# Understanding Students' Insights of Using Audio Technology in a Hybrid-Mode Higher Education Institution

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## Abstract

*Open and Distance Learning (ODL) or Hybrid-mode (HM) Universities are often experienced as a lonely activity. In addition, the lack of appropriate guidance from Subject-Matter-Specialists (SMEs) especially in guiding their students towards completing their course assignments may lead to student-motivational struggles that can result in student attrition problems to the university. The use of internet-based technology tools are effective ways for ODL or HM institutions to communicate related course work to their students, to encourage discussion between and among students and to address administrative issues. Various innovative technologies are available today however the key is to select the most effective, accessible, and appealing technology tools. One such technology is audio technology known as Microcasting, a until now limited approach utilised in ODL or HM institutions in Malaysia. Microcasts in this study were used in helping students complete their assignments while still engaging them electronically. A relevant question yet was whether instructor-made microcasts can play a role in alleviating assignment completion problems of distance education students? The main aim of this study therefore was to investigate students' perceptions of the use of microcasting as a tool for completing their Tutor Marked Assignment (TMA) at an Open and Distance Learning (ODL) tertiary institution. The study investigated whether students feel at ease when using the microcasting, whether they were able to find information required about their TMA, and whether they believe it will be an effective and helpful way to complete their TMA. These were tested by making use of the Technology Acceptance Model (TAM) constructs namely; 'Perceived ease of use', 'Perceived usefulness', and 'Attitude towards using the system'. Focus-group discussions were carried out with students, and it was found that students regarded 'Perceived usefulness' as being the most important factor of using microcasting in completing their TMA.*

**Keywords -** *Open Distance Learning (ODL), Microcasting, Tutor Marked Assignment (TMA)*

## I. INTRODUCTION

The proliferation of Open and Distance Learning (ODL) has changed the landscape of education in the 21st century for both students and instructors. If previously professors stood in front of classrooms filled with dozens of students, today internet-based technology tools in the Web 2.0 environment have provided platforms for professors to provide knowledge to thousands or tens of thousands of logged-in users. Providing lectures, completing assignments, grading papers, receiving and giving personalized feedback are all totally different pursuits in an online environment, and technology experts are stepping up to build the tools that make online learning easier, more effective, and more enjoyable for instructors and as well as their students. Similarly put, knowledge is now decentralised, accessible and co-constructed among a broad base of users through discussion and participation in the Web 2.0 environment (Hicks and Graber, 2010).

The use of internet-based technology tools are effective ways for ODL institutions to communicate related course work to their students, to encourage discussion between and among students and to address administrative issues. Internet and its allied-technologies as related by Siemens and Conole (2011) are distributed, social, and networked and has definitely influenced the structure of education, teaching, and learning today. The emergence of new Internet technologies has changed how people communicate and network with each other, and how they create, teach, learn and share content with each other (Siemens & Conole).

Regardless of the multifaceted benefits internet-based technology tools provide, the lack of selecting and utilising the most appropriate technology tools in guiding and supporting students towards accomplishing their education is still at its inferiority level and this is seen by ODL Institutions as a contributing factor towards the increasing attrition rates. Research has pointed out that ODL learners have a higher attrition rate than their counterparts in traditional campus-based institutions (Brindley, 1985; Parker, 1995). Due to the structure of ODL that practices openness and flexibility, one of the major concerns has always been the increasing attrition rates

contributed by the incompletion of assignments. Creelman and Reneland-Forsman (2013) identify the most significant contribution to reduction of drop-out in distance and e-learning lies in the effectiveness of learning design. Similarly, Raghavan et al. (2014) in a study on the macro perspective for reducing non-completion rate among ODL learners found that the major factors leading to learners' attrition or inactivity were mainly due the institution's management of assessment practices, the quality of support services and the ability of the tutors and facilitators to deliver effectively.

Identifying similar pattern, to help reduce the attrition or inactivity rate for undergraduate programmes one such decentralised concept for learning design was introduced for an online university, known as *Microcasting*. Microcasting, a until now limited technology approach utilised in ODL institutions in Malaysia, is being practiced by Subject-Matter-Specialists (SMEs) in guiding their first-year students towards completing their Tutor-Marked-Assignments (TMA). A major benefit and importance of this research is the prospective possibilities in which students' assignment completion rate at the undergraduate level can be increased, in turn, addressing the attrition problem.

### A. RESEARCH OBJECTIVES

The purpose of this qualitative study is to determine students' perceptions on the use of Microcast as a tool for completing their Tutor Marked Assignment (TMA) during their first year of study at an open distance learning (ODL) tertiary institution. The following was specifically researched:

1. To establish to what extent Microcasts are utilised by students to complete their Tutor Marked Assignment (TMA).
2. To determine the perception of students on the effectiveness of Microcasts as a teaching and learning tool.

The following sections give an overview of Microcast from defining the concept of Microcasting and then into differentiating a microcast from a podcast and a broadcast. It also discussed the Technology Acceptance Model (TAM) that demonstrates how users come to accept and use a specific technology. The discussion of the findings appears in the latter part of the paper.

## II. LITERATURE REVIEW

### A. Defining Microcast

Microcasting refers to the ability to create content with an extremely low-cost but financially-viable method targeted to a very specific group of people with a precise purpose and message (Cheprasov, 2018).

### B. How is a Microcast different from a Broadcast and a Podcast?

Broadcasting is a form of mass media that developed in the early 20th century which spread audio and video programs to a very extensive audience (Cheprasov, 2018). A podcast, on the other hand is generically called a netcast. It is a series of digital audio or video files which any user is able to download in order to listen or view it. It is often accessible by subscription, so that new episodes are automatically downloaded via web to the user's own local computer, or mobile gadgets. (Wikipedia, 2018).

Microcasting is not targeted to a broad audience and does not need a subscription. Microcasting is a form of narrowcasting where it allows the person sending the audio or video to narrow the content they intend to provide to a specific sector of the population they have targeted. It is not open to everyone (Cheprasov, 2018). The purpose of Microcasting is to zero-in on specific groups of people as opposed to using a shotgun approach in broadcasting. It gives the accurate information needed by the targeted group to be more productive and produce the desired results.

### C. Impact of Microcasting

A microcast is a short audio or video of not more than five minutes and it can be parts of longer lectures, broken down and made into a series so that students can listen in short bursts, or they can be designed to be independent, brief discussions of specific parts of any online course content or task. Higher education learners today do their homework while commuting and a microcast fits into commuting time well. Even the most tech-savvy learners like to receive feedbacks from their instructors. It is the educational equivalent of getting a human to speak or communicate to. In an ODL institution, students feel disconnected from the classroom environment because they hardly hear their instructor's voice. Microcasting can be the possible solution. It can energize online students, provide the information required for task given and keep their level of engagement high throughout their course.

For the purpose of this study audio Microcasts were designed by the course coordinators and were channeled to the specific group of students via the institution's Learning Management System (LMS) and Tutor-student WhatsApp groups.

### D. Technology Acceptance Model

The Technology Acceptance Model (TAM) is an information system theory that demonstrates how users come to accept and use a specific technology (Davis, 1993:475). It is the most widely applied model of users' acceptance and usage of technology (Venkatesh, 2000). The model indicates that when users are confronted with a technology, various factors influence their decision about how and when they will use this specific technology (Mazhar, 2006). Davis, Bagozzi and Warshaw (1989, 985) indicated that user motivation can be explained by three constructs; 'Perceived ease of use', 'Perceived usefulness', and 'Attitude toward using the system'.

The first construct is 'Perceived usefulness' which is described according to Davis (1993:477) as, "... the degree to which an individual believes that using a particular system would enhance his or her job performance". The second construct which is 'Perceived ease of use' is defined as, "... the degree to which an individual believes that using a particular system would be free from effort" (Davis, 1993:477). The third construct is 'Attitude towards using' and is defined as, "... the degree of evaluative affect that an individual associate with using the target system in his or her job".

## III. RESEARCH METHODOLOGY

In determining the perception of students on the use of Microcast as a tool for completing their Tutor Marked Assignment (TMA) during their first year of study at an open distance learning (ODL) tertiary institution, a qualitative research approach was used.

Focusing on the phenomenological aspect of qualitative research allowed the study to understand how learners experience the new phenomenon, in this case, the use of Microcast in their studies. Data for this study were collected by means of focus-group discussions. The focus of research was on the undergraduate students since it is where the attrition rate is the highest in the ODL institution. The semi-structured and open-ended questions guiding the discussions were developed based on the Technology Acceptance Model (TAM), and modified according to the specific context of the study. The discussion questionnaire was pre-tested with participants to provide information on the acceptability of the language, time-spent, and the way in which questions were perceived and understood. Pre-testing reduces errors by improving survey questions (Creswell & Plano Clark, 2011).

The researchers conducted five focus group discussions with randomly selected students from five first year courses that practised the Microcasting as part of their study design. Each focus group discussion consisted of eight students. Research data suggest that a sample size of two to three focus groups will likely capture at least 80% of themes on a topic, including those most broadly shared in a study with a relatively homogeneous population using a semi structured guide. As few as three to six focus groups are likely to identify 90% of the themes (Guest, Namey & McKenna, 2016)

The various focus group discussion also allowed data source triangulation or also called participant or source triangulation. By triangulating data, researchers "go to as many concrete situations as possible in forming the observational base" (Denzin, 1978, p. 101). Data triangulation facilitates validation of information through cross verification from more than two sources (Kennedy, 2009).

Through the discussion processes this study provides a wide-range of experiences and knowledge on the initiative in terms of 'Perceived ease of use',

'Perceived usefulness', and 'Attitude toward using the system'.

## IV. RESEARCH FINDINGS

Findings are presented in emergent themes from the interviews that attempt to answer the research objectives presented in this study. Each finding is addressed using data from the participant's interviews. These data are grouped or categorized into relevant themes that are indicative of the participants' perceptions of the use of microcasting as a tool to complete their Tutor Marked Assignment (TMA).

### A. Utilization of microcast to complete assignments

To establish to what extent Microcast are utilised by students to complete their Tutor Marked Assignment (TMA), respondents were asked a polar question "Did you use Microcasting to complete your TMA1?" Formally, polar question presents an exclusive disjunction, a pair of alternatives of which only one is acceptable. From the data analysis, of the 40 participants from five groups, all participants (100%) responded a "Yes."

### B. Microcasting as a supporting tool to complete TMA

In addition to the polar question, respondents were also asked whether the microcast helped them in completing their TMA1. From the 40 respondents, only 4 participants reported not favourably.

*"There should be more detailed information on the answers to the TMA than just providing some tips."*
*[PM3, 18/8/18]*

*"Make it more attractive and fun to listen."*
*[CN4,18/8/18]*

*"I prefer in video format rather than audio. It is clearer."*
*[WS2, 18/8/18]*

*"Have a clearer version of audio or microcast with more details in it."*
*[PM5, 18/8/18]*

### C. Students' perception on the effectiveness of Microcasting

To determine the perceptions on the effectiveness of Microcasting, participants were further probed with follow-up questions related to '*perceived ease of use'*, '*perceived usefulness'* and '*attitude towards using the system'*. The questions were designed based on the Technology Acceptance Model (TAM).

### 1. Perceived ease of use

To understand students' perception on 'perceived ease of use' respondents were asked 'Do you believe microcasting was easy to be used?' From

the 40 respondents, 8 found the microcasting not easy to be used.

*"It was difficult to download as have to enter many sites."*

[WS6,18/8/18]

Similar to responses of WS6, CN1, CN3, PM 7, and EL8 reported almost the same concerns on the ease of use.

*"I had to log into LMS and download. It is too much effort."*

[CN3,18/8/18]

On the other hand, since microcasting was delivered through two mediums, the LMS and through Course WhatsApp groups, the ease of using Microcasting through WhatsApp was preferred.

*"It is better to send it through Whatsapp than through LMS."*

[WS1,18/8/18]

*"I prefer Whatsapp microcasting than through LMS."*

[CN6,18/8/18]

*"Prefer the tutor to WhatsApp me the microcasting."*

[EL1,26/8/18]

### 2. Perceived usefulness

To understand students' perception on 'perceived usefulness' respondents were asked 'How was microcasting useful/beneficial to you?' All 40 respondents found the microcasting very beneficial and useful towards completing their TMA. Some of the feedbacks were:

*"The audio gives clear direction and how to get ideas to write my assignment."*

[EL1;EL5 & EL8, 26/8/18]

*"It is quite helpful when I can hear it rather than reading the whole thing."*

[WC8 & WC6, 19/8/18]

*"It helped me to understand what I need to do."*

[WS6, 18/8/18]

*"It helped me to arrange my answers because we have so many questions for Computers TMA1."*

[CN7, 18/8/18]

*"While I write my assignment I play the audio to capture what I want to put into my assignment."*

[PM7, 18/8/18]

### 3. Attitude towards using the system

To understand students' attitude towards using the system, respondents were asked 'In general,

what is your attitude towards using the microcasting in the near future? (eg: will you keep using it? is it a good idea to use it for completing your assignments? )'. From the 40 respondents, 5 did not seem to have a positive attitude towards using the system.

*"If I have a choice I prefer reading my TMA guideline. It is enough."*

[WS5, 18/8/18]

*"I think it makes no difference. I may not use in future."*

[CN1, 18/8/18]

*"Too much trouble to download. Will probably not use in future."*

[CN3, 18/8/18]

*"I still prefer reading my assignment guidelines."*

[PM3, 18/8/18]

*"Yea, I think reading is still better and clearer."*

[PM5, 18/8/18]

### D. Assignment Completion Rate

To understand if Microcasting assisted in the assignment's completion rate, findings from the data analysis found all the 40 participants (100%) from the from the five groups, successfully completed their Tutor Marked Assignments according to the due dates.

## V. DISCUSSION & CONCLUSION

Various innovative technologies are available today, however the key is to select the most effective, accessible, and appealing technology tools. From this research, findings have indicated that although Microcasting, is a new approach introduced in the respective ODL institution, it was effectively utilised by the learners. This concurs with Cheprasov (2018) that the concept to zero-in on specific groups of people with the specific information helps to produce effective results. The findings also showed that all 40 students (100%) successfully submitted their Tutor Marked Assignments (TMAs) accordingly based on the due dates. This similarly coincides with Raghavan et al. (2014) statement that for reducing non-completion rate among ODL learners, tutors and facilitators need to deliver effectively by selecting the appropriate technology tool.

Microcasts in this study were used in helping students complete their assignments. Focus group discussions further established that students regarded 'Perceived usefulness' as being the most important factor of using microcasting in completing their TMA. The findings of this study further coincide with that of

Siemens and Conole (2011) that the emergence of new Internet technologies has changed how people communicate and network with each other, and how they create, teach and learn successfully.

An implicit benefit of this research was the prospective possibilities in which students' assignment completion rate at the undergraduate level increased, in turn, addressing the attrition problem of the ODL

institution. As pointed out by Creelman and Reneland-Forsman (2013), the most significant contribution to reduction of drop-out in distance and e-learning lies in the effectiveness of learning design, hence microcasting is definitely an education tool for ODL institutions to consider as a way forward.

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