

How the Use of PowerPoint Presentation Slides from Textbook Publishers is perceived by Accounting Students in Facilitating Learning Efficacy?

Zuraida Zuraida, *Ridwan Ibrahim

Department of Accounting, Faculty of Economics and Business, University of Syiah Kuala, Banda Aceh, Indonesia

*Corresponding author: ridwan.ibrahim@gmail.com

Abstract—PowerPoint presentations have become a popular aid in educational delivery. As such, textbook publishers have increasingly incorporating PowerPoint slides as part of textbooks supplemental materials. However, the effectiveness of the slides in the classroom remains a question. This study fills the gap and investigates how students perceive publisher-provided PowerPoint slides in promoting successful learning. This study uses a survey and two experimental tests to understand and confirm students' responses to the use of the teaching media. The sample of the study consists of 28 students enrolled in the Principles of accounting course in Semester I, 2018, at Faculty of Economics and Business of Syiah Kuala University, Indonesia. The results show that students perceive PowerPoint is useful for effective learning. Several students who felt the lack of benefits from using this instructional technology are related to the use of English in PowerPoint slides. Therefore, we conducted a sensitivity test by giving students pre-test and post-test after the slides were translated into Indonesian. This process confirms the main results. However, one must be cautious in generalizing these findings because this study has limitations in sample size, and sample characteristics e.g. lacking in English, thus future research may benefit from addressing those limitations.

Keywords—Textbook publishers; PowerPoint presentation; Teaching tools, Learning effectiveness, Accounting education.

I. INTRODUCTION

PowerPoint presentation has become a popular aid in educational delivery. As such, textbook publishers have increasingly incorporating such supplemental materials as their strategic marketing (Apperson, Laws, & Scepanzky, 2006; Kennett-Hensel, Sneath, & Pressley, 2007; Straumsheim, 2015). So far, it has worked well as its presence has been an important consideration by academics in textbook adoption decisions (Bargate, 2012; Kennett-Hensel et al., 2007; Smith & DeRidder, 1997; Smith & Muller, 1998).

Accordingly, many lectures at universities today use PowerPoint to provide course content and to attract the attention of their students. Prior studies have reported great enthusiasm among academics in using the presentation media, so that many universities have now equipped their classrooms with computers and projectors to facilitate PowerPoint presentation by lecturers (Apperson et al., 2006). The same phenomenon applies to the Faculty of Economics and Business (FEB) at Syiah Kuala University (Unsyiah) where this research was conducted. FEB, Unsyiah has long embraced computer technology in its classrooms, so these days; almost every classroom has a projector installed. The use of PowerPoint presentations during lectures has become a long tradition at FEB Unsyiah. Lecturers at FEB Unsyiah have used self-built PPT slides; or used that are available online; or used publisher-provided PowerPoint slides. However, despite the costly projection devices installed in many of classrooms, the effectiveness of using PowerPoint in lectures remains a big question because this field has not been widely explored in accounting education research, in particular in Indonesian accounting literature.

Globally, accounting research in this field is few (Szabo & Hastings, 2000) and researchers have reported inconclusive results. Several studies suggest that PowerPoint is useful (Bartsch & Cobern, 2003); enhances student learning experience (Savoy, Proctor, & Salvendy, 2009) but do not have an impact on final grades (Apperson et al., 2006; Apperson, Laws, & Scepanzky, 2008; Dalshad & Ziden, 2015; Feldmann & Rupert, 2012) or short/long-term memory of the contents (Nouri & Shahid, 2005). Thus, existing research indicates that incorporating multimedia into the accounting classroom does not confirm the effectiveness of student learning.

This study, therefore, attempts to fill the gap by investigating how students perceive the teaching tool in promoting successful learning. This study uses surveys to understand students' responses to the use of the teaching media. To confirm this perception, several additional tests were performed on 28 students enrolled in the Principle of Accounting course in Semester I, 2018. The results showed that students perceived that using PowerPoint was useful in effective learning.

This study contributes to the limited literature on the effectiveness of using PowerPoint presentation in lectures and to the best of our knowledge, this study is the first study investigating student's perception on the use of publisher-provided PowerPoint slides in lectures in Indonesia. However, one should be cautious in generalizing these findings because this study has limitations in sample size and participants specific characteristics, thus future research can benefit from addressing certain deficiencies of using PowerPoint in lectures.

The remaining of this paper is presented as follows. Section 2 reviews existing research on the effectiveness of using PowerPoint in classroom. This leads us to propose two hypotheses. Section 3 discusses the methodology used for this study, which is a combination of surveys and empirical design. Section 4 presents the results and discussions of the results. Section 5 summarizes the main findings, lists the limitations of research, and discusses future research potential.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

"Today, watching a business presentation without accompanying PowerPoint slides is like watching a film without sound" (Levasseur & Sawyer, 2006, p. 101.).

The use of PowerPoint slides in teaching at universities has been phenomenal and spreading. This trend is supported by various factors. For example, the participation of textbook publishers who have included structured, sequenced and high quality PowerPoint slides along with published textbooks. The convenience offered by PowerPoint is also one of the other reasons. Traditionally, lectures for accounting courses have to be involved with laboriously heavy work in the classroom on transcription of debits and credits as illustrations for students. Whereas integrating educational technology in accounting courses can definitely eliminate hard work and time, in both cases, PowerPoint presentations prove to be inherently useful.

Despite the popularity of PowerPoint, the accounting literature to date has offered relatively little insight into the benefits of using PowerPoint as an instruction tool. (Sugahara and Boland (2006) tried to suggest a reason behind this disintegration that researchers may have not in the same page with rapid pace of IT developments. Thus, literature has unable to keep up with the rapid development in IT advancement. Researchers may be very aware of this phenomenon and are bound to improve IT in accounting education. For instance, Stoner (1999) suggests that there seems to be a consensus among educators that the integration of information technology in the accounting education has become a necessity. This notion is also suggested by (Teeter, Madsen, Hughes, & Eagar, 2007) and (Lange et al., 2003). Thus, the use of IT media in the class has been well received. This explains that accounting education has used information technology as an integral part of the learning method,

In broad area of this research, current research on the use of PowerPoint can be classified into three categories. First, research on the benefits of using multimedia in education; second, determinants of PowerPoint's effectiveness and third, perceived effectiveness of PowerPoint from the student's perspective.

The first group of studies discussed the use of multimedia in educational delivery and recommended ways to improve its effectiveness. This research group in general shows that PowerPoint and other multimedia have been prevalent existence in lectures at university, however limited evident on their effectiveness (Feldmann & Rupert, 2012; Greer, Theuri, & Turner, 2012; Roberts, 2018; Zhang, Zhou, Briggs, & Nunamaker Jr, 2006)

The second group of studies consider that the effectiveness of PowerPoint presentations is determined by many influential factors thus they tried to decompose the analysis using those factors as independent variables. Savoy et al. (2009) look at the effect of PowerPoint presentations on student performance beyond overall exam score, which produced mixed results and decomposes overall quiz scores into the effect of auditory, graphical, and alphanumeric scores to uncover the effectiveness component of PowerPoint presentations. Using data collected from quizzes and questionnaires, they found that students like PowerPoint presentations compare to traditional presentations. However, they remember 15% less information received from lecturers during a PowerPoint presentation.

Another study that falls in the second research category is a review study by Levasseur and Sawyer (2006) who also decompose the PowerPoint effectiveness into: student reactions, learning outcomes, learning styles; and slide variation effects. They argue that computer-generated slides provide stimulating senses allowing instructors to move from static to dynamic instructional messages resulting in a more stimulating classroom experience. However Levasseur and Sawyer (2006) also argue that relevant theories suggest that the enjoyment is time limit, students enjoy when new media introduced and this novelty effect tend to diminish over time. Although, the arousal effect leads to increase attention, which ultimately improves learning, but for students with limited cognitive capacity, the effect may be too overwhelm that can impair learning. As a result, even though students find computer-generated slides stimulating, it may not always improved learning.

The third genre of research on the effectiveness of PowerPoint presentations is based on student perceptions; this is where this present study is located. There is a short-list of this type of research in the extant literature, several of them are listed here (Bartsch & Cobern, 2003; Burke & James, 2008; Dalshad & Ziden, 2015; Frey & Birnbaum, 2008; James, Burke, & Hutchins,

2006; Jordan & Papp, 2014); Sugahara and Boland (2006). Those studies reported that PowerPoint presentation in lectures is able to attract students' attention, which is an indication for successful learning. However, they report that student performance does not have a clear relationship with the use of PowerPoint presentations (Dalshad & Ziden, 2015) or even better in traditional lecture where PPT is not used (Amare, 2006).

Overall, it can be said that PowerPoint presentations (PPT) which were originally developed to improve learning through structured and interesting visual to attract the attention of the audience (Amare, 2006), to this date unfortunately, it has not fulfill the means. The various research findings have helped inform but by no means settle the debate over PowerPoint usefulness in aiding successful learning.

While there has been several research on the effectiveness of PPT in lectures in general, to date, we have found only two studies that examine on the effectiveness of publisher-provided PowerPoint slides which are conducted by Kennett-Hensel et al. (2007) and Nurlailia and Sulastris (2018), however both of the studies used different research design and group of participants. Considering this novelty position, we use several rationales to predict the outcome of our research.

Studies indicate that one of the main hurdles to effective lecture using PPT with incomplete content, uninteresting image, and unfitted illustrations for lecture topics (Schmaltz & Enström, 2014). Those flaws in PPT slides can hinder the reception of lectures by the audiences. Publisher-provided PowerPoint slides, however, has eliminated the poor content and bad appearance of the slides. Thus, it usually able to meet the requirement as Picture Superiority Effect which able to convey the meaning, more likely to understand and to remember (Roberts, 2018); able to attract student attention and to retain the information (Szabo & Hastings, 2000). This theory supports the position of publisher-provided PowerPoint slides to be effective for use in lectures. Based on the theory and discussions in prior segment, we propose the following two hypotheses:

H1: Students perceive that the use of publisher-provided PowerPoint slides grab their attention during the lecture.

H2: Students perceive that the use of PowerPoint presentation slides from Textbook publishers is helpful in improving their understanding of the topic.

The following section will provide the research design to test these two hypotheses.

III. METHOD

This study investigates students' perceived effectiveness of publisher-provided PowerPoint slides as instructional media by university lectures to deliver course materials. To capture students' perceptions of the use of such media, we conducted a survey and two experimental tests then compare the results to learn the consistency of results.

First, we gave students a two-page questionnaire that asked their perceptions on two aspects of the presentation slide: appearance and contents. To confirm the results, we conducted two additional tests: second and third set of tests. In the second test, we gave students a pre-test with five short essay questions about 'Adjusting Journal Entries' before a PowerPoint presentation on the topic, then after the presentation, students were asked to score their improvement in understanding the questions given in the pre-test. During the post-test, students were also asked whether the English used in the slides prevented their understanding. Considering the majority of students mentioned that English Language did limit their understanding of the PowerPoint presentation. We conducted another round of test, the third set of test on a different lecture date and topic. In this test, we gave students ten English grammar questions along with three questions on the Closing Entries before the lecturer began lecturing on that topic. Then the slides, which have been translated into Indonesian, were presented in the classroom. After the presentation, a post-test was conducted asking students what percentage of their understanding of the topic had improved in understanding the questions provided in the free-test.

The survey and the two sets of tests were conducted in different sessions of the same course, thus the same students participated in the tests. Quantitative data was collected through the above three-round of tests. The study was conducted at the undergraduate program of the Faculty of Economics and Business of Syiah Kuala University in Indonesia. The same lecturer administered the surveys. We distributed 28 questionnaires to the students from the Management Department that enrolled in the Principle of Accounting course in Semester I, 2018, in week 4 and week 5. The respondents were given time before and after class to complete their questionnaires or tests that were immediately collected.

In the survey, the questionnaire has 10 questions with five questions on the appearance of the slides and five questions on the content of the slides. All questions are set in positive manners and the respondents are given four choices of answer; 1 as completely agrees, 2 as agree, 3 as disagree and as completely disagree.

The survey was conducted non-anonymous that required the respondent to record their name and student ID number that enable matching of results. Of the 32 students enrolled in the class, five students did not attend classes on week 4 and week 5. Following Sugahara and Boland (2006) we removed the observations from the sample. This process left us with 28 remaining

observations; however, there were some missing data from that observation, as few students did not attend both classes in week 4 and week 5. Following Lowerison, Sclater, Schmid, and Abrami (2006), the missing data were replaced with the variable mean, this process retains all 28 observations in the dataset. Data was then analyzed to view the data distribution and characteristics. A further analysis were performed using analysis of ANOVA to investigate whether there is any difference between students perceptions in the first and the second sets of the tests. Results of this study are presented in the Results and Discussions Section.

IV. FINDINGS AND DISCUSSIONS

Given there are three independent sets of test involved in the data collection process; the survey on the use of PowerPoint in facilitating learning efficacy; the second and third sets of test on learning effectiveness using PowerPoint on two different topics, the results are presented in three tables preceded by Table I on Characteristics of Respondents.

Table I shows sample characteristics by gender. The sample consists of 21 female and 7 male students with relatively similar age range, female between 18-21 of age with mean value at 18.09524, whereas male between 18-19 of age with mean value at 18.14286. The number of students with prior accounting knowledge is much higher in female students consists of 16 female students with mean value .2380952 and 4 male students with mean value at .4285714. English proficiency is also higher in female students between 2-7 with mean value 4.47619 in test score and 3-6 for male students with mean value at 4.285714. Overall, it can be said that the majority of sample have prior accounting knowledge and relatively minimal English proficiency.

TABLE I. CHARACTERISTICS OF RESPONDENTS

	<i>Female</i>	<i>Male</i>	<i>Total</i>
Number of students or participants	21	7	28
Age (range and mean)	18-21 18.09.524	18-19 18.14.286	18-21 18.11.905
Students with prior accounting knowledge (Number and mean value)	16 .2380952	4 .4285714	20 .2857143
English test score (range and mean)	2-7 4.47619	3-6 4.285714	2-7 4.428571
English test score (frequency):			
2-3	4	2	6
4-5	11	4	15
6-7	6	1	7

Table II shows the results of the survey. The majority of participants, namely 62%, agreed that PPT was interesting and useful for learning efficacy and no participants fully disagreed with the statement. In fact, the number of participants who fully agreed and those who did not agree with the statement were the same number.

TABLE II. SURVEY RESULTS

<i>Category of Answer</i>	<i>Number of participants</i>	<i>Number Frequency</i>	<i>Percentage</i>
Completely agree	16	53	19
Agree	28	173	62
Disagree	23	54	19
Completely disagree	0	0	0
Total		280	100

Table III shows that both the PPT pre-test i.e. the test before PPT using English and Indonesian slides had relatively the same results in the minimum and maximum scores. This confirms that some students already have a good understanding beforehand based on accounting as shown in Table I. This is understandable that current accounting is also taught at the secondary school level in Indonesia.

TABLE III. DESCRIPTIVE STATISTICS

<i>Variable</i>	<i>Observation</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
English PPT pre-test score	28	65.89286	20.07641	10	100
Indonesian PPT pre-test score	28	60.03571	30.41501	10	100
English PPT % improved	28	27.85714	8.369762	10	45
Indonesian PPT % improved	28	60.21429	12.694	30	80

The table also shows that students consider that their understanding increases significantly, when attending lectures using PPT translated into Indonesian. The range of improvements is only between 10% and 45% of PPT slides that use English,

while PPT slides are translated into Indonesian, the understanding increases dramatically to 30%-80%. The results of analysis of one-way ANOVA, as shown in Table IV, gives significant differences in the two measures, PPT slides in English and PPT slides in Indonesian, indicating that students perform better on Indonesian PPT.

TABLE IV. ANALYSIS OF VARIANCE

Source	SS	DF	MS	F	Prob>F
Between groups	987.261905	10	98.7261905	1.86	0.1257
Within groups	904.166667	17	53.1862745		
Total	1891.42857	27	53.1862745		

Note: Bartlett's test for equal variances: $\chi^2(7) = 0.5018$ Prob> $\chi^2 = 0.999$

The findings of this study are consistent with the results of previous studies, that PowerPoint is favored by students (Apperson et al., 2008; Frey & Birnbaum, 2008; Savoy et al., 2009; Szabo & Hastings, 2000). Contrary to major findings in the literature that the use of PowerPoint has an effect on students' abilities in examinations, our results clearly, show that students feel that the use of PPT in the teaching process supports better understanding, in fact, the learning curve is quite significant when attending lectures that use PPT slides, which are translated into Indonesia.

V. CONCLUSIONS

The use of PowerPoint in university lectures is prevalent, yet its effectiveness remains under represented in the literature. This study fills the gap and investigates students' perceived effectiveness of publisher-provided PowerPoint slides. We use surveys and experimental designs in data collection. Sample is 28 students enrolled in the Principle of accounting course at FEB, Unsyiah in Semester I, 2018. The results show that students perceived that the use of PowerPoint is useful in effective learning. We performed sensitivity tests to assess the robustness of the main results and we gained confirmation.

This study has several limitations. The study uses small sample size; lack of controlled circumstances of participants, such as their lack of English, use of perceptual data in place of learning outcomes, and single-class student sample, thus future research can address these shortcomings.

ACKNOWLEDGEMENTS

This research is an independent research and self-funded. The authors would like to thanks the contributions made by Putra Maswan, S.E., during the data collection process; the reviewer and the participants of the 1st Aceh Global Conference (AGC) for their constructive comments.

REFERENCES

- Amare, N. (2006). To slideware or not to slideware: Students' experiences with PowerPoint vs. lecture. *Journal of Technical Writing and Communication*, 36(3), 297-308.
- Apperson, J., Laws, E., & Scepansky, J. (2006). The impact of presentation graphics on students' experience in the classroom. *Computers and Education*, 47(1), 116-126.
- Apperson, J., Laws, E., & Scepansky, J. (2008). An assessment of student preferences for PowerPoint presentation structure in undergraduate courses. *Computers and Education*, 50(1), 148-153.
- Bargate, K. (2012). Criteria considered by accounting faculty when selecting and prescribing textbooks—A South African study. *International Journal of Humanities and Social Science*, 2(7), 114-122.
- Bartsch, R., & Cobern, K. (2003). Effectiveness of PowerPoint presentations in lectures. *Computers and Education*, 41(1), 77-86.
- Burke, L., & James, K. (2008). PowerPoint-based lectures in business education: An empirical investigation of student-perceived novelty and effectiveness. *Business Communication Quarterly*, 71(3), 277-296.
- Dalshad, Z., & Ziden, A. A. (2015). Students' attitude towards the use of microsoft powerpoint presentation by lecturers in class and the relationship with their academic achievement. *Paripex - Indian Journal of Research*(7).
- Feldmann, D., & Rupert, T. (2012). *Advances in accounting education: Teaching and curriculum innovations* (Vol. 13): Emerald Group Publishing.
- Frey, B., & Birnbaum, D. (2008). Learners' perceptions on the value of PowerPoint in lectures. *Business Communication Quarterly*, 71(3), 277-296.
- Greer, B., Theuri, P., & Turner, L. (2012). The efficacies of utilizing a multimedia based instructional supplement on learners' cognitive skills. *The Accounting Educators' Journal*, 21(1).
- James, K., Burke, L., & Hutchins, H. (2006). Powerful or pointless? Faculty versus student perceptions of PowerPoint use in business education. *Business Communication Quarterly*, 69(4), 374-396.
- Jordan, L., & Papp, R. (2014). Powerpoint®: It's Not " Yes" or " No"--It's " When" and " How". *Research in Higher Education Journal*, 22.
- Kennett-Hensel, P., Sneath, J., & Pressley, M. (2007). Powerpoint and other publisher-provided supplemental materials: " Oh lord. what have we done?". *Journal for Advancement of Marketing Education*, 10.
- Levasseur, D., & Sawyer, K. (2006). Pedagogy meets PowerPoint: A research review of the effects of computer-generated slides in the classroom. *The Review of Communication*, 6(1-2), 101-123.
- Lowerison, G., Sclater, J., Schmid, R., & Abrami, P. (2006). Student perceived effectiveness of computer technology use in post-secondary classrooms. *Computers and Education*, 47(4), 465-489.
- Nouri, H., & Shahid, A. (2005). The effect of PowerPoint presentations on student learning and attitudes. *Global Perspectives on Accounting Education*, 2, 53.

- Nurlailia, W., & Sulastrri. (2018). *Students and lecturers' perception toward Powerpoint as an aid of accounting textbooks*. Paper presented at the KnE Social Sciences.
- Roberts, D. (2018). The engagement agenda, multimedia learning and the use of images in higher education lecturing: Or, how to end death by PowerPoint. *Journal of Further and Higher Education, 42*(7), 969-985.
- Savoy, A., Proctor, R., & Salvendy, G. (2009). Information retention from PowerPoint™ and traditional lectures. *Computers and Education, 52*(4), 858-867.
- Schmaltz, R., & Enström, R. (2014). Death to weak PowerPoint: Strategies to create effective visual presentations. *Frontiers in Psychology, 5*, 1138.
- Smith, K., & DeRidder, J. (1997). The selection process for accounting textbooks: General criteria and publisher incentives-A survey. *Issues in Accounting Education, 12*(2), 367.
- Smith, K., & Muller, R. (1998). The ethics of publisher incentives in the marketing textbook selection decision. *Journal of Marketing Education, 20*(3), 258-267.
- Straumsheim, C. (2015). A textbook market strategy that moves beyond professors. Retrieved from <https://www.insidehighered.com/news/2015/09/09/textbook-publishers-explore-direct-student-marketing-and-sales>
- Stoner, G. (1999). IT is part of youth culture, but are accounting undergraduates confident in It? *Accounting Education, 8*, 217-230.
- Sugahara, S., & Boland, G. (2006). The effectiveness of PowerPoint presentations in the accounting classroom. *Accounting Education: An International Journal, 15*(4), 391-403.
- Szabo, A., & Hastings, N. (2000). Using IT in the undergraduate classroom: Should we replace the blackboard with PowerPoint? *Computers and Education, 35*(3), 175-187.
- Teeter, S., Madsen, S., Hughes, J., & Eagar, B. (2007). The Perceptions and Experiences of Students in a Paperless Accounting Class. *Journal of Effective Teaching, 7*(1), 15-30.
- Zhang, D., Zhou, L., Briggs, R., & Nunamaker Jr, J. (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information and Management, 43*(1), 15-27.