

Applicability of the YouTube as a Pedagogical Tool in Technical and Vocational Education and Training

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Abstract

Development in information technology has brought with it a multiplicity of measures for publishing and accessing information and instructional resources which can be harnessed for TVET. This study was conducted to establish if YouTube content can be applied in TVET which currently faces numerous challenges despite its importance to the economy. The study aimed at establishing the level of YouTube usage among trainers in TVET institutions; the number of trainers who developed YouTube content for training and identifying challenges and limitations of this online resource. These range from few instructors, inadequate facilities and capacities to cater for the large number of those who complete primary and secondary education and wish to undertake TVET. The study involved 10 instructors and 128 students sampled from the Technical University of Mombasa (TUM) and the Mombasa Technical Training Institute which are the government institutions that offer TVET within Mombasa County. Data for the study was collected through face to face interviews and self-administered questionnaires with predetermined responses which were administered to students and members of faculty. The study yielded both quantitative and qualitative data whose analysis indicate that students often use YouTube to complement classroom instruction, such content made it easy to understand processes, operation of machines, programs and software. It was also established that most of the material accessed by the learners was developed in the west and other parts of the world. The study also found out that local trainers were hesitant to develop YouTube content due to low multimedia content development capacity. The study concludes that YouTube videos and narrations can be applied to complement lecture led classroom instruction. It therefore recommends that use of YouTube and other multimedia tools should be given prominence in TVET. It further argues that instructors in TVET institutions should be trained on online content development to increase the amount of local content shared on the internet platform. The paper however suggests that despite its applicability, YouTube should only be used as a complement but not substitute class room instructors.

Key words: *Pedagogy, TVET, multimedia, YouTube, training, technology*

Introduction

Despite its importance to the economy, TVET in Kenya faces a number of challenges. These range from few instructors, inadequate facilities and capacities to cater for the large number of those who complete primary and secondary education and wish to undertake TVET (Ministry of Education, 2008; Nyerere, 2009). Trainers are therefore faced with the challenge of coming up with more innovative ways to deliver much needed content to a cross section of learners undertaking vocational training.

Innovative instructional strategies should be directed to all requirements of the workplace by allowing students to experience the real operations of the work place by gaining the knowledge, skills, attributes and values that are important in doing certain jobs in such a way as they apply them in the real work setting place (Lubis, 2010). It is for this reason that trainers should consider the use of information technology driven applications such as the YouTube.

Use of emerging technology in education is not a new phenomenon in Kenya. The Kenya institute of education (KIE), now Kenya Institute of Curriculum Development (KICD) has had broadcast to schools through the English service of the state owned Kenya Broadcasting Corporation (KBC). These broadcasts are interactive and simulate a classroom situation and are aimed at supplementing classroom teaching. Today KICD has a digital television platform on which it airs educational content. However, broadcast television has its limitation since it is not video on demand thus the user has very little control over the content. It is in this regard that use of YouTube in TVET should be considered because it is the most prominent user generated content provider and also the world's largest video sharing service with approximately, 100 hours of video uploaded to the server every minute, over 6 billion hours of video watched each month by more than 1 billion unique monthly visitors (Buzetto-More, 2015).

It is important to examine the applicability of YouTube in TVET since it has not been accepted as a pedagogical tool despite studies showing that most college populations consume more web content than they did ten years ago. Social media is frequently used by today's "tech-savvy" generation for building social networks and communicating with others in their everyday lives (Kang'ong'oi, 2012). As such, it's a natural progression for TVET trainers to explore its use in teaching/learning (Ferdinand, 2013).

This study was anchored on constructivism theory that support online learning and it sought to establish the perception of students and members of faculty regarding applicability of YouTube in TVET.

The Purpose of Study

The purpose of this study was to examine the extent of YouTube applicability in TVET by learners and instructors in Kenya. The study aimed at establishing the level of YouTube usage among trainers in TVET institutions; the number of

trainers who developed YouTube content for training; identify challenges and limitations of this online resource.

Specific Objectives

To accomplish the main purpose of study, this paper specifically sought to establish the following;

1. The level of internet usage among students in the two TVET institutions
2. How often students and faculty used YouTube in training
3. Students' perception on the use of YouTube for training

Literature Review

Development in information technology has brought with it a multiplicity of measures for publishing and accessing information and instructional resources which can be harnessed for TVET. Media content is now accessed via the Internet and through Web 2.0 technologies where users interact and collaborate to create content (Harris & Rea, 2010). YouTube being one of the most popular websites in the 21st century allows learners to access instructional material on a wide variety of topics crafted in verbal as well as pictorial form with ease whenever demanded. Such content can be designed and used in almost any discipline to enhance learning, both in class, and also for out-of-class assignments. Short film and video clips posted on the web can be easily accessed by learners and viewed to reinforce concepts and spark discussion (Burke, Snyder & Rager, 2009).

Use of multimedia technology is not a new phenomenon in education although this has changed over time from the use of VHS tapes, DVDs to the online YouTube content facilitated by web 2.0 (Hsieh & Dwyer, 2009). Online learning through YouTube is a trend that has the potential to enhance learning and increases the importance of knowledge of new teaching methods which apply to new learning environments (Jung, 2001; Romero, Berger, Healy & Aberson, 2000). Indeed, Hsieh and Dwyer (2009) observe that the online learning environment has become more and more popular for educators and learners, due to its multiple visual and audio representations. This is supported by scholars like Jung (2001) and Romero et al,(2000) who argue that YouTube content and other online learning material have the potential to enhance learning and increases the importance of knowledge of new teaching methods which apply to new learning environments.

There are several uses for YouTube video in learning with many known pedagogical benefits. For example, Willmot, Bramhall, and Radley (2012) found that video can both inspire and engage students when it is incorporated into student-centered learning activities. Further studies have also shown that including YouTube videos as a pedagogical tool supports multimedia learning (Berk, 2009; Eick, & King, 2012; Miller, 2009). It has also been observed that some learners have difficulties with reading and writing yet still need to be supported to develop skills and expertise. When learners have basic literacy skills, it calls upon skill and great creativity on the part of the teacher. Methods such as pictorial boards on

demonstration, the use of annotated pictures, simple forms, and videos are thus useful (Buzzetto-More, 2015).

Additionally, other scholars have established that the use of YouTube captures students' attention (Buzzetto-More, 2015), which increases student engagement (Peier & Roodt, 2013) and generally enhances the overall learning process (Tan & Pearce, 2012). Snelson (2011) and Burke and Snyder (2008) have shown YouTube as a tool capable of expanding access to information, promotion active and flexible learning environments (Lubis, 2010; Peier & Roodt 2013)

There is strong evidence suggesting continued use of the internet based service in Kenya as the country makes every effort to increase internet penetration. The Kenya National Bureau of Statistics Economic Survey (2015) identifies the ICT sector as one of the sectors of the economy that experienced the biggest growth with 22.3 million users representing 54.8% of the population. This is attributable to increased affordability and availability of smart phones that facilitate access to internet services including social media sites.

An earlier research done in 2012 by TNS RMS, a research agency in East Africa, found that 77% of Kenyans access the internet via their mobile phones while 64% via the computer. The study further established that that younger and older internet users experience the internet differently. "Eighty-eight percent" (88 %) of Kenyans from the ages of 16-20 (who are mostly in secondary and college) access the internet via their mobile devices as opposed to the 48 percent of the 55-65 year olds." On the other hand, 55 % of the youth access the internet via the computers as opposed to 76

% by the older generation (Kang'ong'oi, 2012). These findings project an increased uptake of digital media and information technology tools in Kenya and the east African region. It also shows how easily it can be to reach a cross section of learners TVET content on YouTube.

Arguing from a constructivist perspective, Papert and Harel (1991) argued that consumers of content will construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. According to Ferdinand (2013) the theory which is critical to studying online learning is premised on two principles which are relevant to this study; self-direct and collaborative construction of knowledge, it also assumes that learning involves problem solving. Constructivism suggests that learners create knowledge as they attempt to understand their experiences (Driscoll, 2000). Therefore, instructors who apply YouTube in their training by developing content and further allowing learners themselves to create and share content via YouTube and other platforms are likely to have more enriching, collaborative and effective delivery.

Methodology

The study was a survey that used self-administered questionnaires and interviews. The self-administered questionnaires were used to collect data from 128 students while an interview schedule was used to collect qualitative data from 10 members

of faculty. The approach involved research assistants visiting the two institutions and distributing questionnaires among students who were selected using a convenient sampling method. Factors that guided the sampling were proximity and availability of research assistants

Table 1: Respondents by Course

	Frequency	Percent	Cumulative
Engineering	4	3.1	3.1
Business	4	3.1	6.3
Media	84	65.6	71.9
Applied science	36	28.1	100.0
Total	128	100.0	

Findings

Table 1 indicates the representation of respondents by course. These constituted the following; those who were studying engineering were 3.1%, while those who pursued business related courses were 3.1%. The majority of respondents' pursued media, 65% while the remainder 28.1% pursued applied sciences ($M = 3.19$, $SD = .637$).

How often do you Access the Internet?

On analyzing internet usage among students from the two institutions, the study found out that most (75%) of those who participated in the study had access to the internet. Only 25% indicated that they had no access to the internet ($M = 1.25$, $SD = .435$). This finding confirms earlier studies that suggest high internet usage among students. It also confirms that students were exposed to web 2.0 contents such as YouTube and other social media content.

How Respondents used the Internet

A multiple frequency test was done to determine what respondents used the internet for. Findings indicate that 85.2% ($M = .85$, $SD = .357$) of all respondents who participated in this study used the internet for face book. Those who used it to send and receive e-mails were 76% ($M = .76$, $SD = .430$), those who used it to access notes, books and journals were 68.0% ($M = .68$, $SD = .468$), YouTube video usage was reported by 56.3% respondents ($M = .56$, $SD = .498$) those who indicated using internet for other purposes were 47% of all responses ($M = .47$, $SD = .501$).

YouTube Applicability in Training

When asked if they have ever used the YouTube to enhance learning, 56% of respondents said they have used YouTube for learning while 37.5% disagreed with the statement, the remainder 6.2% were neutral ($M = 2.19$, $SD = .954$). This was

another clear indication that students are using web based technology for learning.

An evaluation of the perceived amount of local YouTube based training content was also conducted. From the analysis 65.6% perceived amount of local training content as either little or very little. Those who reported that they received much or very much were 12.5%. Respondents who felt that they received average local training content were 21.9% ($M = 2.41$, $SD = 1.090$).

Asked whether any of their instructors had used YouTube as a training tool, 53.1% of respondents indicated that the tool had never been used by their instructors, 37.5% indicated that it had been suggested but not used in class, only 9.4% indicated that their instructor had used the tool in class ($M = 2.47$, $SD = .904$).

These findings inform the study that despite its importance in training, not much local content was available for them and most members of faculty were still hesitant to use YouTube content to supplement their teaching.

Perception toward Application YouTube in Training

When asked how useful the material on YouTube was helpful in their current fields of training, 25% of respondents indicated that it was least and less helpful, while 62.5% indicated that the material was helpful and very helpful ($M = 2.78$, $SD = .896$). This finding informs the study that YouTube is perceived by students to be Helpful in training.

Interview Analysis

The interview with members of faculty indicated that most were willing to develop local content but lacked technical knowhow while some felt that it would consume most of their time. Two members of faculty indicated having advised their students to visit YouTube to get the latest trends in media production, while only one member of faculty indicated having used YouTube content in a classroom setting. All those who favored YouTube admitted that all the content they used were foreign.

Discussion

This study established that developments in the digital world, especially YouTube content is applicable in training within the TVET institutions studied. It has further confirmed that there is a high level of internet usage by learners. Findings indicate that students often use YouTube to complement classroom instruction, such content made it easy to understand processes, operation of machines, programs and software. Internet access and adequate search criteria on computers and mobile devices allow learners in all fields to access a lot of material using YouTube as an instructional tool. This creates an outlet for students and educators to create change, exchange information and collaborate in ways that were unimaginable before. This study also found that YouTube played significant role in the educational field as students and TVET trainers were able to discover and share educational content.

This not only enhanced learning, but will also made it “entertaining and fun” by breaking monotony of lectures through simulations. YouTube is thus an important pedagogical tool because it engages students more through visually-stimulating videos and presentations, which are easily shared across the globe.

These findings confirm that instructional YouTube content can be used in TVET institutions.

It was also established that most of the material accessed by the learners and trainers who participated in this study was developed in the west and other parts of the world. However, it was also established that local trainers were hesitant to develop YouTube content due to low multimedia content development capacity.

Conclusions and Recommendations

YouTube being one of the most popular websites in the 21st century allows learners to access instructional material on a wide variety of topics crafted in verbal as well as pictorial form with ease whenever demanded. YouTube content can be designed and used in almost any discipline to enhance learning, both in class, and also for out-of-class assignments. Short film and video clips posted on the web can be easily accessed by learners and viewed to reinforce concepts and spark discussion. This study however suggests that YouTube is not a panacea to challenges facing TVET in Kenya. The study therefore recommends the following:

There is an urgent need to develop local YouTube content using local instructors in local settings and presented with a local accent to aid learners and instructors who may wish to utilize this tool to supplement instructor led classroom instruction. Using local content developers will ensure authenticity and increase acceptability. TVET institutions should invest in multimedia training kits that will allow students and members of faculty to develop content that can be cross shared to increase availability of content and content sharing among students and faculty.

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