

## **Use of Movies in an accounting class as a teaching technique to promote learning about financial reporting and ethical issues**

**Paloma Merello<sup>1</sup>, Antonio Barberá<sup>2</sup>, Luis Porcuna<sup>3</sup>, Rubén Porcuna<sup>1</sup>, Ana Zorio<sup>1</sup>**

<sup>1</sup>Accounting Department, University of Valencia, Spain, <sup>2</sup>IES Las Espeñetas High School, Spain, <sup>3</sup>Department of Economics and Social Sciences, Centre for Research in Business Management (CEGEA), Universitat Politècnica de València, Spain.

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### ***Abstract***

*This study presents an innovative experience using movies in an accounting class. The learning experience was found interesting and useful for the learning process in three groups in University XXX. The students voluntarily watched three movies and answered a test for each one, containing questions about the ethical and accounting concepts in the film, as well as their satisfaction with the methodology. Non-parametric tests have been computed to assess if those students that watch a movie obtain a higher exam mark as compared to those that do not follow the methodology, as well as for the other accounting and ethical questions. Our results show that there is a particular film that evidences a significant effect on the final exam mark for more questions than the other films. In general, the results are valuable as they show that students get engaged with this methodology and this can help students to improve their exam result.*

***Keywords:*** *Films; motivation; ethics, accounting.*

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## **1. Introduction**

Current methods of assessing learning have not usually kept up with changes in the learning approach and the transformed technological infrastructure of today's classroom (Serva and Fuller, 2004). It is evident that the ways to retain and process information depend on both the students and the learning tools. Nowadays, students have more different concerns and interests than ever before. Times are changing, so learning methodologies should be adapted to the new possibilities and to the new teaching environment. The knowledge gap between students and lecturers is often remarkable and challenging (Carrasco-Gallego, 2017; Morreale and Staley, 2016), which stresses the importance to include new and more attractive methodologies in the classroom so as to enhance and increase students' participation (Al-Bahrani *et al.*, 2016) and promote critical evaluations (Díaz-Vidal *et al.*, 2020). In this sense, the role of media as a teaching tool to help retention and metacognition is supposed to favor learning processes (Wooten, 2020).

Economics or Business classes are generally thought to be quite demanding (and sometimes boring) so sometimes it is difficult to grab students' attention. Classes might seem a bit far from reality because its foundations are typically based on theoretical and tricky economic concepts (Colander, 2006) and maybe deficient learning methods are employed (Lombardi *et al.*, 2004). Consequently, students can lose interest and do not engage in the subject. For this reason, many academics in this field and researchers advocate for the use of film clips, videos and movies, both in class and online, as a modern pedagogical approach to integrate knowledge, develop economic contents, promote students' attendance and facilitate students' participation (Mateer *et al.*, 2016; Mateer and Vachris, 2017; Acchiardo and Vachris, 2018). Furthermore, some studies (e.g. Wooten, 2020) highlight the convenience, versatility and quickness of using digital platforms (Youtube, Netflix, Amazon, HBO) that incorporate old and recent films and documentaries on all matters.

Despite the extant literature on the Economics and Business field and the use of media teaching tools, as far as we know, little prior research (Bay and Felton, 2012, Biktimirov and Cyr, 2013; Werner, 2014) refers to this approach in accounting classes. These studies analyse the characters' behaviour in terms of ethics and corporate governance, but they are not focused on the specific link of films' content and some accounting issues, especially from 2008 financial crisis. As an information system, accounting is the process aimed to identify, record, and communicate the economic events of an organization, by issuing its financial statements to a broad range of stakeholders interested in the business. Its general function is to provide useful information to enhance decision-making, so the adequate analysis and interpretation of accounting information become crucial since its effects may influence worldwide markets and peoples' lives in many respects (Zorio-Grima and Merello, 2020a and 2020b). As a consequence, the way accounting is taught to students will probably trigger the sense by which they understand and are able to convey useful information to decision

makers around the world. Therefore, if the teacher does not take action to try and avoid losing interest by students who are not being participative in classrooms the consequences can have terrible effects on the learning outcome and the student's satisfaction with learning achievements.

In addition, with the setting up of the European Higher Education Area (EHEA), European universities must be focused on the ethical learning of students, which has become a relevant matter in recent years. As ethical development is considered to have a decisive global impact (Scott, 2006), European universities should assign to ethical learning in general and to professional ethics in particular the same importance as higher education should promote cognitive, functional and personal development (EC, 2006). Eventually, as the number of students who combine their studies and work increases through life-long learning, the whole community will benefit from a more direct professional approach by universities, which also implies an advantage in terms of acquiring ethical skills, making students face ethical dilemmas in the workplace, and improve their confidence in their ethical development (Callender, 2008). In Spain, there seems to be a need to rethink ethical learning at universities. Even though ethical development models are starting to be promoted, there is still much to do, evaluate and consider regarding ethical learning by students, in order to completely align the Spanish policy in the educational field with the various existing projects conducted by several European universities. In addition to the Tuning Project that includes instrumental, interpersonal and systemic generic competences related to ethical commitment, the EHEA provides us with an excellent opportunity to learn more from other university institutions that invest generous capital in teaching (Solbrenke and Karseth, 2006), putting in value the effort on the ethical development of students.

Our study makes the following contribution to existing literature. First, we have examined the role of media tools (movies) on the Accounting area and detected a gap. Unlike Economics classes or more general Business (e.g., Marketing or Management) classes, the Accounting discipline implies a more professional approach for students, as the reported information is aimed to be useful and have an impact on decision makers. Second, we present an innovative experience in an accounting class, where the students are provided with three abstracts for each film focussing on different dimensions (filmographic, accounting and ethic) and with different length (250, 125 and 60 words) to help them develop their synthesis skills. Last but not least, we run subsequent analyses to provide evidence of the usefulness of this learning tool for academics and researchers working at universities who also consider ethical development a significant role of higher education. We look at pertinent variables such as the age, gender, parents' studies, enrollment mark to access the university, employment status, and the time spent in digital technologies during leisure time. We also assess the students's perception on the adequacy of this media approach in the learning process from different perspectives.

## 2. The teaching experience

This learning experience has been implemented during the first semester of the academic course 2020-2021 in three groups with different language (English, Spanish and Valencian) of the subject Financial Accounting of the Business Administration and Management degree in University of XXX (from country XX). The full sample is composed by 195 students, from three groups (57 English, 68 Spanish and 70 Valencian) and two different lecturers, one for the English and Spanish group and a second lecturer for the Valencian group. A 50.7% of the students are women, 92.3% are less than 20 years old, 17%, 26% and 48% of the parents of the students have secondary, bachelor and university studies, respectively; 48%, 38% and 9% of the students dedicate daily to the digital and information technologies around 2-4 hours, 4-6 hours and more than 6 hours, respectively; finally only 13.3% of the students also work. As regards to the exam, 30% of students in the sample got a “satisfactory” grade”, 40% “good” and 4.6% “excellent”. Because of the COVID-19 crisis, the weight of the continuous assessment in the subject was increased from 20% to 40%, while some classes had to be moved to online format. In this context, the final mark of the subject was obtained as 60% the final exam mark and 40% the continuous assessment mark. The latter is composed by practical and theoretical tasks and exercises and three voluntary tests (one per film) related to the ethical, financial and accounting concepts discussed in three movies. The movies selected are described in Table 1.

**Table 1. Movies description.**

Movie	Acc. and Financial issues	Ethical issues
<b>Margin Call (2011)</b>	<ul style="list-style-type: none"> <li>– Subprime crisis.</li> <li>– Fair Value and Assets Impairment.</li> <li>– Volatility.</li> </ul>	<ul style="list-style-type: none"> <li>– Greed and professional ethics.</li> <li>– Ethical decisions-making.</li> <li>– “Gold Rule” breach.</li> </ul>
<b>The Big Short (2015)</b>	<ul style="list-style-type: none"> <li>– Credit Default Swap (CDS).</li> <li>– Rating Agencies.</li> <li>– Oversight system.</li> </ul>	<ul style="list-style-type: none"> <li>– Greed / interest / manipulation.</li> <li>– Public Interest’s jeopardize.</li> <li>– Ethical decisions-making.</li> </ul>
<b>The Wizard of Lies (2017)</b>	<ul style="list-style-type: none"> <li>– Pyramidal fraud.</li> <li>– Share price / quoted market.</li> <li>– Investment.</li> </ul>	<ul style="list-style-type: none"> <li>– Regret and guilt.</li> <li>– Ethical decisions-making.</li> <li>– Professional ethics.</li> </ul>

Each movie test counts 0.5 points out of 4 in the continuous assessment mark (out of 10 points as continuous assessment, which is 40% of total mark). Each movie test includes 9 questions in total. Three questions request to identify whether each of the abstracts provided to the student (a 250-word abstract, a 125-word abstract and a 60-word abstract) highlights either the filmographic, accounting or ethical side the film. The filmographic abstract (base answer) is set in order to check if the students identify accounting and ethical concepts, so,

if not, they will choose the base answer. Moreover, there is one question on ethics and another one on an accounting issue, each of them with three possible answers, being only one correct. The summary of student's answers are shown in Table 2.

**Table 2. Percentage of students who highlighted the implications of the film more with filmographic, accounting or ethical, and percentage of students with a correct answer for the accounting and ethical questions.**

		Margin call	The Wizard of Lies	The Big Short
250-word abstract	Filmographic	11.79	23.08	15.38
	Accounting	27.18	23.59	25.13
	Ethics	61.03	53.33	59.49
125-word abstract	Filmographic	31.28	24.10	30.26
	Accounting	17.95	25.13	32.31
	Ethics	50.77	50.77	37.44
60-word abstract	Filmographic	46.67	30.77	30.77
	Accounting	26.67	29.23	44.62
	Ethics	26.67	40.00	24.62
Accounting question		61.54	82.05	34.87
Ethics question		58.97	49.23	61.03

Table 2 displays an interesting outcome. Students perceive ethical issues as more understandable when the abstract is longer, whereas filmographic abstract is more attractive when it is shorter. That evidences the absence of ethic theory knowledge and the need of integrating business ethics in the curriculums in order to be sure that students are aware of this issues, specially in accounting and finance field where financial scandals from the past should not be repeated anymore. In addition, four more questions were included in order to assess the methodology itself: (i) I think the movie is interesting, (ii) I think the movie is easy to understand, (iii) I think the movie has helped me understand an accounting or financial concept and (iv) I consider that watching movies I learn in an entertaining way. We employ a Likert 5-point scale for the answer ranging from totally disagree to totally agree.

### 3. Results

#### 3.1. The student's perceptions about the methodology

The descriptive statistics evidence that in all the questions and movies a very high percentage (mostly around 70-80% in the majority of them) of the students agree or totally agree with the positive statements regarding the interest, easiness to understand, helpfulness toward learning an accounting/financial issue and entertaining while formative. In addition, the answers of the students to these subjective questions about the methodology are all significant (1%) and positively correlated. Thereby, those students that felt the movie was interesting, normally also found it easy to understand, as well as helpful towards achieving the learning

objectives. Furthermore, we find a significant and positive correlation between answers through the different movies, with some little exceptions. This suggests that in general, those students having a good attitude towards this methodology maintain their engagement for the three films.

### **3.2. The effect of the methodology on the final exam**

Non-parametric tests have been computed in Stata 12 software. Table 3 shows the results for the U-Mann Whitney test with dependent variable the exam mark. We run 9 tests for every movie: (i) one for checking if those that watch the movie obtain a significantly different mark in the exam, (ii) another two tests to assess if those answering correctly the accounting or ethical question achieve a significant different mark; and, finally, (iii) six tests to determine if those selecting the accounting or ethic test for every movie achieve a different exam mark.

**Table 3. Non parametric tests (U-Mann Whitney).**

	Margin Call		The Wizard of Lies		The big short	
	Z	p-value	Z	p-value	Z	p-value
Watch the film	-3.785	0.000***	-3.503	0.001***	-3.672	0.000***
Accounting question	-0.578	0.563	-1.502	0.133	2.105	0.035**
Ethical question	-1.033	0.302	-1.020	0.308	-1.733	0.083*
250-word abstract						
Accounting	1.420	0.156	1.539	0.124	0.982	0.326
Ethics	-2.039	0.041**	-2.139	0.033**	-2.095	0.036**
125-word abstract						
Accounting	1.312	0.190	1.008	0.314	-2.277	0.023**
Ethics	-0.401	0.689	-1.417	0.157	-0.066	0.947
60-word abstract						
Accounting	-1.311	0.190	0.351	0.726	-1.848	0.065*
Ethics	1.192	0.233	-0.460	0.645	-0.112	0.911

According to the results, those students that watch a movie obtain a higher mark than those that do not follow the methodology. The methodology seems interesting as it is related to a higher exam mark for all the movies. However, we can not affirm a direct causality as this relation can be also explained by the engagement of those students with the whole course. In order to assess if the accounting or ethical issues of the movies relate to the acquisition of some skills evidenced in the final exam we pay attention to the different test questions for each movie. In addition, we can point out that the ethic 250-word abstract evidences a significant positive effect for all the movies. This suggests that a longer abstract gives more detail to identify the ethical/unethical behaviours for those students more sensitive to the issue.

Particularly, we can identify one of the films, The big short, that evidences a significant effect on the final exam mark for more questions than the other films. The students that correctly answer the accounting and ethic question of that film evidence a significant different

performance in the final exam. However, while answering correctly to the ethics question relates to a higher mark in the exam (exam average equals to 6.30 and 5.70 for the students answering correct and incorrect, respectively), the accounting question evidences the opposite effect (exam average equals to 5.60 and 6.30 for the students answering correct and incorrect, respectively). This particular effect of the accounting question, evidences the difficulty of the good students to understand the Credit Default Swap concept, as they have no previous knowledge about financial derivatives. This movie also evidences a positive significant effect for the accounting 125- and 60-word abstract on the final exam mark.

#### 4. Conclusions

This study shows that students seem to generally agree with the idea that films can be useful for gaining an understanding of complex accounting and financial issues, and achieve learning in a more motivational environment. The study is valuable as it can inspire other accounting professors to introduce films in their classes to help their students understand the ethical side of the accounting profession as well as learning new accounting technical concepts. We evidence that students get engaged with this methodology and further research is needed to assess if it help students to improve the exam result.

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#### References

- Acchiardo, C.R. & Vachris, M.A. (Eds.), *Dystopia and Economics: A Guide to Surviving Everything from the Apocalypse to Zombies*, Routledge, New York, NY (2018), 15-27.
- Al-Bahrani, A., Holder, K., Patel, D., & Wooten, J. (2016). Art of econ: Incorporating the arts through active learning assignments in principles courses. *The Journal of Economics and Finance Education*, 15, 1-17.
- Bay, D., & Felton, S. (2012). Using popular film as a teaching resource in accounting classes. *American Journal of Business Education (AJBE)*, 5(2), 159-172.
- Biktimirov, E. N., & Cyr, D. (2013). Using Inside Job to teach business ethics. *Journal of Business Ethics*, 117(1), 209-219.
- Callender, C. (2008). The impact of term-time employment on higher education students' academic attainment and achievement. *Journal of Educational Policy*, 23(4), 359-377.
- Carrasco-Gallego, J. (2017). Introducing economics to millennials. *International Review of Economics Education*. DOI: 26. 10.1016/j.iree.2017.08.002.
- Colander, D. 2006. *The stories economists tell: Essays on the art of teaching economics*. Boston: McGraw-Hill Irwin.

- EC. (2006). *Implementing the community Lisbon Programme. Proposal for a recommendation of the European parliament and the council on the establishment of the European Qualifications Framework for lifelong learning*, European Commission COM (2006) 479 final.
- Lombardi, W., Ramrattan, L. B. & Szenberg M.. (2004). Anomalies in economics enrollment: 1991–1992 to 1995–1996. *Economics of Education Review*, 23,153–65.
- Mateer, G. & Oroark, B. & Holder, K. (2016). The 10 Greatest Films for Teaching Economics. *The American economist*. 61 (2): 204-216. doi: 10.1177/0569434516653749.
- Merello-Gimenez, P., & Zorio-Grima, A. (2016). Moderating role of gender in the performance of Moodle questionnaires in an introductory *Accounting course*. *Procedia-Social and Behavioral Sciences*, 228, 407-412.
- Morreale, S.P & Staley, C.M. (2016). Millennials, teaching and learning, and the elephant in the college classroom, *Communication Education*, 65:3, 370-373. doi: 10.1080/03634523.2016.1177842.
- Scott, J. (2006). The mission of the university: Medieval to postmodern transformations. *The Journal of Higher Education*, 77(1), 1–39.
- Serva, M. A., & Fuller, M. A. (2004). Aligning what we do and what we measure in business schools: Incorporating active learning and effective media use in the assessment of instruction. *Journal of Management Education*, 28, 19-38.
- Solbrekke, T.D., & Karseth, B. (2006). Professional responsibility: An issue for higher education? *Higher Education*, 52(1), 95–119.
- Werner, A. (2014). ‘Margin Call’: using film to explore behavioural aspects of the financial crisis. *Journal of Business Ethics*, 122(4), 643-654.
- Wooten, J.J. (2020). Integrating discussion and digital media to increase classroom interaction. *International Review of Economics Education*, 33, 100174.
- Zorio-Grima, A., & Merello, P. (2020a). Class-attendance and Online-tests Results: Reflections for Continuous Assessment. *Journal of Teaching in International Business*, 31(1), 75-97.
- Zorio-Grima, A., & Merello, P. (2020b). Consumer confidence: Causality links with subjective and objective information sources. *Technological Forecasting and Social Change*, 150, 119760. doi: 10.1016/j.techfore.2019.119760.