringim@gmail.com/ 08067345255.

TARDA, Badamasi Ayuba
Educational Foundation Department,
FCT College of Education Zuba-Abuja,
tardaba@yahoo.com/08065252349

UMAR, Yanda Aliyu
General Studies Department,
FCT College of Education Zuba-Abuja
uyagbara@gmail.com/08062428248.

Abstract

Google has been assisting educators and institutions across the globe in harnessing the power of technology to create engaging, collaborative teaching and learning environments. Based on best practices collected over years of successfully deploying Google for Education's solution in schools from basic to higher education, there are five easy steps that are underlined with a guide to activating technology in schools while considering bringing learning online: 1. Define your goals, 2. Invest in Internet access, 3. Build your team, 4. Offer web tools, and 5. Manage change. In this paper, attempt is made to explore some of the Google applications commonly used in education which include the search engine; Google plus G+, Google site, Google photo, Google translate, Google Maps and YouTube.The usage of Google Application For Educators (GAFE) helpsinstructors and learners' for effective task delivery such as lesson planning and implementation, student's experiential learning and research to solve homework, using Google classroom to connect with other professionals and learners across the globe, knowledge sharing and management. The study concluded that GAFE is useful for effective delivery of instruction using Blended learning Approach.
Key Words: Google Apps, Instructional Technology, Teaching and Learning.

Introduction

In the era of professionalism in teaching, only qualified, certified and registered individuals are expected to serve as teachers in Nigeria Schools. The current minimum teaching qualification in country is the Nigeria Certificate in Education (NCE). Therefore, teacher education in the country begins with the NCE program first (initial) pre-service teacher preparation in the country (Nigeria certificate in education minimum standards for general education 2012 edition; Federal Government of Nigeria, 2012 (p.6). Another avenue through which teacher preparation is achieved is through the Post Graduate Diploma in Education (PGDE), offered in the universities' Faculties and Institutes of Education and the National Teachers' Institute (NTI), Kaduna.

Evidences abound concerning the poor quality of preparation of teachers in Nigeria (Omede & Oguche, 2016). This poor preparation however, may not be unconnected to inadequacy and poor state of facilities and infrastructure in the teacher education institutions, high number of students enrolled into the programmes leading to over-crowded classrooms resulting in poor teaching and learning. Addressing this challenge becomes difficult through merely expanding classroom facility without thinking towards integrating technology to support the existing conventional teaching tools and resources. Ives (2017) proposed a many ways teachers can use technology to improve teaching in large class. According to Ives, technology can be used in a variety of ways in a large such as to make formal presentations in class: either in the form of outlines, lists of key concepts, etc. (Using PowerPoint, for example); to download class

lists in a format suitable for reading into a spreadsheet (like Excel); to set up a class newsgroup or an electronic mail list (through listserv), Students can ask questions and get help from other students; create a course website that contains practice problems, answers to sample test questions or homework, a glossary of terms, etc, to create a searchable test bank of questions (using FileMaker Pro, for example), this is especially useful when you have to give multiple versions of the same questions; extend your office hours through email and give quizzes or tests.

The idea of exclusive online teaching is not likely to gain favour with most educators in traditional full time face-to-face programmes in Nigerian teacher education institutions. However, with development of Google application for educators (GAFE) it is an online application designed by Google company to enhance teaching and learning. It would be in the mutual interest of Nigerian teachers and learners they also utilize the modern technology used to enhance teaching, learning and research in other climes. In the process, the teachers and learners would not be engaged in on line learning a lone, but in a "blended learning".

Differences between Online and Blended Learning.

Online learning according Asogwa (2007), allows learner to learn anytime and from every location across the world. This is only possible with ICTs. These include: Computers, Teleconferencing, Radio broadcast, Interactive video, and Network system

Blended Learning

Blended Learning is another approach to teacher-student engagement where a combination of face-to-face and online learning methods is explored. Blended learning is being increasingly used to describe the way e-learning is being combined with traditional classroom methods and independent study to create a new, hybrid teaching methodology. It represents a much greater change in basic technique than simply adding computers to classrooms; it represents, in many cases, a fundamental change in the way teachers and students approach the learning experience. Undoubtedly, Blended learning holds great potential in improving the quality of teaching and learning in teacher education progammes in Nigeria. Therefore, it is arguable that teacher educators and student-teachers in Nigeria could gain a lot more than what they lose to ineffective teaching in overcrowded lecture hall through Blended Learning. In addition, it could be argued that GAFE provides the platform through which the potential of Blended Learning could be achieved.

Emergence of Google Application for Educators

The use of technology in teaching and learning to support teacher's efforts at explaining concepts and bringing near real life experience to learners is not new to educators. The field of education has been greatly influenced by Information and Communications Technology, which has undoubtedly influenced teaching, learning, and research (Yusuf, 2005). One of the major technological advancements in supporting teaching, learning and research is the emergence of Google Application for Education (GAFE) which evolved innovative platforms that facilitate educational activities.

Google Application for Education (GAFE)

Google Application for Education (GAFE) is a suite of cloud-based Google Applications packaged and provided free to support educational services. For users, Google provides cloud-based server storage with Google Drive and with email functions through Gmail. Google also provides institutions with an administrative interface to manage their users' accounts and connect them with existing campus student information systems (SIS).

Benefits of GAFE on Education

In creating a blended learning environment, is important for teachers to understand the usefulness of adopting Google Applications. One of its significance is that teachers will no longer be constrained by the traditional methods of teaching using chalk, textbooks, notepads, pens and pencils. Instead, the collaborative environment provides a channel for students and teachers to share knowledge among one another and forming a virtual community among themselves Asogwa, (2007). In addition, teachers and students in a particular programme can write and share the contents tailored towards the needs of their individual programmes.

Creating the Online Learning Opportunities

Putting online learning facilities requires a great vision and technical expertise. It also, takes cognizance of the peculiarities of the institution, students and teachers' population, motivation and their attitudes to the use of ICTs. Furthermore, regardless of the desire of the institution to create open learning opportunities such desire cannot be realized without sufficient funds to procure the necessary ICT infrastructure to support the open learning opportunities. Accordingly, Google Education, (2006) proposed five (5) step which could be helpful in deploying education technology, which are analyzed below:

a) Define your goals
b) Invest in internet access
c) Build your team
d) Offer web tools
e) Manage the changes

Define Your Goals

Any effective transformation initially requires a clear vision. It is vital to gaining consent and support from all stakeholders towards achieving educational and institutional objectives through the use of GAFE. This will help the school in selecting appropriate technology solutions towards goals accomplishment.

Invest in Internet Access

Installing a strong and consistent Internet structure is one of the first phases to realizing the technology vision. Online facilitators and trainers have the power to share information and online resources with their learners instantly. It is one thing to say when ready to migrate to an online educational solution; it is another to actually make an attempt to move.

Build Your Team

Moving educational system online needs a dedicated team. In order to succeed, there will also be a need for an internal group of decision makers, promoters and technical know-how specialists, along with positioning experts and external associates. A respectable team will retain the energy, capability and interest to effectively guide deployment to the targeted achievement.

Offer Web Tools

With a digitally competent and connected student body, schools should be ready to deliver an engaging, online curriculum through a seamless experience. By leveraging web-enabled instructional tools, that can reduce IT costs, help overcome physical barriers to education, and better engage all of your students.

Manage the Change

A number of significant reforms necessitating changes in the delivery of teacher education are being churned out every day. Therefore, one of the most critical factors of success in delivering quality education is through bringing some level of online education into the traditional face-to-face system.

The Google's Search Engine App and its use in Teaching and Learning

After a new design of website or page is indexed, it will officially be in the virtual Google Server, which now allows just about anyone over the web to access it. It's important to note that just because your site is in the Google index that it's going to be in the top search entry, this make take some time and viewing from other online users. "The best way to make sure your Web page is high up on Google's search results is to provide great content so that people will link back to your page" (Strickland, 2006). Google's search engine is an exceptionally powerful tool. Without search engines like Google, it would be practically difficult to find the information you need when you browse the Web (Strickland, 2006). So, this section will share, or at least try to share basic concepts which have kept Google's search engine up and running The first thing you need to know is, when you are searching something on Google, you are searching the Google database and not the actual web (Strickland, 2006)

The Google Plus

Google plus (known as, Google+) is the official social networking platform of Google, one of the world's largest and most popular search engines. Google+ officially debuted in June 2011 and is intended to pull all of Google's peripheral products (Gmail, Maps, Search, Calendar etc.) into one cohesive network, meant to be as open and as connected as possible, incorporating everything that searchers use at Google into a comprehensive social and content dashboard. The idea is pretty similar to other social networking services, but Google attempts to differentiate Google+ by allowing more transparency in who you share with and how you interact. It also integrates all Google services and displays a new Google+ menu bar on other Google services when you are logged into a Google account.

The Google Sites

Google Sites is your place to create a digital classroom on the web. One of the best things about Google Sites is its ability to be the digital hub for your classroom. You can combine video, documents, forms, calendars, and other resources all in one place for student and parent access. Students can also use Sites to showcase their work and create digital portfolios that can follow them from year to year. As a starting point, teachers have to begin by creating templates that students can used to build their site. Thus, teacher needs to think carefully about content and structure before overloading the site with other attractions.

Everything is paperless, so there is not any time wasted on physically distributing the documents and learners can complete them right online, making it more convenient to meet deadlines and fit eLearning into their daily schedules (Christoforos, 2015)

The Google Photos

One of the most popular features of Google+ was the instant uploads from camera phones and photo editing options. Google linked with several online photo editing companies in order to enhance this feature, but eventually Google photos was separated out from Google+ and became its own product. The post uploaded Google Photos could be use within Google+ and share based on the circles you've set. However, I can also use Google Photos to share photos with other social networks, such as Facebook and Instagram. This application has a great impact in teaching and learning process.

Google Translate

Google Translate is a free multilingual machine translation service developed by Google, to translate text, speech, images, sites, or real-time video from one language into another, which is very useful in language learning. It offers a web interface, mobile applications for Android and iOS, and an API that helps developers build browser extensions and software applications. Google Translate supports over 100 languages at various levelsand as of May 2013, serves over 200 million people daily.

Google Maps

Google Maps, Earth and Street view can help you bring a world of information alive for your students. It can be used with all grade levels, and the possibilities are endless, depending on your imagination! (Alejandra Maria, 2016). Google's geographical product gives easy access to the world's visual information. Once, maps were available only to royalty but now, you can explore Earth, Moon, Mars, and even dive into the depths of the oceans. The possibilities of using Google Maps, Earth and Street View are as endless as your imagination. He encourages exploring, creating, and collaborating. (Alejandra Maria, 2016).

With Google Maps, you and your students can become arm-chair explorers and cartographers with ease. Google Maps are a fun and visual way to help students understand geography concepts, map reading, location, and distance measurement. Besides using Google Maps to teach the fundamentals of mapping, like latitude and longitude, you can inspire students to investigate the world and to think spatially. You can use Google Maps with your students to: Create collaborative maps, Create a campus or school district map, Create a family heritage map, Get walking directions, Plan a trip using public transportation, Add or edit places on maps for your community, Compare neighborhoods and communities across the world, Use maps as writing inspiration etc.

The YouTube

YouTube can be an excellent tool for teaching and learning. While educators can tap into existing YouTube content, this medium also does a great job of equipping teachers with the ability to create original content for their students. Teachers can begin by locating and organizing existing video content, and then gradually shift to creating their own. We have a responsibility to model appropriate use of this powerful classroom tool.

Google Drive

The Google drive is also another powerful application to be use in education, have the power to save a huge documents (up to 10GB) and file for both sharing among the intended group registered with Gmail account and saving for future usage. The Drive has a free space of up to 15Gigabyte to all registered Gmail accounts, within the Drive application. This Google Drive Application can be used for real time collaborative learning.

Challenges/Constraints to the use of GAFE

The computing facilities e.g. personal computers are outdated and none of them were reported to be the year 2000 compliant. There is a shortage of skilled personnel to operate programs that were custom designed with in-built security measures, causing them to be utilized at levels far below peak capacity. These facilities are also used for routine computing which overloads the system. Since there is no electrical power back-up supply, computing facilities, limited as they are, are periodically inoperable due to regular prolonged power failures (Teboho, 2000).

Some of the challenges are:

1. Google can make students and researchers get away with someone else's work that could easily be obtained online.
2. Too much freedom of access to the net; since Google incorporates a few real-time collaboration tools like Docs, Sites, and Chat, a common fear is that students will abuse these tools for useless or even immoral activities.

The following constraints are likely to contribute some problem to teachers and students can get desperately confident about their research capabilities. They sometimes completely miss out on the idea of researching with books and talking to librarians about reference books. There is also the danger that students do not understand that not all published information is equally valuable.

Conclusion

Google is a marvelous tool for education and there is no questioning the way it has spread educational opportunities across the globe. Google is already a powerful design and development tool in eLearning thanks to Google Applications for Education. It is obvious that the aspect of Google application for education cuts across all teaching and learning issues. It also features prominently in all most all sections of learning with its assorted applications (Search engine, Gmail, Drive, YouTube etc.) and the idea of bringing learning online specified earlier in five step approaches provided to deploying a digital education solution. So effective management and utilization of GAFE in schools with the above mentioned applications would definitely promote educational system in Nigeria and the world at large.

Recommendation

1. Teachers should encourage their students to use search engines such as Google because as the world advance so fast, Nigerian students cannot afford to be left behind in the use of modern technologies. However, teachers should be engage with the idea of search engines and point out the way the mechanism or format works.

2. In order to encourage of use book, journal and other print materials, teachers may also ask students to add two references that they have not found through Google.

3. There is need for firmness in academic research has to be emphasized along with the highlighting of the ethical ways in which Google should be used.

References

Asogwa**,** U. D. (2007), E-Learning: a panacea for access, equity and quality higher education in Nigeria. A publication of National Association for Educational Administration and Planning. Pg. 498.

Alejandra Maria, (2016), Educational Technology For Teaching And Learning, Paper presented at University of Panama, obtained from online: http://atlante.eumed.net/educational-technology-teaching-earning/ downloaded on 20 July, 2017.

Christoforos P., (2015), Google classroom. Accessed from online: https://elearningindustry.com/google-classroom-a-free-learning-management-system- for-elearning on the date of 22 May, 2017

Fairweather, R. (1996). *Literacy and Popular Culture in England 1750-1914.* Cambridge: Cambridge University Press, Cambridge

Google, (2016). Benefits. Google Apps for Education. Retrieved January 24, 2015, from https://www.google.com/work/apps/education/

Google, (2016). Google apps for education (online) agreement. Google Applications, Retrieved January 24, 2015, from http://www.google.com/apps/intl/en/terms/education_terms.html

Google Education, (2016), Bringing Learning Online; A guide to activating technology in schools, obtained from online on https://edu.google.com/access/ dated 05/06/2017.

Ives, S. M. (2000). A Survival Handbook for Teaching Large Classes. Available on: http://teaching.uncc.edu/learning-resources/articles-books/best-practice/large- classes/large-class-handbook

Miller-Cochran, S. K., & Rodrigo, R. L. (2006). Determining effective distance learning designs through usability testing. *Computers and Composition, 23*(1), 91–107. http://dx.doi.org/10.1016/j.compcom.2005.12.002

Newman J. H. (2010) "From Knowledge Its Own End." Reading the World: Ideas That Matter 2nd Edition. Michael Austin. New York: W.W. Norton, 2010. 53-59 Print.

Omede, A. A. And Oguche, M. D. (2016).The Implications of Poor Quality Teacher Education on Educational Development in Nigeria. International Journal of Economics, Commerce and Management. United Kingdom; 4(4), April 2016. http://ijecm.co.uk/wp-content/uploads/2016/04/4447.pdf

Reading Culture (2012), Contexts for Critical Reading and Writing. Eds. Diana George and John Trimbur. Boston: Pearson, 2012.

Strickland J. (2006), "How Google Works". Published online on 20 December, 2006, from http://computer.howstuffworks.com/internet/basics/google.htm, updated 11 February, 2012.

Shankland, Stephen (May 18, 2013). "Google Translate now server 200 million people daily". CNET. CBS Interactive. Retrieved December 1, 2016.

Stern, J. (nd). Introduction to Online Teaching and Learning. Downloaded on 12-6-17. from: http://www.wlac.edu/online/documents/otl.pdf

Teboho M., (2000) Nigeria education sector analysis: an analytical synthesis of performance and main issues. Paper presented at World Bank in January 2000 by a visiting Professor of Higher Education, New York University, Department of Administration, Leadership and Technology, New York, NY.

Vouk, M. A. (2008). Cloud computing; Issues, research and implementations. In *30th International Conference on Information Technology Interfaces*, 2008. ITI 2008 (pp. 235-238).from: http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=4588381

Wikipedia (2016), "Languages- Google Translate". Google. Retrieved October 15, 2016. Obtained from https://en.wikipedia.org/wiki/Google_Translate.

Wikipedia (2006), Google maps article, accessed from online: https://en.wikipedia.org/wiki/Google_Maps

Yusuf, M.O. (2005). Information and communication education: Analyzing the Nigerian National policy for information technology. *International Education Journal 6* (3), 316-321.