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Experts Evaluation of Flex Billboard On Study Technology for Teaching and Learning

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ABSTRACT

There is a need for a method that will shift the attention to the learners, while the lecturers play the role of facilitator of learning. One of the methods that can promote this learning style is Study Technology. Study technology is a student-centered learning technique that helps the learner to study successfully by providing solutions to all barriers encountered in the process of studying. This study investigated experts' Evaluation of flex billboard on study technology for teaching and learning. The findings established that the flex billboard is efficient to create an awareness on study technology and it can be operated without the use of electric power supply. It was however recommended that curriculum planner should include in its curriculum, orientation programmer for the pupils on study technology as this will aid or enhance learning process.

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1. INTRODUCTION

Students encounter problems in learning successfully due to some problems that act as a barrier to successful study. The use of Information and Communication Technology (ICT) has helped academicians, students, educationists and researchers to gather information which is normally not available through other means or not easily accessible. The benefits of ICT being nature-protecting, non-polluting, less energy consumption and above all, more human-friendly, it is applications are becoming indispensable parts of contemporary culture, spreading across the globe through general and vocational education (Ogunlade *et al.*, 2013). Government and other non-governmental philanthropists had tried findings on how these learning problems can be solved using diverse measures. One of the roles of the federal Government according to Omoniyi, (2009) include funding of curriculum development projects and setting up of commissions and boards to study educational problems and make recommendations to government on how to solve on how to solve such problems and advance the educational system.

The University system is the pinnacle of manpower training and development in Nigeria. Since 1948 when the first University was established at Ibadan, the Nation has witnessed the establishment of more universities which are owned by governments, corporate organizations, and private individuals. Education is a social medium and process of acquisition of relevant knowledge, skills and attitudes for survival in a changing world. Moreover, application of Information and Communication Technology (ICT) in education is a ground for achieving the stated aims of education. The great expectation is that the graduates of these universities will have tremendous impact on the Nation after their graduation as stated in the goals of tertiary education in Nigeria. This expected result has been on the decline since the middle 1980s due to a number of factors which, according to Asikhia (2010), include school variables (resource inputs, class size, location.); personality factors (genotype, phenotype, intelligence.), socio-economic variables and so on.

ICT turned the world to a global village, with an ever-increasing possibility of accessing a wide array of information and knowledge, equally making it possible for sharing of written, audio and visual information at real time in many parts of the world (Usang *et al*., 2018). Ogunlade and Anaza (2017) submitted that ICT is a collection of technologies used for collecting, storing, processing, communicating and delivering of information connected with the teaching and learning processes. Similarly, ICT is the means of accessing or receiving, storing, transferring, processing, sending ideas, perception and transmitting of information through electronic based tools. The most prevalent method of instructional delivery in the University system is the lecture method in the up till the 18th and 19th century (Aguilar & Muñoz (2014). Other methods such as experimental, project, tutorial and discussion are sometimes employed by the university lecturers depending on the course of study and issues under consideration.

The goal of every instruction is that learning should take place. If this expectation is not being met as perceived in the quality of university graduates, there may be the need to have a second look at the instructional mode being utilized. The unemployables of many Nigerian graduates always require that a retraining program be organized to make them perform in any employment after graduation. This phenomenon has necessitated this study, that is, to investigate whether an alternative instructional or teaching program will produce a better result in students' performance and subsequently in their productivity after graduation. Onojah *et al*., (2019) described study technology as the technology of learning it all, knowing it all, using it all and recalling it all. The technology of study, finds out three major

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components. The first requisite for successful learning, the single most important barrier to learning and how to handle it and how to study a subject so you are able to apply what you learn. Newman (2017) also stated that there is a significant difference in the academic performance of university students in a course of study when study technology was used in place of lecture method. This implies that study technology is an effective learning process which facilitate learning and give students the opportunity to perform at optimum.

Some research discovered that there are three definite barriers which prevent a person's ability to study and thus his ability to be educated. These barriers actually produce a physical and mental reaction. If one knows and understand what these barriers are and how to handle them, his ability to study and learn will be greatly increased. In study technology concept, the three major barriers that prevent students from learning are: absence of mass, too steep a gradient, and the misunderstood word. Each barrier will produce a response in the student physiologically, such as yawning or feeling bored or frustrated. In accordance with Hubbard's beliefs, the school avoids all psychiatric conditions, including any learning difficulties. Study technology are tools and techniques that can be employed to improve students' learning rates. These same tools and techniques can be used by students themselves to improve their ability to understand and to use the materials they read and study. The techniques include the use of physical objects like real objects, pictures, models or illustrations; seeking dictionary for unfamiliar words; and going through a course material step-by-step.

Flexography (often abbreviated to flex) is a form of printing process which utilizes a flexible relief plate. It is basically an updated version of letterpress that can be used for printing on almost any type of substrate including plastic, metallic films, cellophane, and paper. It is widely used for printing on the non-porous substrates required for various types of food packaging (it is also well suited for printing large areas of solid colour). Flex has an advantage over lithography in that it can use a wider range of inks, water based rather than oil based inks, and is good at printing on a variety of different materials like plastic, foil, acetate film, brown paper, and other materials used in packaging

Evaluation is a systematic determination of a subject's merit, worth and significance, using criteria governed by a set of standards. Oladipo *et al.,* (2010) established that most undergraduate students in Nigerian universities lack effective study techniques and facilities for teaching them coupled with shortage of library materials and equipment. When a student goes through a course material in a rush, some important words might be skipped. Onojah *et al.,* (2020) stated that the sophistication of a concept is contingent on the degree of its enhancement for learning purposes.

An Expert is defined as having, involving, or displaying special skill or knowledge derived from training or experience (Hoffman *et al.,* 1995). The role of experts as stated by the Education, Audio visual and Culture Executive Agency allows providing a fair, impartial, and consistent assessment of project applications according to the objectives and the policy priorities of the Programme. The assessment is a key part in the selection procedure. Experts are appointed on the basis of their skills and knowledge in the areas and the specific field(s) of the audio-visual sector in which they are asked to assess applications.

The lecture method is probably the most prevalent and only method some university lecturers often employ in the training programs leading to the preparation of Nigerian graduates. In recent times the quality of graduates in Nigeria has necessitated a second look at this predominant method of preparation. Since the lecture method is predominantly teacher centered and mostly leaves the learners as passive participants, only to take notes and probably ask questions after the lecture delivery if and when time permits, the need has

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arisen to look for alternative ways of graduates' preparation that will be all inclusive. There is a need for a method that will shift the attention to the learners, while the lecturers play the role of facilitator of learning. One of the methods that can promote these all-inclusiveness as opined by Samuel *et al*., (2011) is Study Technology. This study investigated experts' Evaluation of flex billboard on study technology for teaching and learning.

Research Questions

1. Can the flex billboard be used for study technology?
2. How does the flex billboard function?

2. METHODS

It is a production oriented type of research involving production of a flex billboard that can be used to create awareness on study technology. The package was designed, produced and utilized. The target population for the evaluation of the product of this study are Educational technology experts.

The materials needed for the production are:

A The production materials: Iron rods, Iron sheet, Trampoline or flex material. Nails, Screw, Euphuistic/gum, Colour paints, B. Production implements and gadgets are: Computer system, Printer, Corel draw application package, Fret saw, Hammer, Screw driver, Ruler, and Resource Person Construction Process.

The following are the various stages involved in the production:

1. Design a storyboard of what is to be displayed on the billboard
2. Design what you have on the storyboard on a computer system using a Corel draw application package putting into consideration all the elements and principles of design.
3. Import it to your favourite import style like pdf, and others
4. Connect a printer to the computer system
5. Print the work designed on the flex material
6. Construct a frame for the billboard.
7. Bore a hole at the four edge corner of the frame and flex respectively
8. Prepare an iron sheet to serve as the background for the frame
9. Paint the frame and iron sheet with appropriate colours for it to look more attractive
10. Nail and screw where appropriate, the frame with the iron sheet
11. Apply gum on the back of the trampoline and on the iron sheet
12. Spread the flex on the iron sheet and press it together.
13. Insert it properly into the frame
14. The Flex Billboard can be hanged anywhere for exhibitions also for teaching and learning

The questionnaire was given to each respondent (experts), they were guided on what the questionnaire is all about and advised to be honest and objective in providing answers to the given information after looking critically at the flex product billboard product. Since the response is very useful to the research, the experts are being encouraged to do it with the best of their knowledge. The data was collected immediately after the questionnaire which is designed to know the impact of flex billboard on study technology is been administered.

The technique used in assessing this research work is the simple percentage. The tables were computed for the questions in the questionnaire, simple percentage was used in the calculation. They were vividly based on the information obtained from the questionnaire's respondents. The produced flex billboard is shown in **Figure 1**.

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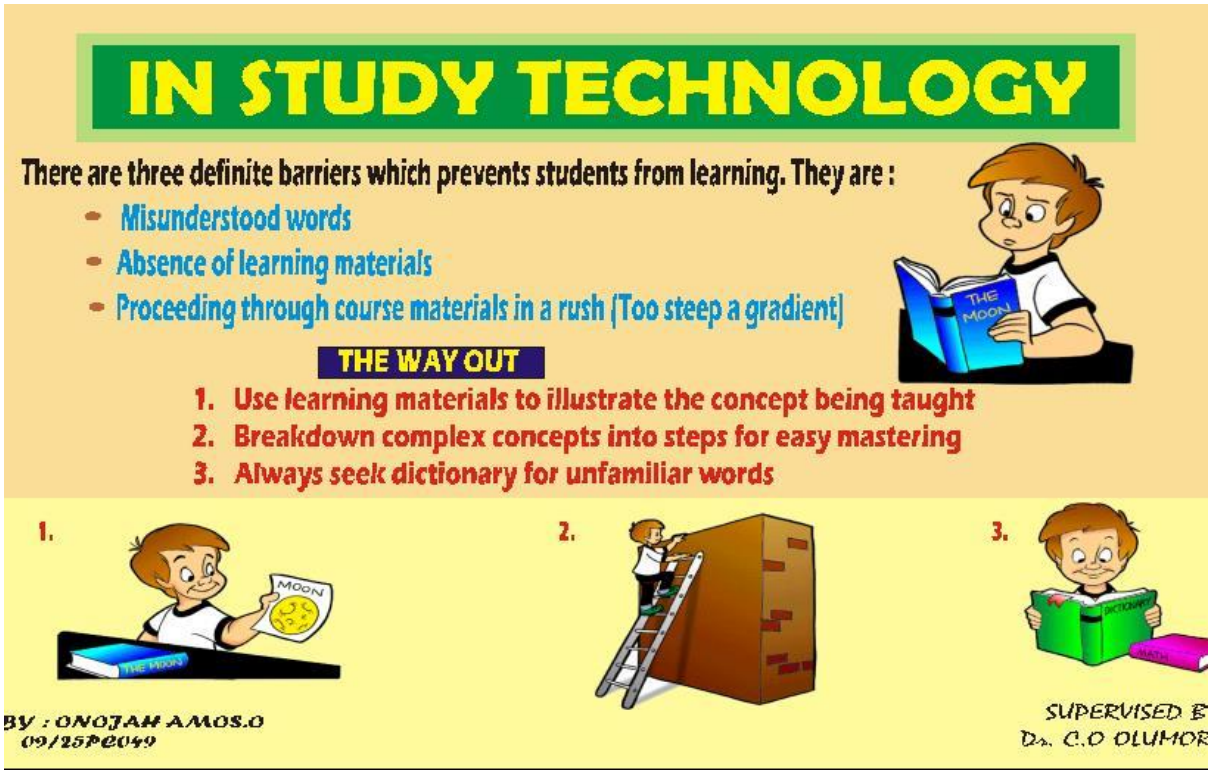

Figure 1. Caption of the flex billboard.

3. RESULTS AND DISCUSSION

Research question 1: Can the flex billboard be used for study technology?

This **Table 1** revealed that all the experts believe that the flex billboard is relevant to study technology which is a study of learning barriers to successful study and how this barrier can be reduced and corrected. The analysis claims that the flex billboard is a good visual instructional material which appeals to the sense of seeing. The flex billboard encourages personalized instruction which allows students to learn at their own pace according to the analysis drawn from **Table 1**. The analysis further indicates that a flex billboard is easily accessible. The experts according to the analysis also strongly believe that the flex billboard is very useful to the students, parent, teachers, and stakeholders. From all the analysis from this section, it can be judgmental to reach a logical conclusion that the flex billboard can be used for study technology.

Research question 2: How does the flex billboard function?

The **Table 2** shows that the flex billboard doesn't need electricity before it can function, i.e. it is independent of electric power supply. All the experts also believed that the flex billboard can be easily utilized as the students don't need to wait or rely on their teacher before mastering. The analysis indicates that the flex billboard is a good mass media that can be used to teach large population since it can be produced to any size to suit the class.

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Table 1. The Flex billboard and study technology.

S/N	STATEMENT	SA	A	D	SD
1	The flex billboard is relevant to study technology		3 100%		
2	It is a good visual instructional material	2 67%	1 33%		
3	It encourages personalized instruction which allows students to learn at their own pace	1 33%	2 67%		
4	It is easily accessible		2 67%	1 33%	
5	It is useful to the students, parent, teachers and the stakeholders		3 100%		

Table 2. The mode of functionality of the Flex billboard.

S/N	STATEMENT	SA	A	D	SD
1	It doesn't need electricity to function	2 67%	1 33%		
2	It can be easily utilised	2 67%	1 33%		
3	It can be used to teach large population	1 33%	2 67%		

This is a research work done so as to find out how experts will evaluate the flex billboard produced to create awareness on study technology. The results of the findings established that the flex billboard can be used for study technology. It also revealed that the flex billboard can function without electricity. This implies that epileptic power supply is never a barrier in using the flex billboard and it can be used even in remote areas where power generation might not have been installed.

4. CONCLUSION

The principles and elements of design are very important in any production especially on the flex billboard. This study has established that barriers to successful study can be solved if appropriate instructional media and gadgets are used. This will enhance effective teaching and learning. The provision of the flex billboard that is used to create awareness on study technology will assist the students to develop co-operative learning relationship, self-learning or learning at convenient pace and also assist them to overcome shyness in the classroom.

Based on the findings of this research, the following recommendations are made: Efforts should be made to create more awareness on study technology with the use of flex billboard to enlighten students, teachers, schools, stakeholders and the society at large. School curriculum planner should include in its curriculum, orientation programme for the pupils on study technology as this will aid or enhance teaching and learning process. Furthermore, workshops, seminars, conferences, and others should be given to both teachers, students stakeholders and the society at large on learning barriers and how it can be solved for successful study to be effectively and efficient study. In addition, flex billboard production

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should be provided for schools by the government and other supporters, effort should be made to provide useful and relevant flex billboard production to schools.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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