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The Influence of Using Microsoft PowerPoint Learning Media on Learning Outcomes in Business Law Courses

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Abstract—This study aims to determine the effect of using Microsoft PowerPoint learning media on the learning outcomes of FKIP ULM Economics Education students class of 2018 and 2019 in the Business Law course. This type of research is quantitative research with the Quasi Exsperimental Design method. This study used a Non Equivalent Control Group Design. The research sample as a control class is the 2018 class of Economic Education students totaling 23 people and the 2019 class of Economic Education students as an experimental class totaling 28 people. The sampling technique was purposive sampling. The instruments used in this study were questions on the pretest and posttest. The data analysis techniques used in this study were normality test, homogeneity test, N-Gain test and T test using SPSS V. 16 for Windows. 16 for Windows. Based on the results of the T-test calculation, the sig. (2 tailed) of 0.280. Because 0.280 > 0.05 then H0 is rejected. This shows that there is no significant difference in the learning outcomes of Business Law courses between the control group (classes without using interactive learning media Microsoft PowerPoint) and the experimental class (classes that use interactive learning media Microsoft PowerPoint). It can be concluded that the use of Microsoft PowerPoint learning media on the learning outcomes of FKIP ULM Economics Education students class of 2018 and 2019 has no significant effect on Business Law courses.

Keywords— Learning Media, PowerPoint, Learning Outcomes, Course, Business Law

I. INTRODUCTION

The learning process is closely related to learning media, a tool that can help the teaching and learning process and serves to clarify the meaning of the messages conveyed, so that learning objectives can be achieved better and perfectly. (Kustandi & Sutjipto, 2013). Based on this explanation, it can be concluded that the current media concept is not only as a tool, but as a message channel that can represent the information conveyed by the teacher clearly and systematically. In the process of delivering messages in learning, the use of media affects learning outcomes (Pamungkas & Koeswanti, 2022).. Student learning outcomes are one indicator of the success of education that takes place in higher education and a learning process that is obtained and to state the level of success achieved by a student after going through learning activities.

The learning outcomes that have been achieved can be measured through learning progress tests obtained by students after they have learned by giving scores from various aspects. In relation to learning outcomes, (Sudijono, 2017) suggests that student learning outcomes must reveal aspects of thinking ability (dominant cognitive), aspects of values and attitudes (dominant affective) and aspects of skills (dominant psychomotor) inherent in each individual student. At the tertiary level, especially in the Economic Education Study Program, there is a Business Law course which is part of the lectures in the FKIP ULM Economic Education Study Program. The Business Law course studies the application of the principles of business law in the economic field.

To achieve learning outcomes in Business Law courses, there are factors that contribute to determining student learning outcomes, namely the ability of teaching staff to use learning strategies as a way to manage learning activities by coordinating subject matter and students, equipment and materials and time to achieve learning objectives that have been set to be effective and efficient. And also the right learning media as a means of introducing knowledge to students. The important role of learning media for teaching staff is that it can make it easier to direct students' attention, overcome the limitations of space, time and cost in teaching and can

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control the speed of student learning. (Zahwa & Syafi'i, 2022).

Based on the results of initial observations made by researchers to several students who have taken Business Law courses, obtained information that most of the teaching and learning process uses Microsoft PowerPoint learning media and group discussions, but the use of PowerPoint only displays a lot of writing from the material contained. Based on the results of initial observation information, it was found that there was a lack of variety in the use of media in learning Business Law. In addition to Microsoft PowerPoint, educators also use group discussions. Meanwhile, the use of interactive media is rarely used. The amount of writing in using Microsoft PowerPoint makes students less interested in learning. This was also seen during the teaching and learning process, many students did not participate in the discussion process given by the lecturer or groups discussing the material presented.

The importance of using Interactive-based learning media is because PowerPoint media is an attractive media to be used as a means of delivering communication, text processing capabilities and animations that beautify the display can be processed independently according to the creativity of its users and placed on the slide page. (Musfirotun, Sismulyasih, Rofiah, & Astuti, 2023).. Microsoft PowerPoint as a learning media that can present objects as examples in the form of images, animations or videos that are more interesting and memorable, so that learning can be felt by students to be more fun, not boring, and accelerate the learning process and can provide abstract material and concepts in a more concrete direction (Sakiah & Effendi, 2020). (Sakiah & Effendi, 2021).

Research by (Haq, Purwantono, Irzal, & Rahim, 2022) shows that the use of learning video media with PowerPoint for fabrication course practice is very effective in using in the lecture process to support student learning outcomes, this can be seen from the results of the practicality test that has been carried out on 20 students with an average result of 89.1%. In line with research (Suharti, Daryono, Abbasiah, & Masyitah, 2022) that there is an effect of using PowerPoint interactive media on improving student learning outcomes in physiological anatomy.

However, other studies have also revealed the lack of influence of PowerPoint media in improving student learning outcomes. Previous research by (Ögeyik, 2017) where this study compared the effectiveness of PowerPoint presentations (PPP) and conventional lecture/discussion sessions on the pedagogical content knowledge (PCK) of prospective English teachers at a university in Turkey. The results showed that the control and experimental groups showed progress, but the control group (CG) exposed to conventional lecture/discussion sessions performed better in the post-test because they were more informative, reasonable, and easy to understand. Research conducted by (Baker, Goodboy, Bowman, & Wright, 2018) also showed that there was no significant difference in learning using PowerPoint and

traditional methods when given the same learning material.

Based on the description above, researchers are interested in conducting research to find out how much influence the use of interactive learning media Microsoft PowerPoint has on learning outcomes in Business Law courses. In accordance with these references, the researcher conducted a study with the title "The Influence of Using Microsoft PowerPoint Learning Media on Learning Outcomes in Business Law Courses".

II. LITERATURE REVIEW

A. Learning Media

The definition of learning media is an intermediary or messenger from the sender to the recipient of the message. (Arsyad, 2016) The selection of a particular teaching method will affect the type of learning media that is appropriate, although there are still various other aspects that must be considered in choosing media. But basically the main function of learning media is as a teaching aid that also influences the climate, conditions and environment that are arranged and created by teaching staff. According to Hamalik (1986) in (Arsyad, 2016) states that: "The use of learning media in the teaching and learning process can arouse new desires and interests, arouse motivation and stimulation of learning activities and even have psychological effects on students.

B. Microsoft PowerPoint

The rapid development of information and communication technology is expected to help improve the quality of the existing learning process. This is very important because in the learning process, the teaching staff will need tools in the form of media to facilitate the teaching staff in delivering the content of the lesson to be delivered, one of which is through PowerPoint. PowerPoint is a software that will help in preparing an effective, professional and easy presentation. PowerPoint will help an idea become more interesting and clear if the packaging is able to produce interesting learning media such as text processing, color, images, sound, video and animation that can be processed creatively to support students in the learning process (Anggara, 2019).

C. Business Law Course

According to Munir Fuady, the definition of business law is a law enforcement effort that regulates how economic affairs or activities are carried out. Covering trade, finance, industry, and all matters relating to the exchange of goods and services. People who run businesses and who trigger the circulation of money are entrepreneurs. The objective of the Business Law course is that at the end of each stage students are able to explain general issues regarding the sources of law that exist in trade, explain the types of companies and the laws related to them. Explain the concepts contained in civil law. Explain the legal requirements of agreements, defaults and bonds. Analyze the abolition of the obligation. Analyze the subject and object of law. Apply codification in civil law.

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Identify the difference between trade, company and entrepreneur. Explain the concept of unification. Explain the law of domicile. Identify legal concepts. Apply the implementation of agreements included in the subject and object of law.

D. Learning Outcomes

In every learning process, educators must try to know the results of the learning process they carry out. This is important to know because these results can be a benchmark for educators to determine the extent to which the learning process carried out can develop the potential of students. That is, if the learning he does achieves good results, then the educator can certainly succeed in the learning process and vice versa. According to (Hamalik, 2016) evidence that someone has learned is a change in behavior in that person, for example from not knowing to knowing, from not understanding to understanding.

Assessment activities are one of the characteristics inherent in professional educators. Assessment of learning outcomes is an assessment carried out by teachers of learning outcomes to measure the level of achievement of learner competencies, and is used as material for preparing progress reports on learning outcomes, and improving the learning process.

III. METHODS

This research uses experimental research. Experimental research is used when researchers want to conduct experiments to find the effect of certain independent variables / treatment / treatment on the dependent variable / result / output. (Sugiyono, 2018). This *Experimental* Research uses the type of research *Quasi Exsperimental Design* with a quantitative approach. The design used in this study is *Non Equivalent Control Group Design* which in this study the experimental and control groups were not randomly selected. (Sugiyono, 2017).

Population is a generalization area composed of subjects and objects that have certain qualities and characteristics that are determined by researchers to be understood and studied and a conclusion is formed. (Sugiyono, 2017). The population of this study included all FKIP ULM Economic Education Students in 2018 and 2019 who took Business Law courses in the 2018/2019 academic year.

The sample is a representative or a small part of the population to be studied (Arikunto, 2013). The sample is divided into two parts, namely the first is the experimental group given the treatment of PowerPoint application-based media and the second group is the control group without the treatment of PowerPoint application-based media. In this study, a sample of 51 students consisting of Economic Education class of 2019 with 28 people as the experimental group and Economic Education class of 2018 with 23 people as the control group were taken.

The tests used in data collection are in the form of pretests and posttests. The questions given during the final test are the same questions as the questions given during the initial test. Data analysis techniques using Normality test, homogeneity test, N-Gain test and T-Test test. In

calculating the analysis of this instrument is assisted by using SPSS V. 16 for Windows.

The normality test is used to determine whether the data obtained has a normal distribution or not. (Solichah & Mariana, 2018). This normality test uses the Shapiro-Wilk formula with a significance level of 0.05.

The homogeneity test aims to determine whether the variance (diversity) of data from two or more groups is homogeneous (the same) or heterogeneous (not the same), in this study, the homogeneity test was used to determine whether the variance of the experimental class *post-test data* and the control class *post-test* data was homogeneous or not. (Wijayanto, Asrul, & Tiro, 2021).

The N-Gain test was conducted to determine the comparison of pre-test and post-test scores and to determine the effectiveness of the demonstration method used. In this study, the T-test technique has a use, namely to test the significance of a difference between two means that come from two distributions. (Winarsunu, 2015).

The t-test uses SPSS analysis and the criteria are:

If t count is less than t table, then Ho will be accepted. If t count is more than t table, then Ho will be rejected. Or

if Sig > α (0.05) then Ho will be accepted If Sig < α (0.05) then Ho will be rejected Hypothesis Description

Ho = there is no effect when before or after being given treatment

Ha = there is

Table 1. N-Gain Score Interpretation Categories

Persentase (%)	Interpretation
< 40	Ineffective
40-55	Less Effective
56-75	Effective Enough
>76	Effective

Source: Hake, R.R, 1999 cited by (Prisuna, 2021)

IV. RESULTS AND DISCUSSION

Initial data was collected by conducting a pretest which had previously been divided into two classes, the test was made in the form of the same question to both classes that would be carried out pretest and posttest. The questions tested have passed the validity and reliability tests, the level of difficulty of the questions, and the differentiating power of the questions. After completing the initial data or pretest, the researchers conducted experiments or treatment of the experimental class. The treatment carried out is to provide Business Law subject matter using Microsoft PowerPoint interactive learning media containing video, audio, images and writing to make learning more interesting. After the experiment was carried out, the researchers conducted a test again, in other words, a posttest with the same questions between the two classes which resulted in the following.

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Table 2. Data obtained

Description	Pretest		Posttest	
	Eksperimen	Kontrol	Eksperimen	Kontrol
Highest	75	80	100	100
Score				
Lowest	36	26	65	65
Score				
Average	63.47	62.67	82.53	77.93
Standard	11.332	14.251	11.704	11.183
Deviation				

To find out whether the data from each variable is normally distributed or not, a normality test is carried out. The data shows that the *pre-test* can be seen that the experimental class obtained a significance value of 0.19 and the control class obtained a value of 0.18. These results show that the significance value of the experimental class and control class> 0.05, it can be concluded that the data from the *pre-test* results of the experimental and control classes are normally distributed. In the *post-test* results data, it can be seen that the experimental class obtained a significance value of 0.308 and the control class obtained a value of 0.053. These results show that the significance value of the experimental class and control class> 0.05, it can be concluded that the data from the *post-test* results of

the experimental and control classes are normally distributed.

Furthermore, the homogeneity test is carried out, based on the significance value (Sig.) *Based On Mean of* 0.751> 0.05, so it can be concluded that the variance of the experimental class *post-test* data and the control class *post-test* data is the same or homogeneous.

The average N-Gain *score* for the experimental class (demonstration method) was 51.1695 or 51%, including in the less effective category, with a minimum N-Gain score of 3.85% and a maximum of 100%. Meanwhile, the average N-Gain score for the control class was 38.4839 or 38.5%, including in the ineffective category, with a minimum N-Gain score of 0% and a maximum of 100%. So it can be concluded that the use of Microsoft PowerPoint learning media is less effective on the learning outcomes of FKIP ULM Economics Education students class of 2019 in the Business Law course. While the use of classes without Microsoft PowerPoint learning media is not effective on the learning outcomes of FKIP ULM Economics Education students class of 2018 in the Business Law course.

Furthermore, a t-test was conducted to test the significance

Independent Samples Test Levene's Test for Equality of Variances t-test for Equality of Means 95% Confidence Interval of the Difference F T Dr Sig. (2-Mean Std. Error Sig. Lower Upper tailed) Difference Difference .103 .751 1.101 28 .280 4.600 4.180 -3.962 3.162 Equal variances

.280

4.600

Table 3. Results of t-test

Based on table 3, it is known that the Sig. (2-tailed) value of 0.280 and the value of 0.280> 0.05 then H0 is accepted, this indicates that learning by using Microsoft PowerPoint media in the experimental class there is no significant difference with the control class that does not use Microsoft PowerPoint media.

1.101

27.942

assumed Equal

variances not assumed

The results of this study are in line with research conducted by (Ögeyik, 2017) where this study compared the effectiveness of PowerPoint presentations (PPP) and conventional lecture/discussion sessions on the pedagogical content knowledge (PCK) of prospective English teachers at a university in Turkey. The results showed that both control and experimental groups showed progress, but the control group (CG) exposed to conventional lecture/discussion sessions performed better in the post-test because they were more informative, reasonable, and easy to understand.

Research conducted by (Baker et al., 2018) also showed that there was no significant difference in learning using PowerPoint with traditional methods when given the same learning materials. In a study by (Worthington &

Levasseur, 2015) it was found that there was an adverse impact on course performance for students in using copies of PowerPoint slides.

-3.963

3.163

4.180

According to Bent Meier Sorensen (2015) in an article entitled "Let's Ban PowerPoint in Lectures - It Makes Students More Stupid and Professors More Morose" as cited by (Medawatte, 2021) mentioned that when lectures use PowerPoint it can kill students' critical thinking. Research by Robert A. Bartsch as cited by (Ghosh, 2017) shows that student quiz results are low when using PowerPoint presentations that use image items and sound effects.

PowerPoint learning media is most widely used at university level. PowerPoint not only influences the way we present and teach, it also influences how we think, learn and understand. (Milani, 2023). When the use of PowerPoint is not varied with other methods and media, learning will feel boring. (Prasetya, Rasmawan, & Hadi, 2021).. In addition, when powerpoint slides are spent conveying all the information, it causes a lack of interaction between teachers and students. (Amir, 2015).

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Therefore, PowerPoint media is used as a tool, not as the center of teaching. The integration of other teaching methods such as group discussions, case studies, and project-based learning, can help reduce reliance on PowerPoint and create a richer and more interactive learning experience. According to (Ögeyik, 2017) educators need to consider the use of technology in the classroom and its suitability to learning objectives and student preferences.

V. CONCLUSION

Based on the analysis of the results and discussion, there is no significant difference between the learning outcomes of Business Law courses between the control group (classes without using Microsoft PowerPoint) and the experimental class (classes that use Microsoft PowerPoint interactive learning media). This is indicated by the Sig. (2-tailed) value of 0.280 and the value of 0.280> 0.05 then H0 is accepted. It can be concluded that the use of Microsoft PowerPoint learning media on the learning outcomes of FKIP ULM Economics Education students class of 2018 and 2019 has no significant effect on the Business Law course. Researchers suggest conducting further research by expanding the sample and research time to ensure the applicability of these results more generally.

REFERENCES

- Amir, M. T. (2015). Inovasi Pendidikan Melalui Problem Based Learning: Bagaimana Pendidik Memberdayakan Pembelajar di Era Pengetahuan. Jakarta: Kencana.
- Anggara, A. P. (2019). Pengembangan Media Pembelajaran Powerpoint Untuk Meningkatkan Kognitif dan Kemampuan Sosial Anak Usia Dini. *Jurnal Teologi Berita Hidup*, 2(1), 11–19. doi:10.38189/jtbh.v2i1.18
- Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Jakarta: PT. Rineka Cipta.
- Arsyad, A. (2016). *Media Pembelajaran*. Jakarta: PT Rajagrafindo Persada.
- Baker, J. P., Goodboy, A. K., Bowman, N. D., & Wright, A. A. (2018). Does teaching with PowerPoint increase students' learning? A meta-analysis. *Computers and Education*, 126(June), 376–387. doi:10.1016/j.compedu.2018.08.003
- Ghosh, S. K. (2017). Cadaveric dissection as an educational tool for anatomical sciences in the 21st century. *Anatomical Sciences Education*, 10(3), 286–299.
- Hamalik, O. (2016). *Proses Belajar Mengajar*. Jakarta: Bumi Aksara.
- Haq, H., Purwantono, Irzal, & Rahim, B. (2022). Pengaruh Penggunaan Media Pembelajaran Berbasis PowerPoint Dengan Video Dan Animasi Terhadap Hasil Belajar Pada Mata Kuliah Fabrikasi. *Jurnal Vokasi Mekanika* (*VoMek*), 4(1), 89–93. doi:10.24036/vomek.v4i1.310

- Kustandi, C., & Sutjipto, B. (2013). *Media Pembelajaran: Manual dan Digital Edisi Kedua*. Bogor: Ghalia Indonesia.
- Medawatte, D. (2021). The Academic Displaced: The Eviction of the 'Legal Educator' from Pedagogy, Curriculum, and the Profession. *SSRN Electronic Journal*, 20(October), 1–12. doi:10.2139/ssrn.3752196
- Milani, M. (2023). ACADEMIC TEACHING: ARE WE STILL DYING BY POWERPOINT? In EDULEARN23 Proceedings (pp. 5301–5305).
- Musfirotun, R., Sismulyasih, N., Rofiah, S. N. H., & Astuti, N. F. (2023). *Platform Belajar Aktif:* "Menerobos Batasan Dengan Media Pembelajaran Interaktif". Semarang: Penerbit Cahaya Ghani Recovery.
- Ögeyik, M. C. (2017). The effectiveness of PowerPoint presentation and conventional lecture pedagogical content knowledge attainment. **Innovations** inEducation and **Teaching** International, 54(5), 503-510. doi:10.1080/14703297.2016.1250663
- Pamungkas, W. A. D., & Koeswanti, H. D. (2022). Penggunaan Media Pembelajaran Video Terhadap Hasil Belajar Siswa Sekolah Dasar. *Jurnal Ilmiah Pendidikan Profesi Guru*, 4(3), 346–354. doi:10.23887/jippg.v4i3.41223
- Prasetya, D., Rasmawan, R., & Hadi, L. (2021).

 Pengembangan Chemistry Quartet Card (Chemqurca) Pada Materi Sistem Koloid Di Sma Negeri 8 Pontianak. *Jurnal Education and Development*, 9(2), 36–41.
- Prisuna, B. F. (2021). Pengaruh Penggunaan Aplikasi Google Meet terhadap Hasil Belajar. *Jurnal Penelitian Ilmu Pendidikan*, *14*(2), 137–147. doi:10.21831/jpipfip.v14i2.39160
- Sakiah, N. A., & Effendi, K. N. S. (2021). Analisis Kebutuhan Multimedia Interaktif Berbasis PowerPoint Materi Aljabar Pada Pembelajaran Matematika SMP. *JP3M* (*Jurnal Penelitian Pendidikan Dan Pengajaran Matematika*), 7(1), 39–48. doi:10.37058/jp3m.v7i1.2623
- Solichah, L. A., & Mariana, N. (2018). Pengaruh Media Pop Up Book terhadap Hasil Belajar Siswa pada Mata Pelajaran Matematika Materi Bangun Datar Kelas IV SDN Wonoplintahan II Kecamatan Prambon. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, 6(9), 1537–1547. Retrieved from https://ejournal.unesa.ac.id/index.php/jurnal-penelitian-pgsd/article/view/24196
- Sudijono, A. (2017). *Pengantar Evaluasi Pendidikan*. Jakarta: PT Raja Grafindo.
- Sugiyono. (2017). Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.
- Sugiyono. (2018). *Metode Penelitian Kuantitatif*. Bandung: Alfabeta.
- Suharti, Daryono, Abbasiah, & Masyitah, D. (2022). Media Interaktif dan PowerPoint terhadap Motivasi dan Hasil Belajar Anatomi Fisiologi Mahasiswa.

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- Fazrin, M., Rahmatullah, M., Hasanah, M., & Ratumbuysang, M. F. N. G. (2024). The Influence of Using Microsoft PowerPoint Learning Media on Learning Outcomes in Business Law Courses. TEPIAN, 5(1). 24-29
 - *Jurnal Keperawatan Silampari*, 5(2), 796–803. doi:10.31539/jks.v5i2.3466
- Wijayanto, S., Asrul, A., & Tiro, A. R. (2021). Pengaruh Metode Demonstrasi terhadap Hasil Belajar IPA Kelas V MI-AL Ma'arif Kota Sorong. *Jurnal Papeda: Jurnal Publikasi Pendidikan Dasar*, 3(1), 62–68
 - doi:10.36232/jurnalpendidikandasar.v3i1.778
- Winarsunu, T. (2015). *Statistik dalam Penelitian Psikologi dan Pendidikan*. Malang: UMM Press.
- Worthington, D. L., & Levasseur, D. G. (2015). To provide or not to provide course PowerPoint slides? the impact of instructor-provided slides upon student attendance and performance. *Computers and Education*, 85(December), 14–22. doi:10.1016/j.compedu.2015.02.002
- Zahwa, F. A., & Syafi'i, I. (2022). Pemilihan Pengembangan Media Pembelajaran Berbasis Teknologi Informasi. *Equilibrium: Jurnal Penelitian Pendidikan Dan Ekonomi*, 19(01), 61–78. doi:10.25134/equi.v19i01.3963