

ADVANCING EDUCATION THROUGH TECHNOLOGY

A BOOK OF READINGS

IBADAN UNIVERSITY PRESS

EDITED BY:

- Clement O.O. Kolawole
- Rufus O. Akinbote
- Temisan A. Ige
- Gloria O. Adedjoja
- Ayotola S. Aremu

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Chapter 2

CREATING LEARNER-GENERATED CONTENT: GRADUATE STUDENTS' EXPERIENCE AND CHALLENGES

Gloria Olusola Adedoja

*Educational Technology Unit, Department of Science,
Mathematics and Technology Education
University of Ibadan, Nigeria
sadedoja@yahoo.com*

Israel A. Olasunkanmi

*Educational Technology Unit, Department of Science,
Mathematics and Technology Education
University of Ibadan, Nigeria
ia.olasunkanmi@gmail.com*

Introduction

The integration of technology into teaching-learning process to improve learning outcomes in higher education has gone through several stages in the past decades. The use of information and communication technology (ICT) is equally experiencing revolution in its acceptance in tertiary institutions especially universities in Nigeria. This accounts for the considerations of using web 2.0 technologies and accompanying facilities which give room for collaborations, engagement, innovations, increased relevance of online materials and gratification among learners as against the over-utilisation of the lecture method which hold students inactive and less participative.

The web 2.0 technologies include the social media such as the Facebook, Twitter, YouTube, and blogs which are meant purely

for social interactions (Olasunkanmi, 2011). However, it is advantageous to note that the evolving nature of technology has made it possible to have some social media which are designed to contain features that have educational usefulness, employed for instruction. Examples include Edmodo and Schoology (Cauley, 2012; EdTech Team, 2015). These provide platforms and opportunities for users to create and share ideas and contents that are generally referred to as user-generated content on the internet. They are equally called User-Created Content and Learner-Generated Content (Adedoja and Olasunkanmi, 2015). In this paper, user-generated content is used interchangeably with Learner-Generated Content (LGC).

Learner-Generated Content

Learner-Generated Content (LGC) refers to content developed by learners on issues or topics of interest to their academic studies. The content is distributed on an internet site which feeds information to members of the group, usually called community of users through a network system. Furthermore, the reactions, comments, new ideas, researched information and submissions of users are fed back into the network and this goes on to generate more rounds of information sharing, collaborations and engagement. In this regard, members tend to get furnished with more recent and reliable information that inform their decisions, both as individual and collectively, in respect of the topic of interest. The materials shared on the platform could be of any or a combination of the various media elements available be it text, audio, graphic, video or multimedia.

The textual format majorly contains alpha-numeric letters and symbols which are normally created with the word processing packages including Microsoft Office Word, WordPad, Notepad and the likes. Most social media platforms readily allow users to create and share text message or short message systems (SMS). The audio content format is a critical part of instruction. It simply refers to those materials that appeal to the sense of hearing. They are recorded and played back using varieties of easy to use technologies stemming from traditional to the digital ones including audio cassettes, audio books, optical discs, and internet audio (Motion Picture Experts Group, audio layer 3 called MP3). Audio materials

are acquired through recording of sound or voices processed and stored in different storage formats.

The graphical contents are visual images in form of drawings, sketching, cartoons and photographs produced to appeal the sense of sight and thereby arrest as well as sustain learners' attention. Actually, the goals of good visual designs in terms of improving communication include to ensure legibility, reduce the effort required to interpret the message, increase the viewers' active engagement with the message, and focus attention on the most important parts of the message (Heinic, Molenda, Russell, and Smaldino, 2002). In the digital age, users are afforded the opportunity of using collections stored in computer's graphic libraries which one can copy and paste in most software packages. In addition, some software packages including Paint, CorelDraw, and Windows Photo Editors have been developed both as proprietary and free types to enable users to create graphics from scratch to finish to the taste and satisfaction of the users. Also, picture and photo capturing technologies such as digital cameras and scanners are important to production of visual materials for content development.

The video contents, usually in the digital form are images which normally appeal to both senses of sight and hearing. As commonly described, video materials afford someone to *hear and see*. These images are captured and stored by using a variety of digital video technologies. Video materials saved or stored in digital form are easy to be changed, edited, displayed, shared, or sent from one computer to another. According to Lever-Duffy and McDonald (2011), digital video technologies offer powerful teaching and learning resource that one can customize to support a specific lesson or to meet unique student needs. The multimedia content, using the Microsoft PowerPoint, can be described as individual slides in a presentation slide show containing a number of multimedia elements including text, graphics, animation, sound, and video clips. This is with the intention to make the presentation appealing to the variety of learning modalities found in a typical audience (Lever-Duffy and McDonald, 2011). Animation here refers to the system of making still pictures or drawings to assuming some movement patterns. Such movements include flying in, flying out, fade, float in, wipe, wheel, grow and turn, shape, swivel, groom and random bars (See Figure1). These movements are also designed to

add effects to slide elements in order to enhance focusing the attention of the audience and ultimately the achieving presenter's preset objectives.

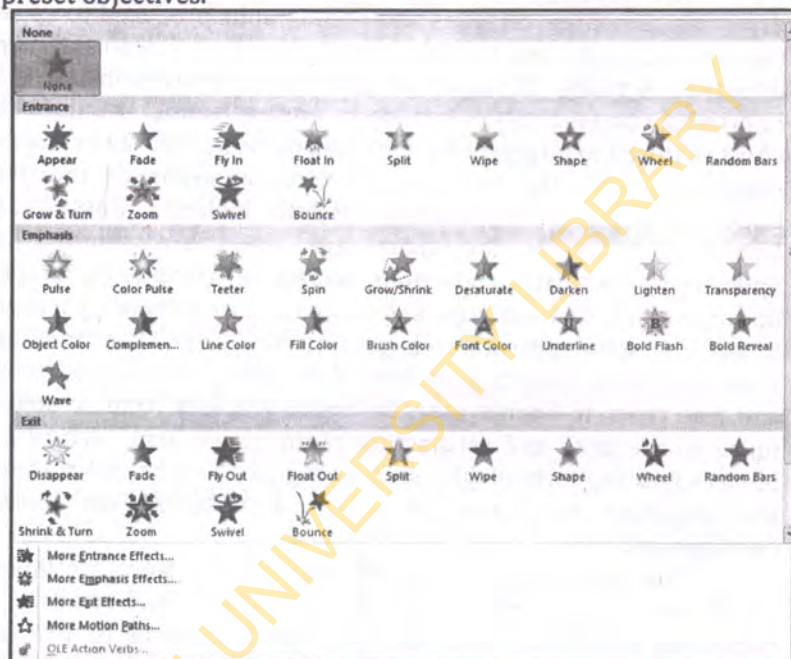


Figure1: Animation patterns

However, creating contents that are suitable for academic or learning purposes has to be properly planned. Also, it is necessary to ascertain that students possess ability to engage in the use of learner-generated content on a selected social media for their learning activities before implementation. Hence, the need for training. Training is a planned process of improving an individual or a group of person's knowledge, attitude and skills required to perform competently a given task in respect of organisation's pre-set objectives. Relevant skills should be identified and learners' training needs should be analysed and training should be provided to enable students acquire skills requisite to creating content that could be used for educational purposes.

Statement of the problem

Technology has been severally pronounced to be useful in virtually all man's activities including teaching and learning. Thus, teachers-in-training, including those whose original educational backgrounds were not in the field of education are expected to be able to effectively employ varieties of technologies to facilitate learning as against the traditional teaching methods. A class of the technologies in use at the digital era is the Web 2.0 which actually allows users to create and share ideas on the internet platform. However, previous studies showed that students at the postgraduate diploma level have varied level of knowledge and skills to effectively create or develop learner-generated content for teaching and learning. Therefore, this paper determined postgraduate diploma students' training needs and examined their experience of developing learner-generated content for leaning.

Research questions

The study raised and answered the following questions:

1. What challenges do students face in developing Learner-Generated content?
2. Which media formats do students find difficult in developing Learner-Generated content?

Methodology

Generally, learner characteristics including digital skills are analysed to determine necessary measures to ensure effective integration or use of technologies to facilitate learning. Such measures include training of people to acquire relevant skills. Training is a planned process of improving an individual or a group of personnel's knowledge, attitude and skills required to perform competently a given task in respect of the organization's pre-set objectives. Participants in the study were students undergoing postgraduate diploma in education (PGDE) programme at University of Ibadan, Nigeria.

The training of the participants in this study to acquire knowledge and LGC related skills was hinged on the U.S. Department of Energy's Model of Systematic Approach to Training (SAT) of 1997. The model states that, to operate training in a systematic manner, it has to cover inter related stages and processes, namely, Organisation's aim, Analysing training needs, Setting aims and

learning objectives, Designing training strategy, and Implementing training strategy) as graphically depicted in Figure 1.

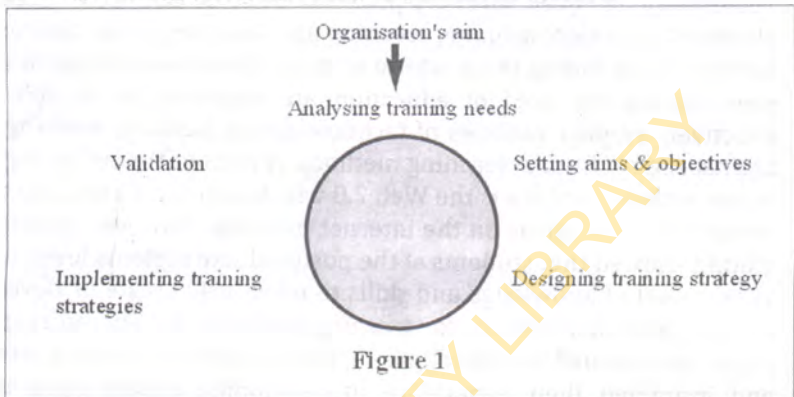


Figure 2: Model of Systematic Approach to Training (SAT) 1997

The model suggests the need to understand the organisation's aims and how the aims are met by range of jobs that exist in the organisation. The aims and needs at this point are concerned with the teaching and learning of sociology of education while analysing training needs involves finding out what people need to learn. This is done by analysing the knowledge, skills and attitudes/behaviours that each job requires; and assessing the degree of competence of job-holders to meet those requirements.

The stage of setting aims and learning objectives requires specifying what trainees should be able to do as a result of training while designing training strategy involves deciding on a strategy to meet training need. For example, by designing courses / modules, suggesting various methodologies, deciding key learning points trainees must grasp and also sending some learning material (preview) to trainees. This is followed by implementing training strategy which is simply concerned with putting the training into practice. The evaluate results stage is concerned with validation (internal/external) followed by establishing and assessing the quality and effectiveness of training. The entire process is covered by the term Systematic Approach to Training (SAT), which is depicted as shown in Figure 2.

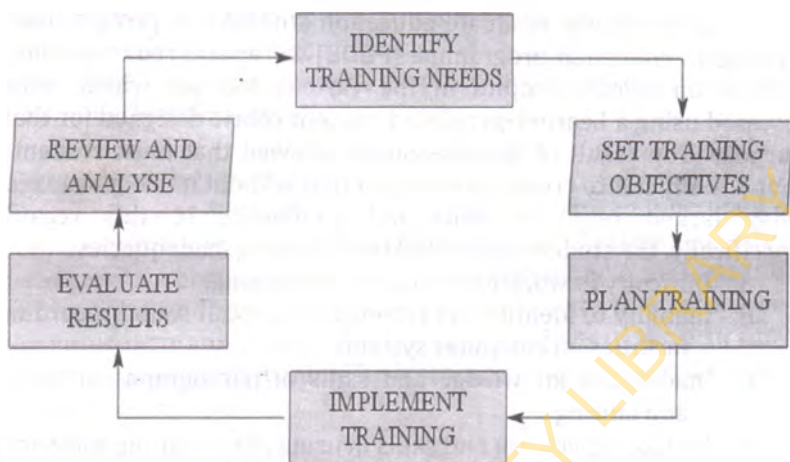


Figure 3: Model of systematic approach to training (SAT)

Source: U.S.A. Department of Energy. 1997.

Organisation's aim

Teacher education programme aims at producing highly motivated, conscientious and efficient teachers who would be fit for the twenty-first century classroom. This set of teachers are expected to be able to use the digital technologies of the age to facilitate learning at whatever level they are employed to serve, be it in secondary schools or tertiary institutions. In particular, the postgraduate diploma in education programme aims at providing professional training for people who do not have teaching qualification to acquire necessary pedagogical skills.

Analysing training needs:

The report of Kadera (2008) revealed certain issues that necessitate training of teachers and students to use some basic tools requisite for creating quality Learner-Generated Contents. The report further observed that sometimes people have editing software for graphics, audio and video on the computer systems but have never taken time to learn how to use it. Thus, the graduate education students have been identified as suitable targets for the training which will enable them to acquire requisite skills to use digital technologies to create quality content for academic purpose.

In this study, graduate education students on postgraduate diploma in education programme (PGDE) were required to develop content on selected topics in the various formats which were assessed using a Learner-generated content rubric designed for that purpose. The result of the assessment showed that most students found it difficult to create relevant content without much assistance. They lacked requisite skills and confidence in this regard. Specifically, the students exhibited the following inadequacies:

- i. Difficulty in working with word processing;
- ii. Inability to identify and record with in-built sound recording facilities on computer systems
- iii. Inadequate knowledge and skills of photograph capturing and editing
- iv. Lack of experience and skills in using photo editing software
- v. Lack of appropriate skills in recording videos
- vi. Lack of familiarity and experience of using video editing software
- vii. Low computer self-efficacy
- viii. Lack of knowledge and skills of internet search techniques
- ix. Lack of personal computer systems
- x. Lack of knowledge of social media with educational features

The above-mentioned problems are capable of making it impossible for students to create and successfully use learner-generated content for academic purpose. This situation required that the students be given adequate and relevant training for them to acquire necessary requisite skills.

Setting aims and learning objectives

At the end of the training, participants should be able to:

- i. Search for relevant materials from the internet using Boolean advanced techniques;
- ii. Edit text and graphical documents using the Microsoft Office Word package;
- iii. Take and edit clear photography shots with digital camera;
- iv. Record and edit recorded audio recordings using Sound Recorder and Audacity;
- v. Record and edit video recordings satisfactorily using Windows Video Maker;

- vi. Develop multimedia materials using the Microsoft Office PowerPoint software; and
- vii. Upload materials (text, graphics, audio, video, multimedia) to the Edmodo online platform

Designing training strategy

The training was designed to use a package structured into modules. The practical demonstration and hands-on strategy in which instructors provide necessary background information, demonstrate and give instruction to participants to practice in a computer laboratory were selected. The instructors were to move round to assist participants. The learning materials were also made available to trainees.

Implementing training strategy

At this stage of the adopted model, participants were exposed to hands-on training as shown in Figure 4 for five weeks. The training covered introduction to Learner-Generated Content and participants were guided to acquire digital skills to be able to create and contribute content. The digital skills covered include Internet search techniques, Information processing, Graphic production (photography), Audio production, Video production and the Multimedia (Microsoft Office PowerPoint).



Figure 4: Hands on Training Session

The details of training sessions with necessary resources are shown in Table 1. This took a period of five weeks.

Table 1: The Training Activities and Resources

Week	Activities	Materials and Tools	Assignment
1.	<ul style="list-style-type: none"> i. Introduction to UGC ii. Introduction to Edmodo iii. Registration on Edmodo site iv. Internet search techniques v. Referencing techniques and Copyright issues 	<ul style="list-style-type: none"> i. PowerPoint presentation on UGC, Edmodo, Internet search techniques, and UI-Referencing styles. ii. Edmodo Registration code (e.g. hjw7t3) iii. Projector iv. Electricity power supply v. Internet connection facility 	<p>Do a two page write up on five (5) Teaching and learning materials in the 21st classroom. Provide title, author(s), introduction, classification, types, advantages, limitations to use, conclusion. (Note: Use 12pts, Times New Roman font style, with 1.5 line spacing). Submit both soft and hard copies at next meeting.</p>
	Word processing (Microsoft Word package)	<ul style="list-style-type: none"> i. PowerPoint presentation on Microsoft Word. ii. Projector iii. Electricity power supply 	<p>Practice with soft copy of the two page write up on five (5) Teaching and learning materials in the 21st classroom. Submit both soft and hard copies of modified document at next meeting.</p>
2.	Graphic production (Photography capturing and Editing)	<ul style="list-style-type: none"> i. Multimedia Projector ii. Electricity power supply 	<p>Go into the school environment including</p>

		<ul style="list-style-type: none"> iii. Internet connection facility iv. Digital photo camera v. Training package on Graphic production (Photography capturing and Editing) 	<p>classrooms to take at least 10 pictures of resources relevant to your write-up. Observe techniques discussed during training session.</p>
3.	Audio Production (Recording and Editing)	<ul style="list-style-type: none"> i. Multimedia Projector ii. Electricity power supply iii. Internet connection facility iv. Digital voice recorder v. Training package on Audio Production (Recording and Editing with Audacity) 	<p>Prepare script and record audio information on at least 2 mentioned in your write-up. Observe techniques discussed during training session.</p>
4.	Video production (Recording and Editing)	<ul style="list-style-type: none"> i. Multimedia Projector ii. Electricity power supply iii. Internet connection facility iv. Digital camcorder v. Training package on Video production (Recording and Editing with Camtasia Studio) 	<p>Go into the school environment including classrooms to record video documentary of at least 2 resources mentioned in your write-up. Observe techniques discussed during training session.</p>
5.	Multimedia preparation (Using Microsoft PowerPoint)	<ul style="list-style-type: none"> i. Multimedia Projector ii. Electricity power supply 	<p>Create 10 enhanced PowerPoint slides for</p>

	software)	iii. Internet connection facility iv. Training package on Multimedia preparation (Using Ms PowerPoint software)	presentation of information contained in your write-up. Observe techniques discussed during training session.
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Validation: Internal/external

Establishing and assessing the quality and effectiveness of training was done using the User-Generated Content rubric adapted by the researchers.

Creating Learner-Generated Content

In this study, participants were assigned to groups to generate content on selected topics in sociology of education, a general course for the students. The participants were instructed to search for, collate and review relevant materials to topics on which they were to generate content. It also involved 'show and tell'- a situation whereby participants were asked to present what they created while experts in technology and sociology of education made necessary comments that students adopted to modify the content they were developing (Figure 5).

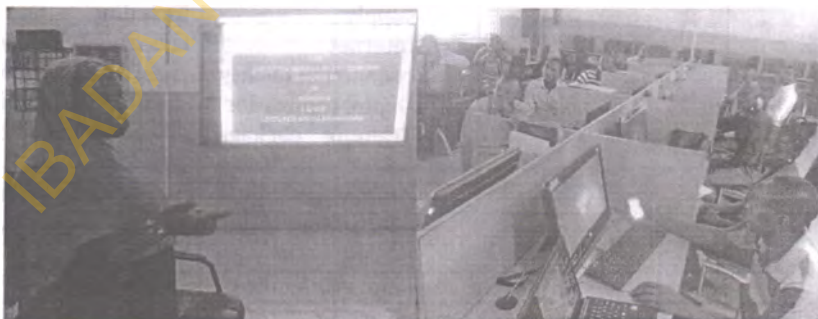


Figure 5: Hands-on and Show and Tell sessions

This process readily implies that creating Learner-Generated Content would necessarily go through certain stages of development before it could be made available for academic purpose. The stages

involved in the creation of Learner-Generated Content are as shown in Figure 6.

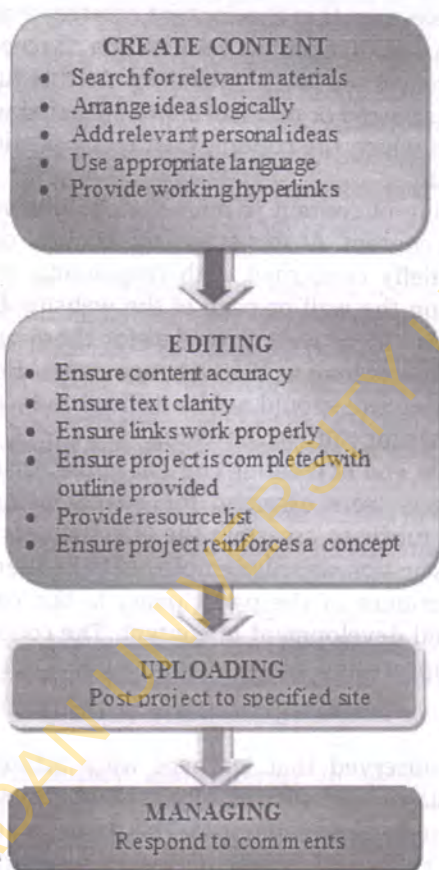


Figure 6: Stages of Creating Learner-Generated Content

The first stage is concerned with search for relevant materials. This may require browsing through the internet to get materials or resources that would be used to develop content on selected concepts or topics. Then, students arrange harvested materials logically and add personal ideas that are relevant to the topic. The students were expected to use appropriate language and provide working hyperlinks. The second stage is editing. This stage involves

ensuring content accuracy; ensuring text clarity; ensuring links work properly, and ensuring that project is completed with outline provided. It also necessary that the content creator should provide resource list and ensure that project reinforces a concept. The third stage is basically concerned with uploading. At this juncture, the developed content is posted or published on a specified website. The social media site on which the content created by participants was posted is the Edmodo.

The uploading of content is immediately followed by stage four, managing the content. At this stage, the content developer or administrator is chiefly concerned with responding to comments posted by viewers on the wall or page of the website. By so doing, more information and ideas were provided for those who visit the site from time to time as long as the webpage exists. However, any successful LGC sharing site should not be difficult to locate but easy to access and navigate for content searching.

Finally, at the end of creating content in the various formats participants' products were assessed for quality using the User-Generated Content rubric to ascertain the effectiveness of training. The focus group discussion was also employed to further investigate what was the experience of the participants in the course of the training exercise and development of content. The content analysis was employed to capture and interpret the results of the findings.

Discussion

Generally, it was observed that learners were actively engaged, responsive, enthusiastic and successfully generated new ideas that were relevant to the local environment. The participants were able to acquire digital skills and competencies in using the software packages (Microsoft Word, Audacity, photography, Camtasia and Microsoft PowerPoint) introduced to them. This report is in line with the findings of Lee, Chan, and McLoughlin (2006) in a project at Charles Sturt University, in which a group of second year undergraduate students produced short, three to five-minute talkback radio-style podcasts for pre-class listening by first year students enrolled in a subject that the second year students had successfully completed in an earlier semester. The authors reported that the use of the podcasts promotes engagement and enhanced motivation of the education students.

The findings of the study showed that postgraduate diploma students have the capacity or potentials to develop requisite digital skills to succeed in the first century classroom if they are exposed to necessary training. Indeed, the students were at different levels of competence at the beginning of the study but their capacity to use computer and skills which are particular to the treated packages were enhanced considerably. The exposure also gave students the opportunity to express their feelings with respect to the progress they were making. In particular, participation in the *Show and Tell* sessions afforded them the courage to contribute and collaborate with others than in the traditional method of teaching.

In addition, participants showed some level of gratification for creating contents. The students feel encouraged and satisfied when they are able to create content that attract applause and commendations from their colleagues. This tend to motivate them to put the knowledge and skills acquired to use in a bid to generated or develop content with good quality in terms of completeness, relevance, authenticity of information, clarity of sound and accurate display of videos as well as appropriate motion of animated elements in the multimedia materials. In this regard, the students felt fulfilled for doing more than just consuming media from online platforms but going further to the levels of participation in producing and sharing content. Participants were also enthusiastic and wanted that the use of Learner-generated content instruction be extended to other courses. The process actually increased students' computer self-efficacy and interest in using learner-generated content for their learning.

Challenges of developing Learner-generated content

Though, the study showed that students found it interesting learning to create content that would be published and used on the internet-based social media platform for instructional purposes, some challenges were evident from their experience. The challenges faced by students were moderate in producing word documents with the Microsoft Office Word package but majorly in the production of sound, video (recording and editing) and multimedia using Audacity, Camtasia and Microsoft PowerPoint software respectively. The challenges that students had were in word processing aspects including the use of review tools, checking for

word counts, formatting, inserting comments, showing Markups in Track Changes, drawing tables and inserting symbols.

In addition, students had challenges with editing audio files particularly in extracting noise from recorded audio signals. However, the show and tell sessions made it easy for students to identify and receive further clarifications on how to use relevant tools of Audacity software to resolve the challenges. On video production, most students had difficulty with recording scenes without much wobbling. Some students also had difficulty with rendering edited video correctly. The difficulties were equally corrected through the show and tell sessions. Concerning production of photographs, some students had challenges with taking sharp and clear snap shots. Some of their snap shots were not clear enough (blurry) and unbalanced. The challenges faced by students in multimedia production using Microsoft PowerPoint software include transferring tables correctly from the word document.

Moreover, students expressed the problem they faced with internet connectivity. This suggests the need for school to provide and support students with such facilities. Another likely challenge is that of electricity power supply to operate available computer systems and perform other associated activities.

Suggestions for further studies

Studies could be carried out on the aspects of influence of intervening variables such as gender, age, content area subject and student's level (undergraduate and postgraduate) on the use of learner-generated content and students' learning outcomes. In addition, further studies could be conducted on the development and utilization of Learner-Generated Content using other educationally inclined social networking platforms other than Edmodo. There could also be a comparative study on the use of social media by utilisation (originally developed for social interaction) and those by design, such as Edmodo.

Recommendations

Based on the findings of the study, it is therefore recommended that:

- i. Teachers of higher education should be trained and retrained on the use of emerging technologies suitable for teaching and learning

- ii. Students should be given orientation on the use of technology for instruction at the beginning of the programme
- iii. Higher schools of learning should endeavor to provide supportive and enabling environment to students for successful employment of learner-generated content for instruction.
- iv. The training model developed and used by the researcher should be adopted for integration of User-Generated Content instruction schools as illustrated in Figure 7.

Conclusion

In conclusion, the study showed that it is imperative for students to acquire relevant digital skills before they could meaningfully use Learner-Generated Content for instruction. Students should keep abreast with emerging technologies which could be used for personal learning and pedagogical advantages particularly to ensure technology compliance, relevance and effectiveness in both twenty-first century real and virtual classroom environments.

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