A Baseline Study on the Use of Video for Teaching and Learning in Higher Education: Pedagogies and Capabilities

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Abstract: *The primary aim of this baseline study was to highlight the pedagogic affordances and use of video for teaching and learning at the Maldives National University (MNU) by exploring and capturing the participants experiences of using video as a teaching and learning resource. In terms of the design principles for creating videos, the competences and skills needed by academic staff who took part in the process is 47 faculty members of the MNU. A survey questionnaire, and a focus group interviews were used to collect data. A thematic analysis was drawn, and the study reveals the importance of using video for teaching and learning in higher education. It also reveals that the capabilities of the faculty members are distributed among different individuals. Finally, the findings intensify the considerations of the effectiveness of video. The findings of this study served as a baseline, and a key strand in the monitoring and evaluating framework for video pedagogy. The design, implementation and analysis of the study was demanding, and makes a valuable contribution to instructional designers, and academics who facilitate, support, and deliver videos as a part of their teaching as it helps them understand the capabilities of using videos in teaching and learning.*

Keywords: baseline study, higher education, teaching and learning, use of video, video pedagogy

1. Introduction

The use of video has become ubiquitous in higher education. Video is common in many forms of face - to - face and flipped modes of teaching [1]; 3]; [4]; [8]; and [9]. It is the primary delivery mode for content in entirely online offerings [2]. The power of video to enhance the learning experience has been articulated in various ways. Mateer [13] suggests that video can aid motivation, and the deepening and retention of knowledge in education contexts. Klass [10] describes the moving image and streaming media in higher education as richly communicative, leveraging visual and auditory capacities to gain understanding in ways that text alone cannot.

This research examines the ways video is used in Higher Education. Video as a teaching and learning resource, is explored in terms of the design principles for creating videos, and in terms of the competences and skills needed by academic staff who take part in the process.

A. Background of the study
In contemporary higher education contexts, flipped and blended learning incorporating a great deal of technological and digital resources such as video has become increasingly persistent as a pedagogical strategy [9]. For at least a decade, the advantages of video have been largely seen as self - evident, and have not been verified through empirical research. The use of it was taken for granted in existing contexts [6]. Hence, the direct evidences are few on the effectiveness of video in facilitating learning [6]. This might be due to complex and varied ways in which video can be embedded in curriculum [14].

Since the AMED project was begun at the MNU, the idea has been articulating among the faculty members. Therefore, a study is important on assessing how video pedagogy is implemented by the faculty at The Maldives National University (MNU).

An action research was planned and conducted in two cycles, in which the first cycle was on situation analysis, for which a baseline study was conducted focusing on faculty access to and use of videos in teaching, their nature of use and preferences for adopting videos for teaching and learning, and perception of the use of videos in teaching.

2. Research Aims, Objectives, and Questions

2.1 Aim

This research was aimed at examining the pedagogic affordances and use of video for teaching and learning at the Maldives National University. Additionally, it was aimed at exploring the participants' experiences of teaching and learning practices by using videos as teaching and learning resource, in terms of the design principles for creating videos, and in terms of the competences and skills needed by academic staff who took part in the process.

2.2 Objectives

- To examine the affordances of using videos in teaching and learning
- To anecdote the participants' experiences of using videos in teaching and learning
- To identify the competencies and skills needed by the academic staff Figures

2.3 Research Questions

1) Do the participants have access to the resources to create and use videos in teaching and learning?
2) What are the participants' perceptions of using videos in teaching and learning?
3) What are competencies and skills needed in terms of creating and using videos in teaching and learning?

2.4 Significance of the Study

The findings of this study served as a baseline, and a key strand in the monitoring and evaluating framework of the use of video for teaching and learning. The design, implementation and analysis of the study was demanding, and thus the study makes a valuable contribution to understand the use and capabilities of videos in teaching and learning. The study was decisive as it served additionally to build the capacity of the participants in researching and analyzing classroom practices. Video producers, instructional designers, and academics who facilitate, support, and deliver videos as a part of their teaching and learning experience will find relevant points of interest for their roles in learning and teaching in higher education.

3. Literature Review

Studies that were done about technology in distance education throughout the 20th century, and digital multimedia research from the 1990s onwards, reveal dynamic structural principles for cognition in digital learning principles refined by Mayer's Cognitive Theory of Multimedia Learning. Literatures in video in higher education contexts underlines the importance of cognitive understanding as its basis, covering many of the structural considerations, design principles, and styles of video that can be used [14]; and [15]. Theoretical considerations of the use of video in ongoing constructivist and connectivist paradigms, include Koumi's 'Potent Pedagogic Roles for Video', and the frameworks developed for the use of technology in education, such as the 'Technology, Pedagogy, Content, Knowledge' (TPACK) framework Koehler & Mishra, [11] apprises pedagogical practices that adopts video for teaching and learning.

Across this review of the literature a number of dimensions to the design and use of video - for - learning in higher education have been explored. This research is aimed to investigate some of the gaps that exist in literature and theory about video and its use in teaching and learning in higher education. Much has been documented about video production processes in general, and in literature some of these processes have been able to be generalised to video for the purpose of teaching and learning [5]. It has also been suggested that there are specific requirements and constraints in production of video for teaching and learning in higher education.

Various debate continues about what comprises sufficient production values in learning and teaching [6]. Little has been acknowledged formally about who exactly is making videos for teaching learning in higher education, and it can assume that the use of videos for teaching and learning is few apart from contexts like MOOC which are made by a full production crew using traditional production processes [7]. Relatively, videos are made using pragmatic processes and tools by a single academic or a small collaborative group [12]; and [15]. Still, little has been documented about how these processes work, or how they might work optimally to make the most of the capabilities of those involved. The Technology, Pedagogy and Content Knowledge framework Koehler & Mishra [11], which maps the different knowledge domains required for teaching with technology, represents a useful framework to explore collaborative video production processes and capabilities. However, it was developed with individual educators in mind, and has not to date been used to investigate capabilities across collaborative groups. This research project aims to address these gaps in knowledge.

4. Methodology

a) Participants and Setting
The number of participants were 47 faculty members teaching in at MNU chosen from 12 different faculties of the MNU.

b) Instruments
A survey questionnaire was used as the data collection instruments. To guarantee the validity of the survey questionnaire, the questionnaire was given to an assistant professor, and an instructional designer from Centre for Educational Technology and excellence, and revisions were made according to their recommendations. A pilot test study was also conducted to test the strength and consistency of the internal reliability (Cronbach's alpha) of the test. The pilot study also tested the clarity of the survey questions. Apart from the questionnaire, additional data was collected from a focused group interviews with the participants.

c) Research Design and Data Analysis
Since it was a baseline study that was done to highlight the pedagogic affordances and use of video for teaching and learning at the Maldives National University, the study captured the participants experiences of teaching and learning practices. A thematic analysis was drawn with the data collected from the questionnaire and interviews with faculty members associated with using videos in teaching ang learning in their institution.

5. Data Analysis and results

a) Access to and Use of Videos in Teaching and Learning
This section focused on access to and use of videos in teaching. More specifically, ownership and access to ICTs. Responses show that majority of respondents own a device; 99% of respondents own a smartphone, laptop (99%), desktop computer (90%), and tablet device (85%).

Results also show that majority have access to a desktop computer (100%) provided by the university. In addition, majority of respondents also use their own device (s) such as laptop (54%) and smartphones (73%) in the university.

1) Internet Access

Responses to the question of internet access, show that majority of respondents access the internet at home (98%) and at office (95%). Majority of respondents access the internet through mobile devices (67%), using wireless connection (56%), ADSL connection (23%), dial - up connection (7%) and leased line (2%). Smartphones (84%) and laptops (11%) are the most frequently used devices for internet access. According to the majority (83%) of respondents there is broadband Internet connectivity on campus. Respondents identified the following places with access to broadband Internet; faculty rooms (78%), classrooms (65%), library (40%), open areas (18%), reception lounge (14%). When asked about Wi - Fi access, 70% of respondents answered that they got Wi - Fi access on the campus while 30% said that they did not. A significant majority (98%) used the Internet daily.

2) Use of ICTs

Respondents were asked to rate their comfort level with thirteen computer - related activities. Computer - related activities asked to rate included common activities such as using word processor, Spreadsheets, Presentations, Email, Search engines, and Databases together with complex activities such as Multimedia authoring, Graphic editing, Digital audio, Video editing, Web page design, Learning Management System and Web 2.0 tools.

Responses show that most of respondents are comfortable with using Word processor, Spreadsheets, Presentation, Email and Search engines and rated themselves as Trainer and Advanced level users. However, for activities including Databases, Multimedia authoring, Graphic editing, Digital audio, Video editing, web page design, learning Management System, and Web 2.0 tools users rated themselves as Intermediate, Basic, and Non - user.

b) Social Media

Majority of respondents (98%) have a profile/account on a social media platform or platforms. Social media platforms like Facebook (94%), Google+ (63%), and LinkedIn (44%) are the most commonly used social media platforms.47% of respondents do not frequently update their social media status while 15% update their social media several times a day, 10% do not update their status at all.

c) Use of Videos in teaching and Learning

Respondents were asked to rate their view as agreement or disagreement to seven statements about using videos in their teaching and learning. Majority of respondents agree that use of vides would improve students' results (98%), help understand subject material more deeply (95%), make completing work more convenient (95%), would be a motivation to explore more topics (93%), would allow collaboration (88%), improve IT management skills in general (92%), and improve career/employment prospects (94%).

d) Why Videos?

Majority of the participants want to use videos in teaching and learning because, that will help improve students' result (60%), helps to explain content (80%), helps students to complete the work (90%), helps to explore more (50%), and helps to collaborate (2%), it will improve IT/information management skills in general (60%), and it will improve career or employment prospects in the long term (83%).

Participants were asked to rate how useful each of the following technologies currently is or would be in their teaching, regardless of whether or not they have used each technology in the past. Participants responses includes; design and build web pages as part of their course (1%), create and present audio/video as part of teaching and learning (80%), and use the web for conferencing or video chat to communicate/ collaborate with other colleagues (50%).

Participants were asked to indicate to what extent they agree with the following statements about the students they teach with regard to use of videos in teaching. Participants' response include, actively involved in courses that use videos (65%), likely to skip classes when materials from course lectures are available online (73%), videos interfere with the students' ability to concentrate and think deeply about subjects they care about (77%), video lectures may increasingly invade students privacy (7%), use of mobile devices enables them to access to videos (98%), feel their students would love integrating more videos in our teaching (80%).

6. Conclusions and Recommendations

The study revealed that using video for teaching and learning in higher education is important. It also has shown that the capabilities of the faculty members are distributed among different individuals. The discourse about using and creating of videos in teaching and learning has shown the perspectives of the participants. It intensifies the effectiveness of video, and of the support structures for video use in higher education. Majority of the respondents agree that incorporating videos in teaching will lead to effective instruction. Hence, participants would like to acquire the competencies and skills needed in terms of creating and using videos in teaching and learning.

The findings of this study served as a baseline, and a key strand in the monitoring and evaluating framework of the use of video for teaching and learning. Hence, the finding can be addressed with a systematic training or CPD for the participants to facilitate, support, and deliver videos as a part of their teaching and learning experiences.

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