AAOU 2019

Proceedings

The 33rd Annual Conference of the Asian Association of Open Universities

OPEN DISTANCE LEARNING: 2020 AND BEYOND

Hosted by
Virtual University of Pakistan

14-16 October 2019
Pearl Continental Hotel Lahore, Pakistan

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E-LEARNING VLOG MODEL DEVELOPMENT: ENHANCING LEARNING MOTIVATION AND COGNITIVE ABILITY
(A Case Study of Students of Budgeting)

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Abstract

Online tutoring (simply known as tuton) at Universitas Terbuka or UT (Open University) incorporates the interplay between students and several components, i.e., tutors, peers, and course materials. Tuton has hitherto been delivered through discussion forums to create responsive e-learning experiences, which predominantly call for a multitude of inputting text. Lack of keyboard skills, among other things, can be a serious impediment to desirable academic progress and hence gainful learning outcomes. This has made it necessary for e-learning model to weigh in on the integration of vlog (video blogging) into tuton practices. The present study sheds light upon the extent to which vlog-based tuton affects learning motivation and cognitive ability among the students of budgeting. A questionnaire is developed, and data is obtained from 92 UT students who undertake tuton for budgeting course in the academic year of 2019.2. We settle on path analysis to look at the relationships between variables, with major findings that include; 1) vlog-based tuton is better perceived than text-based discussion platforms; 2) vlog-based tuton has a positive and significant effect on students' learning motivation; 3) vlog-based tuton has a positive and significant effect on students' cognitive abilities; and 4) vlog-based tuton has a positive and significant effect on students' cognitive abilities through their learning motivation. These findings imply the urge for UT to commit resources to facilitating vlogging activities that aim for better motivational strategies and cognitive learning among the students.

Keywords: E-Learning, Vlog, Motivation, and Cognitive ability

Introduction

In recent years, it has become clear that information communication technology (ICT) continues to grow rapidly to the extent that major parts of operational activities in all fields are attributed to its growing force. Education field is no exception. With the recent global demands for ICT integration into educational landscapes, institutions are increasingly adapting technological development to technology-enhanced learning processes. Determining the best tools for learning support to increase quality of education systems is critical to that effort. This development is transforming how educators as creators and facilitators in learning activities can take on self-development in an innovative and creative manner. The structures and roles of higher education have undergone a paradigm shift from a conventional memorization-based learning in a lecture setting to ICT-enabled learning environment that emphasizes attractive and enjoyable learning.

Universitas Terbuka (Open University) has embraced the elements of ICT-based learning, recently known as e-learning, to sustain its open distance learning (ODL) initiatives. The potential and the promise of e-learning are obvious; when implemented correctly, ICT- related learning tools enable students to choose from a wide assortment of learning resources such as online tutoring, web-based supplement, online independent practices, kit tutorial, and online examinations and to actively engage in learning particularly within self-managed context. ICT applications also augment in the sector of non academic operations, such as student administration and management of student data. That said, many potentials related to challenges are well known and documented. A large number of evaluative efforts have been made to shed light upon student achievement at Universitas Terbuka in terms of student satisfaction and online tutor satisfaction. Many of these ICT-related learning resources have had little measurable impact on student interest, despite the best of intentions. Evidence shows that students still rely on less high-profile learning media such as PowerPoint and Microsoft Word, in addition to print modules, thus causing less enthusiasm toward learning activities. Indeed, more effort is substantial to better understand the impact of ICT applications on learning, and how they can be integrated into effective learning model, as well as the ways in which various hardware and software tools that are faster and more reliable can help students gain the skills they need to succeed. One of these ICT applications in a learning model can be represented through vlogging. The conceptual framework that highlights the development of e-learning model through vlogging offers insights into the mechanisms of enhancing student's learning motivation and their cognitive abilities.

Literature Review

E-learning.

There may be as many definitions of the term e-learning as there are academic papers on the subject, where

experts put in different standpoints. For instance, Darin E. Hartley (in Wahono, 2003) defines e-learning as a type of learning that enables the delivery of instructional content through the Internet and other computer network media. Jaya Kumar C. Koran (2002) notes that e-learning is any teaching and learning that is facilitated by electronic circuits (LAN, WAN or the Internet) to convey learning content, interaction and guidance. In Wikipedia Encyclopedia, e-learning refers to the attainment of knowledge facilitated and distributed by electronic means to present and distribute information. In essence, the features of e-learning can center on technology-based learning such as audio-video presentation or web-based learning (computer device and the Internet).

In light of these various definitions, the fundamental core of e-learning associates with a learning model that primarily leverages computer and internet technology. In an e-learning setting, teaching-learning processes can take place when instructors and students are not in the same location and at the same time. E-learning methods can enhance the intensity of interactive communication between students and instructors and peers within physically-separated environments, thus fostering collaborative interactive design methodologies. The proposed system of e-learning provides flexible access to a wide-ranging body of instructional materials related to coursework. This system ultimately improves the quality of practical learning and provides a better understanding of a given course.

The development of e-learning applications is not limited to well-defined online learning material presentation, but rather presents information in a communicative and appealing manner. From this perspective, learning material is designed to provide a platform where students are connected to share knowledge in a virtual contact using Internet and computer-enabled means. Designing an attractive e-learning course, according to Purbo (2002), calls for three basic concepts in the process, i.e., simple, personal and fast. A "simple" system enables students to navigate the available technologies and menus, and define complex menu panels, which leads to the aspect of learnability that refers to how easily first-time users complete basic tasks and undergo convenient user experience. E-learning system should assist users rather than burdening them with the requirement of understanding, thus improving user productivity and run-time efficiency. The trait "personal" refers to the ability of e-learning systems to affect how students and teachers communicate, share and connect in virtual reality. E-learning systems should capitalize on a personal approach that monitors students' progress and solve their problems in learning process and administrative procedure. In this sense, participating in e-learning does not lead to student isolation and neglection. "Fast" e-learning systems focus on quick responses and optimal load time without having to use overly-complicated software techniques. This can be an important factor, as information often needs to be imparted in the most time-efficient manner.

The development of Vlog-based e-learning.

In many ways, it is difficult to discuss any aspect of modern education without considering the Internet. Educators become more focused on the use of the Internet to obtain information and expand knowledge horizon. This is even more so for students, which comes with a challenge that they are increasingly distracted from learning and use Internet media for entertainment and social media purposes. Internet technologies, when properly used, offer numerous educational content that can stimulate enjoyable learning and enhance student motivation. One of these technologies is vlog. Vlog, or video blogging, is a form of blogging that uses Internet-based media and contains video content as a medium to deliver messages with supporting text and audio. Vlogs have gained much attention worldwide since 2015 but saw a pronounced increase in 2005 when blog posts were commonly introduced. With vlogging, as with other types of video presentation, the basic tasks are the same; capturing a simple shot segmentation using phone camera, handycam or microphone-equipped camera based on the information needs within a certain period of duration. Similar to blogs, vlogs document anything from a video journal or daily activities. People use vlogs for various purposes; citizen journalism, teleconference centers and learning communication, in addition to personal journals.

Teachers can explore their creativity as well as encouraging students' creativity through vlog-based lesson planning to serve a multitude of functions in education in a way that it makes the activities more meaningful and interactive as opposed to its conventional lecture counterpart. Vlog tutorials widely available on Google search make vlogs easier to keep up with for most students. Starting a vlog needs to lay strong foundations to build on; 1) inspiration is a great personal source for creating vlog content as it awakens students to new possibilities that stimulate them to delve into creative areas; 2) students need to come up with relevant ideas or themes which they can vlog about; and 3) students may want to list situations and translate them into a scenario to set the storyline of the vlog. Scenario planning needs to be arranged neatly and in detail so that each piece of storyline is well-connected. When necessary, students may use a scenario board to provide a graphical representation that identify different elements in the storyline, reflect each important scene and understand the interrelationships among the various scenes from opening, conclusion and closing that typically represents important messages.

Learning motivation.

McDonald in Sutikno (2007) observes motivation in an individual that reflects a changing energy characterized by a sense of feeling and preceded by a set of responses to a purpose. In essence, motivation entails a

psychological state that encourages an individual to strive for something. In relation to learning purposes, students may reach a point where they either slow down or quit. This is where motivation is of utmost importance. Sutadipura in Supartini (2008) breaks down how motivation serves learning practices; a) it navigates students toward experiences where learning can take place, b) it empowers students with adequate strength, endurance and perseverance, and c) it gives students a sense of purpose and directs them to it. Pasaribu and Simanjuntak classify the types of motives that urge students to learn, i.e., psychological motive, practical motive, personality-development motive, moral motive, social motive and spiritual motive. Shalahudin, M. (1990) postulates learning motivation in intrinsic aspects (e.g., physiological conditions and psychological conditions associated with attitude, talent, interest, intelligence, and cognitive ability) and extrinsic aspects (e.g., social and natural environment, parenting style, curriculum, educator, infrastructure, facility, and administration).

Cognitive ability.

Cognitive ability predicts learning outcomes and hence can be a measuring tool for educators to be aware of various pedadogies and learning progression of individual students. Such awareness instills a degree of assurance and resoluteness in educators to develop the understanding of the extent to which students have progressed in order to settle on areas and steps that need improvement. For instance, adopting a particular teaching model maps out a specific sequence of knowledge and skills students are expected to learn as they progress into better content acquisition. When learning progression takes place, the prevailing learning model persists. However, this is not always the case. There are plenty of learning circumstances where educators invest in a learning model, and nothing significant changes. In these circumstances, efforts toward constant improvement will provide better conditions for students' cognitive skills. Rusman (2014) explains that assessing learning outcomes measures student competencies and is used to arrange progress reports aiming at quality learning through a set of improvements. This assessment is used consistently and systematically using a number of assessment tasks (test and non test). Assessment tests include written tests, oral tests, work observation, attitude observation, assignment observation and project evaluation.

Methodology

Research design.

This study is designed as an explanatory research that seeks to test hypotheses by explaining the phenomenon of interest on a scientific-observational basis. Within explanatory design, this study classifies vlog-based e-learning as exogenous variable and learning motivation and cognitive ability as endogenous variables Participants

Data collection involves cross-sectional survey within a population of all students who use vlog-based e-learning application at Universitas Terbuka. The target population includes those who attend budgeting course in 2019.2 at UPBJJ-UT of Makassar. Random sampling is used to survey 92 respondents in online questionnaires.

Instrument.

Data collected in questionnaires is measured on a 5-point Likert scale, where 1 denoting "highly disagree" and "5" denoting "highly agree".

Table 1. Indicators of Study Instrument

Variable	Indicators	Code
Vlog-Based E-learning (X)	X1 Basic competencis	A1
	X2 Learning content	A2
	X3 Communicative language	A3
Learning Motivation (Y)	Y1 Intrinsic factors	B1
	Y2.Extrinsic factors	B2
Cognitive	Z1 Understanding the functions of budgeting	C1

| Ability (Z) | Z.2 Elaborating the functions of budgeting in a firm | C2 |
| | Z3 Explaining budgeting procedures | C3 |

Data analysis technique.

The analysis begins with instrument development which is measured using validity and reliability test to avoid errors that may affect the accuracy of data collected. Then, multiple linear regression is run to acquire the result of model testing, the effect between variables and the dominance in variables.

In terms of validity test, an item is a valid measure only to the extent that it scores above 0.40 at a significance level of 95% within a group of items representative of the content of the measurable trait. In terms of reliability test, Cronbach's alpha, coefficient and item-total correlation are applied to measure whether each variable was reliable. The resulting score of each variable stands above 0.60, which generates reliable variables and indicates internal consistency. To establish the effect between variables, p-value must score ≤ 0,05 to ensure significant effect of the independent variables on the dependent variable at a confidence level of 95% and a maximum deviation level of 5%.

Result

Validity and reliability

The results of validity and reliability test are presented below.

Table 2. Output of Validity and Reliability

| Variable | Indicator | | Validity | Cronbach's Alpha | Description |
	min	max			
X	0.703	0.782	Valid	0.784	Reliable
Y	0.640	0.794	Valid	0.787	Reliable
M	0.671	0.892	Valid	0.788	Reliable

Source: SPSS output 2018

The results show that the overall minimum values of validity stand above 0.2, at an alpha above 0.6, indicating an appropriate measurement of the instrument for the study.

Variable Ddstribution

The recapitulation of frequency distribution of respondents' answers regarding vlog- based e-learning, learning motivation and cognitive ability is presented in Table 3.

Table 3. Recapitulation of Frequency Distribution of Respondents

| | | Respondents' Answers % | | | Total % |
		Low	Moderate	High	
Variable	X	4	26	62	100
	Y	2	5	85	100
	z	3	8	81	100

Data in Table 3 shows that a large proportion of all variables fits into high category, thus indicating favorable

approval rating for vlog-based e-learning, learning motivation and cognitive ability.

To settle on the calculation of effect size between dependent variable and independent variables, multiple linear regression test is run and recapitulated in Table 4 below.

Table 4. Multiple Regression Output

Independent Variable	Dependent Variable	T	Sig t
Vlog-Based E-learning (X)	Cognitive Ability (Z)	7.788	.000
Learning Motivation (Y)		9.702	.000
R			.799
R^2			.638
F			85.496
Sig F			.000

Source: SPSS Output 2018

The regression output in Table 4 is interpreted as follows:

1. With R^2 of 0.638, vlog-based e-learning and learning motivation account for 63.8% in the variation of cognitive ability. The other 36.2% is accounted for by unknown variables. The observable F_{cal} is 85.49 at an alpha of 0.00 (less than 0.05), suggesting that the simultaneous effect of vlog-based e-learning and learning motivation is positive and significant in cognitive ability. This finding statistically confirms hypothesis 1 that there is a simultaneous, positive and significant effect of vlog-based e-learning and learning motivation on cognitive ability.
2. The observable T_{cal} for vlog-based e-learning is 7.788 at an alpha of 0,000, suggesting that vlog-based e-learning has a positive and significant effect on cognitive ability while other variable that can increase and decrease cognitive ability remains constant.
3. The observable T_{cal} for learning motivation is 9.702 at an alpha of 0,003, suggesting that learning motivation has a positive and significant effect on cognitive ability while other variable that can increase and decrease cognitive ability remains constant.

Conclusion

A number of conclusions are drawn to better understand the results of the study.

1. In view of the significant simultaneous effect of vlog-based e-learning and learning motivation on cognitive ability, sustainable efforts toward quality improvement have contributory links with the development of students' cognitive domain.
2. In view of the significant partial effect between vlog-based e-learning and cognitive ability, vlogging activities in an e-learning setting can provide appropriate conditions for students to cope with complex learning mechanisms and instructional tasks based on their cognitive functioning.
3. In view of the significant partial effect of learning motivation on cognitive ability, motivation can control task performance that calls for cognitive functioning.
4. The significant relations between the three variables settle on a model of cognitive ability improvement through vlog-supported e-learning and learning motivation.
5. These results may have an important implication; the vlog development model rests on the ideal conception of quality learning in online tutoring implementation. The need to associate the constructs of cognitive ability and motivation in this model is apparent to achieve substantial learning outcomes.

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AAOU 2019

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