Teaching Economic Crisis and Stock Market Using A Movie

Muhammad Hasyim Ibnu Abbas
Faculty of Economics
Universitas Negeri Malang
Malang, Indonesia
muhammad.hasyim.fe@um.ac.id

Yogi Dwi Satrio
Faculty of Economics
Universitas Negeri Malang
Malang, Indonesia

Annisya
Faculty of Economics
Universitas Negeri Malang
Malang, Indonesia

***Abstract*—This study describes the evaluation of teaching method that uses a movie as an instructional media to demonstrate a clear concept about the economic crisis and stock market. In this study, the movie watched by the students is movie entitled "The Big Short", a Hollywood movie telling the chronology of Subprime-Mortgage Crisis happened in the United States of America along with everything about stock market and the story of people who benefited from the crisis, which is based on the true story. The evaluation was performed by conducting the 'quasi-experiment' designed with a non-equivalent control group. The result shows that there is a significant different learning output between the control group and the intervention group.**

Keywords—teaching economics, instructional media, learning output.

I. INTRODUCTION

Information and Communication Technology that is growing rapidly brings the significant change in various aspects of life, including education. In terms of education, it is necessary to adapt to the change related to the teaching method and its media. The media helps teachers and lecturers to convey the course materials to their students and it can make the lesson easier for the students. The advancement of science and technology has influenced the use of teaching media in schools and other educational institutions. Today's learning in schools has begun to adjust to the development of information and communication technology and continues to push the educational paradigm [1].

A challenge for lecturers and teachers of educational institutions in economics is the perception among students that economics is highly abstract, difficult, and boring knowledge [2]. The perceptions could be a barrier to the students to be engaged with the ideas of economics course and would exactly undermine their motivation in learning economics. To get students understanding the economics is the most important things and might be the most difficult aspect of teaching economics. The need to keep the students interested and engaged in learning economics is essential. There are many methods and media used by the lecturers and teachers to make economics interesting. Some media used to teach economics is films or video clips.

Watts in [3] explored the relationship between economic concepts, issues and themes and those found in literature and drama. Mateer and Stephenson in [4] proposed the use of film clips to teach public choice economics while Ghent et al. in [5] teach economics which is illustrated in a popular TV show "Seinfeld". Outstanding works were made Gillis and Hall in [6] who used "The Simpson" to teach policy analysis and O'Roark [7] who teaches economics using Superhero cartoons. Other burgeoning utilizations of films in economics are Becker in [8], Dixit in [9], Mateer in [10], Sexton in [11], Mateer and Li in [12], Crisp and Mixon Jr. in [13], Al-Bahrani and Patel in [14], Levey in [15], Al-Bahrani, Holder, and Patel in [16], Cleveland and Holder in [17], and Mateer and Vachris in [18] who used films, short films, episodes of a film, and a movie to teach the basic concepts of economics.

This study analyzes the different learning outputs between classes or groups in understanding the economic crisis and stock market when the lecturers using a movie as an instructional media. The movie presented is a movie entitled "The Big Short", an American movie telling the chronology of the Subprime-Mortgage Crisis caused by the shock in the stock market and people who benefited from the crisis. By watching the movie, it is expected from the student that they would completely understand what is happened in the USA before the crisis, which is caused by shock in the stock market of the USA, occurred.

The rest of this paper is organized as follow: Section II describes the literature review on related topics. Section III describes the proposed method. Section IV presents the obtained results and following by discussion. Finally, Section V concludes this work.

II. LITERATURE REVIEW

Neuroscience studies concerning the function of brain have concluded that there are the different functions between right and left hemisphere of brain. Deductive tasks, the side that characterizes written and oral media, are specialized as the tasks of left brain while intuitive ones, characterizing visual media, is belongs to the right side of brain [19]. It is not a new statement that the old models of teaching and learning have not activated the function of the right brain. Hence, the differences in brain functions argue for the instructional media to be used in order to activate both sides of brain. Empirical evidences suggest that different cognitive systems to process both visual and verbal media are likely used by the people [20]; Cowen [21]; Willingham [22] concerned with a question "Why do students remember everything that's on television and forget what we lecture?" The answer is because the students retain ideas and concepts because of the visualization.

The above-mentioned explanations encourage many experts to teach economics using movies as the instructional media in classes. For instance, Cleveland, Holder in [17], and O'Roark in [7] used the movie "The Hunger Game" to illustrate that the series of economic concepts including production possibilities, the role of institutions, comparative advantages, and income inequality are part of this Hunger Game world while Luccasson, Hammock, and Thomas in [23] used four cartoon shows to illustrate the principle of macroeconomics. The more popular cartoon show used to teach economics is "The Simpson" by Gillis and Hall in [6] and Hall in [24].

This research was equipped by a movie drama entitles "The Big Short". It is a biographical comedy drama movie of Hollywood telling what happens in America before the housing market crash known as Subprime-Mortgage Crisis and based on Michael Lewis' Book "The Big Short: Inside the Doomsday Machine" about the 2008 financial crisis triggered by housing market bubble of USA. The movie consists of three separate but concurrent plots.

The first plot tells the story of Michael Burry, a hedge fund manager of Scion Capital and the first person finding the massive bubble in the American housing market. He invests about $1.3 billion in Credit Default Swap, betting against mortgage-backed securities (MBS), for profit. In the first, his clients become angry. His clients believe that creating a swap to MBS, which is known as a low risk but high profit security, is wasting capital. Under the pressure, Burry refuses to decline his swaps. Eventually, after the market collapsed the value of Burry's fund increases by approximately 489 percent with a profit over $2.69 billion.

The story of Jared Vennett and Front Point Partners managed by Mark Baum is a second plot of the movie. Vennet, a low-level salesman of Deutsche Bank, is the first man to understand Burry's analysis of housing bubble. He decides to sell the swaps to firms who will profit when the underlying bonds fail. One of his clients is Mark Baum, Front Point Partners Manager. Before believing in Vennett, Baum and his staffs make an investigation concerning the housing bubble in Miami market. They discover that mortgage brokers are selling risky mortgages to the Wall Street banks, creating the bubble. Baum also finds that there are dishonesty and conflicts of interest amongst the credit rating agencies. When the crash occurs, Baum's fund increases by $1 billion.

The third plot is Brownfield Capital of Charlie Geller and Jamie Shipley. They are two young investors discovering accidentally the Jared Vennett's prospectus which motivating them to invest in swaps against MBS. They ask for help to a retired securities trader, Ben Rickert, because they are below the capital threshold for an (International Swaps and Derivatives Association) ISDA Master Agreement required to enter trade. In short, they succeed to enter and made a profit of $80 million when the market starts collapsing.

One of the interesting things of the movie is the cameo appearance by popular actress to explain the complexity of the financial instrument concepts such as Subprime Mortgage, Credit Default Swap, Collateralized Debt Obligations, etc.

III. Proposed Method

This experiment was conducted in the Department of Economic Education, Faculty of Economics, Universitas Negeri Malang. The population of this study was the 80 students taking the course of economic system who was divided into two classes. One class became a control group, and another was an intervention group. The treatment given to the intervention group was the use of the movie "The Big Short" in teaching economics. The movie might be watched from the students twice or more. The evaluation of the use of the media was conducted by using non-equivalent control group design of quasi-experiment method as shown in Figure 1.

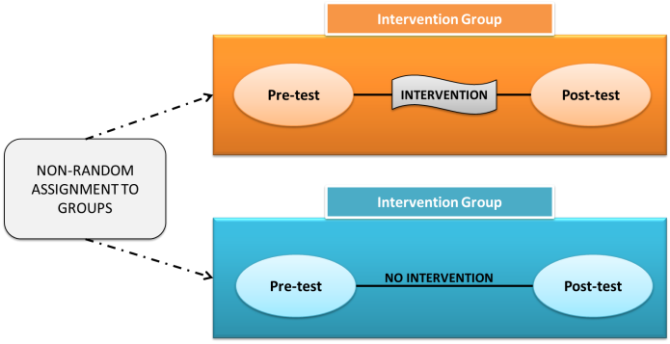

Fig. 1. Quasi Experiment Method with Non-Equivalent Group Design

The competence expected from the student was "Understanding crises in the world". The data to analyze are the result of the quiz that supported by oral test result concerning the crises and stock market. The data analysis used in this study was independence sample *t*-test.

IV. Results and Discussion

The first stage performed in this study is conducting the pre-test. Based on the pre-test, the average score of the test in intervention group is 58.33. The minimum score in intervention group is 42 which is belongs to two students while the maximum score is 68 possessed by one student. The standard deviation of the group is 7.94. In control group, the average score of the test is 54.90. The minimum score in control group is 36 belonged to one student while the maximum score is 67 possessed also by one student. The standard deviation of the group is 8.86. Table I shows the descriptive statistic of both the experimental and control group:

Table I. Descriptive Statistic of Pre-test Result

Group	N	Mean	Mode	Min	Max	Std. Deviation
Intervention Group	40	58.30	66	42	68	7.94
Control Group	40	54.90	60	36	67	8.86

The second stage of the study is treatment stage. As we described above, the intervention group, after get the basic concepts of crises, is asked to watch "The Big Short" while the control group learns about crises by traditional chalk and talk lectures. To get the same material, the control group is

also taught and told the chronology of American's Subprime-Mortgage Crisis by using traditional oral media—the lecturer told the story of the issue.

After the treatment, the lecturer gave both experimental and control group a post-test. The result of the post-test indicates that there is an increase of post-test result average. The average post-test score in intervention group is 83.08. The minimum and maximum score are respectively 71 and 93. In control group, the average score is 76.95. The minimum post-test score is 62 while the maximum is 88. For more details, Table II below shows the descriptive statistic of the post-test.

TABLE II. DESCRIPTIVE STATISTIC OF POST-TEST RESULT

Group	N	Mean	Mode	Min	Max	Std. Deviation
Intervention Group	40	83.80	89	71	93	6.64
Control Group	40	76.95	75	62	88	6.47

To find if the movie, as the instructional media, is effective, the t-test analysis is conducted to compare the gain scores, the difference between pre-test and post-test on each group. The result of the analysis is shown in Table III.

TABLE III. TWO-SAMPLE T TEST

Variable	Obs	Mean	Std. Deviation	t	df	Sig
Gain_IG	40	25.50	8.87			
Gain_CG	40	22.00	7.25			
Combined	80	23.75		1.93	78	0.05
Gain_IG – Gain_CG		3.50				
Alpha: 0.05 Ho: No Difference Gain_IG = Gain Score of Intervention Group Gain_CG = Gain Score of Control Group						

Table III above indicates that the empirical t is 1.93 and the significant level is 0.05. The confidence level of the analysis is 95 percent. It means that there is the significant difference between the gain scores of the intervention group (25.50) and the control group (22.00). Table III also shows that the score difference is 3.50.

The diversity of instructional media on teaching economics is helpful for the teachers. The use of a film or movie in teaching economics will activate both right and left hemispheres of brain. Alfred Marshall (1920) remarked that 'the economics is a study of mankind in the ordinary business of life'. It means that economics can be found in various literatures including videos or movies.

Economics concepts that have been taught only through textbooks during the course of study can be presented and illustrated through films or movies. By watching the movie, the students can directly observe various illustrations depicting the chronology and the causes of the crisis. The presentation of "The Big Short" makes the students not quickly bored and makes them understand the materials better. Some students interviewed also stated that the movie makes them more understand the causes of the crisis. The experiment conducted shows that the use of "The Big Short" in teaching the economic crisis and the things triggered it is effective to make the course easier for students to understand it.

The effectiveness is shown by the increases of intervention group's average gain score that is higher than the control group. The interview also indicates that the use of the movie gives the students a clear illustration about the crisis. Despite getting positive responses from the students, the use of the movie also has constraints such as language used in the movie. The low English skills of the students make them sometimes not understands what the conversation between the actors of the movie means.

V. CONCLUSION

The use of movie to explain the economic crisis and its causes is shown effective. The result of the experiment shows that the intervention group has the better gain score than the control group. It is confirmed by the empirical t is 1.93 and it is significant at the level of 0.05. It means that there is the significant difference between the intervention group and the control group. The interview to the students also indicates that by watching a movie, the students are no longer bored when learning economics.

REFERENCES

[1] Hujair AH., S. (2009) Media Pembelajaran. Yogyakarta: Safiria Insania Press.

[2] Ruder, P. J. (2010). Teaching economics with short stories. *Australasian Journal of Economics Education*, 7(1), 20-30.

[3] Watts, M. (ed). (2003). The Literary Book of Economics. Wilmington, Delaware: ISI Books.

[4] Mateer, G. D., & Stephenson, E. F. (2011). Using film clips to teach public choice economics. *Journal of Economics and Finance Education*, 10(1), 28-36.

[5] Ghent, L., Alan G., and George L. (2010). The Economics of Seinfeld. http://yadayadayadaecon.com/.

[6] Gillis, M. T., & Hall, J. (2010). Using the Simpsons to improve economic instruction through policy analysis. The American Economist, 55(1), 84-92.

[7] O'Roark, B. (2017). Super-economics Man! Using superheroes to teach economics. *Journal of Economics Teaching*, 2(1), 51-67.

[8] Becker, W. E. (2004). "Good-bye Old, Hello New in Teaching Economics." *Australasian Journal of Economics Education*, 1: 5-17.

[9] Dixit, A. (2005). Restoring fun to game theory. *The Journal of Economic Education*, 36(3), 205-219.

[10] Mateer, G., D. (2005). Economics in the Movies. Mason, Ohio: Thomson South-Western.

[11] Sexton, R. L. (2006). Using short movie and television clips in the economics principles class. *The Journal of Economic Education*, 37(4), 406-417

[12] Mateer, G. D., & Li, H. (2008). Movie scenes for economics. *The Journal of Economic Education*, 39(3), 303-303.

[13] Crisp, A. M., & Mixon Jr, F. G. (2012). Pony distress: Using ESPN's 30FOR30 films to teach cartel theory. *Journal of Economics and Finance Education*, 11(1), 15-26.

[14] Al-Bahrani, A., & Patel, D. (2015). Using ESPN 30 for 30 to teach economics. *Southern Economic Journal*, 81(3), 829-842.

[15] Levey, B. (2015). Using Film Clips in the Classroom: Something Old, Something New. *Journal of Teaching and Learning with Technology*, 4(2), 41-50.

[16] Al-Bahrani, A., Holder, K., Patel, D., & Sheridan, B. J. (2016). The great digital divide: Using popular media to teach

economics. *Journal of Economics and Economic Education Research*, 17(2), 105.

[17] Cleveland, J., Holder, K., & O'Roark, B. (2016). The economics of The Hunger Games. *International Journal of Pluralism and Economics Education*, 7(2), 152-169.

[18] Mateer, G. D., & Vachris, M. A. (2017). Mad Max: travelling the fury road to learn economics. *International Journal of Pluralism and Economics Education*, 8(1), 68-79.

[19] Springer, S. P., & Deutsch G. (1998). Left Brain, Right Brain. San Francisco: W. H. Freeman.

[20] Salomon, G. (1979). Interaction of Media, Cognition, and Learning: An Exploration of How Symbolic Forms Cultivate Mental Skills and Affect Knowledge Acquisition. San Francisco: Jossey-Bass.

[21] Cowen, P. S. (1984). "Film and Text: Order Effects in Recall and Social Inferences." Educational Technology Research and Development 32: 131-144.

[22] Willingham, D.T. (2009). Why Don't Students Like School? San Francisco: Jossey-Bass.

[23] Luccasson, R. A., Hammock, M., & Thomas, M. K. (2011). "Teaching Macroeconomic Principles Using Animated Cartoons." The American Economist, 56(1), 38-47.

[24] Hall, J. (Ed.). (2014). Homer Economicus: The Simpsons and Economics. Palo Alto, CA: Stanford University Press.