

Video Killed the University Teacher

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Abstract: Video has been a staple ingredient of the classroom content for decades. Until recent years, teachers were limited to using video content that was produced by third parties, content that was often high priced and somewhat complicated to obtain. Technological developments in hardware and software now make it possible for teachers to create their own video content. This has resulted in a blossoming of online platforms referred to as 'MOOCs' (Massive Open Online Courses) such as Udemy, Coursera, and edX, along with sole operators using YouTube. These options are increasingly seen as viable alternatives to attending a class. This paper considers the phenomenon of video-based learning and reviews the attitudes of educators and undergraduate students in Indonesia to this trend.

1 BACKGROUND

A lively discussion rages over how automation is affecting the working lives of people. It is becoming a reality that many jobs that have normally been performed by humans are now exposed to the risk of being replaced by algorithms. Ref (Harari, Y N, 2015) discusses this phenomenon and how algorithms could affect the world of teachers:

When they get in the classroom, however, they may well discover that the algorithms have got there first. Companies such as mindojo are developing interactive algorithms that not only teach me maths, physics and history, but also simultaneously study me and get to know exactly who I am.... And these digital teachers will never lose their patience shout at me, and never go on strike (Harari, Y N, 2015).

Ref (Harari, Y N, 2015) also points to a paper called 'The Future of Employment'. The paper offers estimates of the risk pertaining to different professions of being eliminated by automated computer driven algorithms. According to (Frey C B and Osborne M, 2013) traditionally jobs that were designated as being 'skilled' - often referred to as knowledge work - were considered safe from automation. This was because such jobs required

human 'thinking' that machines cannot do. Teaching is usually considered to be a part of knowledge work. Ref (Frey C B and Osborne M, 2013) with reference to Brynjolfsson and McAfee write:

What is striking about the examples in their book is that computerisation is no longer confined to routine manufacturing tasks. The autonomous driverless cars, developed by Google, provide one example of how manual tasks in transport and logistics may be automated (Frey C B and Osborne M, 2013).

As further emphasis of the impact of technology in teaching, The Economist (The Economist 2014) reported that higher education institutions – universities – are faced with three disruptive forces. Two of these are a funding crisis and the need for these organisations to be providers to support and retrain workers throughout their career. The second force identified by the paper is that technology is undermining the current business model applied by universities.

The continued interest and concern about the effects of automation caused the writer to scrutinise the use of video in higher education. In the world of teaching it could be argued that the use of video-based instruction plays a significant role in the automation of learning environments. The appetite that digital denizens have for video is perhaps

embodied by YouTube. YouTube states that it has over 1 billion users (<https://www.youtube.com/yt/about/press/>). This number can only be expected to grow.

Educators have been discussing the effects of this trend for a number of years. As far back as 2012 'Education Week' recognised that:

A growing number of educators are working to turn learning on its head by replacing traditional lectures with video tutorials, an approach popularly called the "flipped classroom" (Ash K, 2012).

Even before that, (Dongsong Z, Zhou J L, Zhou L and Nunamaker J F, 2004) state that video based instruction indeed offers a real alternative as a replacement to standard class based approaches:

Our investigation shows that the Internet and multimedia technologies are reshaping the way knowledge is delivered and that e-learning has become a real alternative to traditional classroom learning (Dongsong Z, Zhou J L, Zhou L and Nunamaker J F, 2004).

This paper intends to review how this trend is developing in the higher education sphere in Indonesia. Through questionnaires of university lecturers and undergraduate students the paper aims to provide an analysis of their attitudes regarding this trend. It is hoped that the results of this survey will provide higher education institutions and individual educators with some guidelines on how to manage the phenomenon of video-based learning.

2 THE ADVANTAGES OF VIDEO

The advantages of learning by video may be observed from two perspectives – that of the student and that of the teacher. From the student's perspective, the advantages are significant and enticing. Firstly, a student can access the learning material at any time and place using a mobile device. This offers significant convenience for the student. There is also time flexibility for the student since there is no requirement for the student to be at a particular place at the assigned time for the lesson. The student may go through the video lessons at a time and pace that accommodates their routine. Key advantages, then are that it is learner centered and self-paced.

Another advantage for the student is that they may review the training videos several times in order to gain a more thorough understanding. In comparison, a teacher's classroom presentation or explanation is ephemeral. In a class of 20-30 participants, it is often difficult for an individual to seek clarification on a point made by the teacher.

From the teacher's perspective there are also a number of advantages. Ref (Harmer J, 2007) describes some of the pedagogic advantages to using video in the language teaching classroom:

In the first place, they get to see 'language in use'. This allows them to see a whole lot of paralinguistic behaviour. For example, they can see how intonation matches facial expression and what gestures accompany certain phrases (e.g. shrugged shoulders, when someone says I don't know), and they can pick up a range of cross cultural clues (Harmer J, 2007).

Secondly, barriers to entry are relatively low for an educator to produce videos. Most adults already possess a smartphone and a laptop, which are the main pieces of equipment needed. With the addition of editing software, anyone can be ready to produce their own education videos.

Another advantage for teachers is that it is easy to share learning content with students. Platforms such as MOOCs referred to above generally welcome new content from educators. Furthermore, setting up a designated channel on YouTube is simple and free. Finally, it can be argued that teaching through video represents a familiar step for a teacher. In higher education, many classroom sessions still consist of a lecturer delivering content and information through a series of PowerPoint slides. A teacher therefore simply needs to deliver their slide presentations in front of a camera, explaining the content and adding additional commentary just as they would when they deliver the same information to a class of students.

One final advantage of creating video based learning material relates to the educational institution. The technology makes it possible for a large number of people to follow one particular course. Therefore economies of scale apply and the cost of online training is often lower, or even free. It should also be noted that high costs are associated with the provision of face to face tuition as they require a physical classroom and all the associated costs.

3 LIMITATIONS AND PEDAGOGIC CONSIDERATIONS OF VIDEO LEARNING ONLINE

It is clear that the growth of learning through video is the result of the advantages stated in the previous section. However, it is also evident that classroom teaching still continues; universities continue to maintain campus buildings and students continue to attend classroom sessions as part of their studies. There are several arguments that continue to validate the traditional classroom model. To begin with, ref (White C, 2003) states that the social aspect of the face to face classroom is a key element to the success:

In face to face language classrooms the establishment of a positive social climate and cohesion within the class are considered an important part of the teacher's role and integral to good practice (White C, 2003).

Another concern about the video based learning is that of motivation. If a student is following a course on their own without social contact with other students they need to have a high level of commitment to see it through. The risk of dropping out is much higher for students who are following this type of course. Ref (Kaplan A M, Haenlein M, 2016) writes:

Following through on a MOOC or SPOC requires a relatively high level of intrinsic motivation and self-discipline. Successful graduates therefore tend to be older (in the range of 25-35 years), and already hold a first degree, which they obtained through more traditional means. For most participants, a MOOC is therefore primarily a way to build new skills in order to strengthen an additional professional career (Kaplan A M, Haenlein M, 2016).

Another drawback related to producing and accessing video based training is that it requires technical skills, especially for the teacher who is preparing and creating the content. Following the initial recording there is usually a significant amount of editing required to produce the final product.

Another salient point is that teachers need to project a strong on screen presence. It helps if they can be charismatic and telegenic. Not all teachers are able to make this transition or transfer their classroom presence through to the media of video. Finally, as well as operational advantages for an educational institution, there are also concerns of more competition. The massive growth of video based learning has resulted in a host of organisations offering essentially the same thing.

4 METHOD

The aim of this paper is to discover the attitudes of teachers and students towards the growth of video based learning and whether such courses could disrupt the traditional classroom based mode of instruction. This information was obtained through a survey. Two surveys were distributed; one survey was targeted at teachers; a second survey was targeted at undergraduate students. These groups will be referred to as the Teacher Group and the Student Group. Both services elicited responses using a five point Likert scale.

4.1 The Teacher Group

The questions for the teacher group were designed to discover attitudes about how teachers feel about making videos and their assessment of the effectiveness of video in the learning process. The questionnaire was distributed to teachers of undergraduate students who specialised in a range of disciplines. Teachers were selected randomly. The questionnaire is shown below:

Table 1. The Teacher Group.

	TEACHER GROUP.	Strongly agree	agree	neutral	disagree	Strongly disagree
1.	I have had experience in producing an online course using video.					
2.	It is important to create my own videos. Videos created by other teachers or organisations do not meet my needs.					
3.	I am interested to produce a series of lessons that will be recorded and posted on the internet.					
4.	Students learn effectively by watching online videos.					
5.	Face to face classroom learning is more effective than learning through watching an online video.					
6.	Online courses based on video are likely to become more popular than face to face classroom lessons in the future.					

4.2 The Student Group

The student group consisted of undergraduate students in the same department and class. The purpose of the survey was to discover whether students exhibited a high level of interest in video classes and whether they felt such programmes were effective. The questionnaire used a five point Likert scale and is shown below:

Table 2. The Student Group.

	STUDENT GROUP.	Strongly agree	agree	neutral	disagree	Strongly disagree
1.	I have had experience in studying by following an online course using video.					
2.	It is better to study online, rather than study in a classroom.					
3.	I learn the same amount by watching online video based training compared to face to face learning in the classroom.					
4.	I want to watch videos from my own teacher. Videos created by other teachers do not meet my needs.					
5.	Videos with more than one presenter are more interesting.					
6.	Online courses based on video are likely to become more popular than face to face classroom lessons in the future.					

5 FINDINGS

5.1 The Teacher Group

From a total of 54 responses to the questionnaire, teachers produced the following data. There were two respondents who did not answer question #4.

Table 3: The Teacher Group.

	Strongly agree		agree		neutral		disagree		Strongly disagree		Total #
	#	%	#	%	#	%	#	%	#	%	
1 I have had experience in producing an online course using video.	10	19	20	37	13	24	7	13	4	7	54
2 I am interested to produce a series of lessons that will be recorded and posted on the internet.	10	19	27	50	14	26	2	4	1	2	54
3 It is important to create my own videos. Videos created by other teachers or organisations do not meet my needs.	3	6	25	46	16	30	10	19	0	0	54
4 It is easy to produce and record lessons for video.	1	2	10	19	13	24	22	41	6	11	52
5 Students learn effectively by watching online videos.	7	13	29	54	14	26	4	7	0	0	54
6 Students learn effectively by attending classroom lectures.	8	15	34	63	10	19	2	4	0	0	54
7 Online courses based on video are likely to replace face to face classroom lessons in the future.	9	17	17	31	6	11	20	37	2	4	54

5.2 Teachers' Comments.

Teachers provided a range of comments that provide insight into their attitude and needs in creating video-based training materials. The comments have been grouped into 5 general areas as follows:

Table 4: Teachers' Comments.

	time	skill	cost	quality	content
# comments	14	31	1	4	5

5.3 The Student Group

From a total of 36 respondents the students produced the following data:

Table 5: The Student Group

	STUDENT GROUP.	Strongly agree		agree		neutral		disagree		Strongly disagree		Total #
		#	%	#	%	#	%	#	%	#	%	
1	I have had experience in studying by following an online course using video.	1	3	9	25	12	33	11	31	3	8	36
2	I am interested to follow an online course in the future.	1	3	16	44	13	36	6	17	0	0	36
3	I learn effectively by studying in a classroom rather than watching training videos online.	5	14	14	39	16	44	1	3	0	0	36
4	I learn effectively by watching training videos online rather than going to a classroom.	1	3	5	14	20	56	9	25	1	3	36
5	I want to watch videos from my own teacher. Videos created by other teachers do not meet my needs.	0	0	5	14	17	47	13	36	1	3	36
6	A video based course should consist of videos that are not longer than 20 minutes.	2	6	20	56	11	31	3	8	0	0	36
7	Online courses based on video are likely to replace than face to face classroom lessons in the future.	2	6	11	31	12	33	9	25	2	6	36

5.4 Students' Comments

Students comments expressed a mixture of positive attitude and preference for face to face learning, as indicated by their response to question #7. These areas have been aggregated into 5 areas:

Table 6: Students' Comments.

	Inter net connect ion	Two way com muni cation	Vid eo desi gn	List enin g skill s	Nois e & distr acti ons
# comm ents.	11	10	5	10	7

6 SUMMARY

It is suggested by this paper that a number of useful conclusions may be drawn from the analysis. The first point concerns attitudes towards learning through video and its role in higher education. Teachers showed stronger attitudes about teaching through video, with fewer respondents remaining neutral. However, both teachers and students agree that the traditional teaching model still has value and both teachers and students remain uncertain about whether video technology will replace the standard classroom experience.

The second point is that there appears to be value in producing video based learning content. The research identifies a number of key factors that should be considered in order to make such a project successful. For teachers there is a perception that such an undertaking is not straightforward or easy. They require time and training in the areas of using the hardware and software, as well as confidence that they are capable of producing good quality learning.

7 CONCLUSION

This research has shown that there is probably a strong interest from teachers to produce learning videos, and students will likely watch them, provided that features such as listenability and production quality are evident. This paper suggests

that a training course for content producers is almost essential.

This paper relied on responses from teachers and students of the undergraduate sector in one private university in Indonesia. As such the results probably reflect cultural and environmental influences of the people who responded. For organisations interested in expanding their portfolio of digital content, it might be advisable to conduct a similar survey as the first step.

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