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Teaching for Dummies – Why Do We Need to Change? Efficiency of Teaching Practices *with* Use of Technologically Advanced Tools

Abstract

RESEARCH OBJECTIVE: The aim of this paper is to discuss the efficiency of teaching process with use of the digitalized methods, emphasis laid on the use of video case studies.

RESEARCH PROBLEM AND METHODS: Since the vast majority of the students are now highly digitalized, their expectations towards the methods applied to teaching changes compared to past practices. Therefore with the use of observation of the in-class interactions and the quiz results of the teaching sessions, we compare the efficiency of using video and traditional case studies. The study is conducted on the sample of 119 undergraduate students of International Business.

THE PROCESS OF ARGUMENTATION: The paper starts with a brief summary of the existing research on using video case studies in teaching. Next we describe the reasoning for our own empirical research, followed by the research design and method explanation. We discuss the results in division for qualitative in-class observations and quantitative accuracy of the in-class quiz. The paper ends with conclusions including study limitations and future recommendations.

RESEARCH RESULTS: The study shows that application of up-to-date technological tools brings better efficiency to the teaching-learning process.

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The students perception of the subject is higher if the knowledge is passed with use – in our case – of the video.

CONCLUSIONS, INNOVATIONS AND RECOMMENDATIONS:
The study confirms that diversifying the teaching methods and bringing technology into class allows more efficient learning process. Therefore, it is recommended that – if possible – educators incorporate more interactive, virtual tools into their teaching programs.

KEYWORDS:

case study, efficiency of teaching, video case study, Centennials

INTRODUCTION

Nowadays, one of the main challenges in teaching requires lecturers to interact with their students in a mode fostering self-development and skills that enable students to handle and adapt to situations in diverse and dynamically changing world order. The task seems harder as the new students – called Centennials – have literally spent their whole life wired to electronic devices. They are used to assimilate knowledge through short bits and – if possible – with use of videos. They feel comfortable experiencing the daily routine with use of technology, preferably one that fits in their pocket (Hernandez-Pozas and Carreon-Flores, 2019). At the same time, the attention span of Centennials is much shorter than it used to be (Khandelwal and Upadhyay, 2019). The change awaiting educators seems inevitable. To start with, students expect to be provided with learning materials in digital form. But they also expect the educators to explore new venues in their teaching methods, substituting mere lecture with more interactive and virtual approach.

Many educators are already aware that today's business students need alternative teaching methods which would actively engage them with the material being taught (Campos et al., 2017; Chavan, 2015). Teaching management – widely understood – has a long tradition of using films – in forms of clips, featured shows or video cases. Video case study is a distinctive film as it is “conceptualized, written and shot for a particular learning objective” (de Beule et al., 2019, p. 176). Theoretically we can assume, that in the era of digitalization, video

cases pose some advantage over the traditional written case studies. Since they are usually delivered by the senior management of the company, the narration becomes more credible and thus, the case is more authentic. It enables students to take a peek at corporate environment which would be difficult to experience otherwise (Beck, King and Marshall, 2002; de Beule et al., 2019). The stand-alone video cases are open to interpretation as they lack the writer's point-of-view and what's possibly most significant – the Centennials attention is more easily captured by images than by text.

Most researchers agree that teaching a subject with video can inspire greater critical engagement with the topic and create an emotional relationship that opens up chances for deeper learning. We have analyzed the advantages of the use of video in teaching that have been supported by numerous education researchers.

Shepard and Cooper (1982) and Mayer and Gallini (1990) linked visual clues, memory process and recall of new knowledge. In general, according to learning theorists, images are essential for learning and retaining knowledge. In fact, imagery (visual encoding) is the core of many memory aids. According to Sexton (2005) video cases provide visual stimuli to reinforce theories and concepts. Students often store information in visual form, therefore video cases may play an important role in helping them remember important ideas and retrieve them from their long-term memory. Well-selected video cases that integrate economic theories with everyday life experiences may provide a solid framework for students to memorize theoretical knowledge. Video cases can also offer vivid expressions of tacit knowledge and can contain other information that is difficult to articulate through written cases and regular lectures.

Allam (2006) highlights that the creative challenge of using moving images and sound to communicate a subject matter is truly immersive and insightful. His views are supported by the evidence from Girardi's (2008) research that suggests that using media in introductory courses in economics makes students more connected to the topic, increases class attendance, and creates better test scores. On the other hand Willingham (2009) in his studies asks a simple question "Why do students remember everything that's on television and forget what we lecture?". His conclusions are also very straightforward – because visual media fosters learning. The use of images

increases students' ability to transfer information and helps them to better remember ideas and theories.

More recently, Willmot et al. (2012, p. 3) provided strong evidence that the use of digital video can increase students' engagement and creativeness. Its incorporation into student-centered learning activities can lead to:

- increased student motivation,
- better educational experience,
- potential for deeper learning,
- higher marks,
- enhanced communication and teamwork skills,
- educational resources for future groups to use.

All these advantages of using video to create authentic learning prospects for students are also sustained by Muller et al. (2008). In their study the researchers witnessed that, "students who watched a video dialogue involving alternative conceptions reported investing greater mental effort and achieved higher posttest scores than students who received a standard lecture-style presentation." Gilinsky and Lawson (2016), on the other hand, argue that video case studies create a lower cognitive load than written cases. Higher cognitive load, that is usually linked to written cases, can disturb students to follow the material well and therefore it might be difficult for them to pay enough attention to the lecture.

Most of the lecturers struggle however to switch to more digitalized forms of teaching. Not only because it is hard to teach an old dog new tricks. A vast majority of educators is keen on making use of the latest technological developments. One of the challenges is low (or non-existent) support of the institutions they work for. Scarce financial and infrastructural resources hinder any attempt on change. However, some remain reluctant to change as they question what lies in its core – its efficiency. They do not see the change of teaching tools as a way to enhance the perception of students. With the recent pandemic developments we have, however, been forced in a situation when face-to-face teaching is not always possible. Whether we like it or not, we are more often than not, obliged to include digitalized materials in our teaching curriculum. Therefore, the aim of this paper is to verify whether the raised concerns on the effectiveness of digital tools in higher education have any empirical grounds. With use of

case study method – in a traditional written form and as a video case study – we compare the results of teaching international business subjects among undergraduate students.

RESEARCH METHODS

The study was conducted among 119 undergraduate students (second-year bachelor programme) enrolled in International Business studies. The study was held in December 2019. To minimize the incomparability of the results we have imposed a series of restrictions:

- The study was conducted by the same educator to ensure that lecturer’s personal skills and capabilities did not influence the results,
- The study focused on one topic (entry mode choice) within the international business curriculum to ensure that the complexity of issues taught did not influence the results,
- The topic was covered with use of two different case studies, each available both as video and a traditional written case,
- The students were divided into 4 groups, each of which included students with normal distribution of grades (evaluation from the previous academic year).

To verify the posed research question we have used observation in terms of class and discussion dynamics followed by a quiz to verify the assimilation of knowledge covered. The cases were discussed according to the pattern indicated in Table 1.

Table 1
Study pattern – group breakdown

	Case A written	Case A video	Case B written	Case B video	Observation
Group 1	x			x	x
Group 2		x	x		x
Group 3	x			x	x
Group 4		x	x		x

Source: own elaboration.

Observation was carried out during all sessions which enabled the lecturer to determine:

- average attention span of students while acquainting themselves with the case,
- interactions and communication throughout and after the case assimilation,
- students' reactions to external disturbances,
- different ways of information retainment while using diverse teaching tools.

After each case, regardless of the form it was taught in, students were asked to take a quiz to verify how much of the information shared stayed with them after the class. Also, the quiz was identical regardless of the case form. The questionnaires included closed questions, supplemented by open-ended inquiries. The results enabled us to draw some conclusions on the knowledge assimilation efficiency while using different teaching tools.

RESEARCH RESULTS

The results of the study will be presented in two parts – according to the data gathered during observations and separately according to the results of the quiz answered by students.

OBSERVATIONS

As mentioned before, observations were carried out in all of the eight sessions of the study. Students were not familiar with the content of the case study previous to the class being held. The observations focused on their behavior while familiarizing themselves with the case and afterwards while participating in the class discussion. The most essential information on the case and students' reactions are summarized in Table 2.

Table 2
Written case study vs video case study – observation takeout

	Written case study	Video case study
Case characteristics	<ul style="list-style-type: none"> • 3 separate parts – each ca. 2-4 pages • ca. 10 min./part to familiarize themselves with the text 	<ul style="list-style-type: none"> • 3 separate parts – each ca. 2-5 min. • delivered by company executive(s)
Students reactions while familiarizing themselves with the content	<ul style="list-style-type: none"> • different pace of reading; students who finish earlier distort others with talking • on average students reading pace and attention slowed after the first page • on average students make notes and highlight information throughout 1 or 2 pages, then stop • about 20% of the students are distracted by their mobile devices at all times 	<ul style="list-style-type: none"> • students follow the content at the same pace • the attention drifts after the 2-3 minute of the video • after 2-3 minute of the video some students tend to start disturbing others by low-voice chatting but are mostly hushed by the rest unable to follow the video • students make notes throughout the whole video although more at the beginning than towards the end • about 20% of the students are distracted by their mobile devices at all times but try to hide the fact from the educator
Students reactions during class discussion	<ul style="list-style-type: none"> • low enthusiasm for the topic • accurate answers however students had to be prompted to engage in discussion 	<ul style="list-style-type: none"> • moderate enthusiasm for the topic • students were more prompt to engage in discussion • frequent quotations of what the executive related to

Source: own elaboration.

Although the knowledge passed through the case study remains the same, the students’ perception while using the video seems higher than while using traditional written ones. It is fair to say that the difference is not vast, however still significant enough to matter. The video requires more focus since students are not able to “go back” in search for the information they have missed. This has led them to more scrupulous note-taking. Since the information is shared by the company executive, they are convinced of case’s credibility and more eager to relate to it since they see it as a real life experience. With the written case their perception of the problem-solving process is lower since they assume the case to be drafted for the purpose of

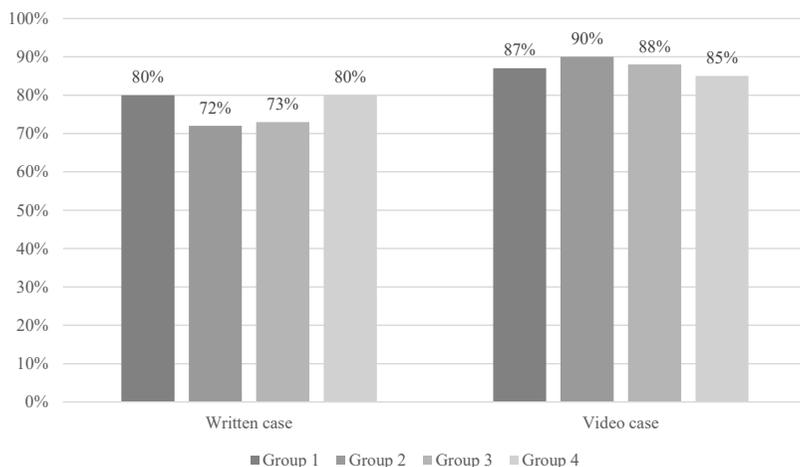
a particular theory/concept and see the case narrator/writer to control the information flow. This is evident with how students phrase their arguments in discussion – strong conviction visible after the video streaming and definitely more vague one in case of written cases.

However, regardless of the intensity of the discussion in both cases – video and paperback ones – students did manage to draw the right conclusions at all times. Therefore, to be able to discuss the tools' efficiency in more detail, we now turn to the quiz results that provide us with more quantitative data on the issue.

QUIZ RESULTS

To ensure that students make an effort of responding the quizzes in a proper way, they have been informed that the results will weight upon their final course grade. Each quiz included single choice questions and open-ended questions and was identical regardless of the form the case was taught with. The questions were general in nature, i.e. they did not relate specifically to the details of the case but required students to generalize the gained knowledge. Figure 1 and Table 3 show the accuracy of students' responses in the quizzes.

Figure 1. Accuracy of students' responses in the in-class quiz



Source: own elaboration.

Table 3
Accuracy of students' responses in the in-class quiz per case and method

	Case A written	Case A video	Case B written	Case B video
Group 1	80%			87%
Group 2		90%	72%	
Group 3	73%			88%
Group 4		85%	80%	

Source: own elaboration.

The results of the quiz indicate that in each case students performed better when they were taught with use of a video. What is important, the efficiency did not depend on the case complexity since the results were mixed for both Cases A and B. Again, the differences are not vast but the scores after applying videos were between 7-15 p.p. higher than with use of paperback copies.

If we analyze the quizzes in a more in-depth manner we can draw some overall conclusions:

- in the open-ended questions students were more precise in their responses if taught with the use of videos,
- in the open-ended questions students related more to the case when drawing overall conclusions if taught with use of videos,
- in the open-ended questions students were able to evoke more details if taught with use of videos,
- in the open-ended questions students were more often confused and gave unrelated, made-up answers if taught with use of traditional paperback cases,
- there was no significance difference in response rate in the single choice questions.

CONCLUSIONS AND RECOMMENDATIONS

The results of our empirical study confirm the need to introduce more technology-based teaching tools into study programs. Although we do not always feel comfortable shifting from the “traditional” ways of teaching to recent student-required ways, it is a must for enhanced efficiency of the learning process. We, as higher-education teachers,

need to assume the serving role in order to be able to shape the future leaders. We cannot expect students to adapt to our own habits just because it is easier.

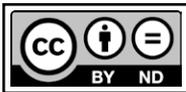
Our study has however some limitations. Firstly, although the sample had normal distribution in terms of students' past performance, we restrict it to only one field of study which is International Business. To draw more general conclusions, the study would have to be conducted among other students, preferably in other study areas and with other cultural backgrounds (foreign students or other universities). This would enable us to check for the cultural bias of the results. Therefore it would be recommended that similar cross-group studies were performed in other locations and possibly also with use of other teaching tools.

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