



Multimedia-Based Learning Media in Increasing Spss Student Learning Independence

Tedi Rusman¹(✉), Mutiasari Nur Wulan², Nurdin¹, Riyan Yuliyanto¹,
and Gilang Ramadhan¹

¹ Economic Education, Lampung University, Bandar Lampung, Lampung, Indonesia
{tedi.rusman,nurdin.1960}@fkip.unila.ac.id, riyanyjr5@gmail.com,
gilangnotonegoro@gmail.com

² Faculty of Economics and Business, Lampung University, Bandar Lampung, Lampung,
Indonesia
mutiasari.nurwulan@feb.unila.ac.id

Abstract. Students in carrying out the preparation of the final project still often experience difficulties both in terms of data processing and interpretation of research data. The difficulties experienced by these students are due to lack of experience in conducting research and students are not fully aware of the media and operate the media that can assist in processing research data. This study aims to increase the use of SPSS learning multimedia for student learning independence and to determine the effectiveness of SPSS learning multimedia in terms of increasing student learning independence. The type of research that will be carried out is a quasi-experimental research method. This research was conducted on fourth semester students at the University of Lampung. The results showed that the pre test results were 51.09 while the post test results were 81.25 so it can be analyzed that there was an increase of 30.16 in student learning independence.

Keywords: Independent Learning · Multimedia · SPSS

1 Preliminary

In the current era of digital technology development, all work requires what is called media technology, the use of technological media certainly makes work easier because it can be used both from home and outside the home [1]. This has a very practical impact on the education sector, namely changes in the direction of learning that must be modified with technology. Technology has brought a shift in learning from face-to-face to online learning or web-based learning.

With this new policy regarding online learning, educators are required to innovate in learning activities so that students can still carry out learning at home [2]. In fact, online learning is usually given to students with enough homework, so the teaching process becomes ineffective. Even the results of other studies show that students are better prepared for offline learning. This is because students often experience confusion with the material presented by educators.

Statistics is one of the important sciences in various branches of science both in understanding and applying theories such as in the world of education, social, politics, and economics, all of which require statistical science [3]. The contribution of statistics in science can be said to be large because with statistics it is possible to test theories that can even find new theories expressed through statistical models or in the form of arguments based on statistics.

In terms of data processing using quantitative data, it can be used in quantitative data analysis using the Statistical Product and Service Solutions (SPSS) program media. The SPSS program is one of the programs devoted to processing statistical data. This program can be said to be reliable in conducting tests and analyzing statistical data so that it can help researchers [4].

From the findings of the team of writers in the field, especially in online learning, there are still many final year students of the Faculty of Teacher Training and Education, University of Lampung who have not been able to use SPSS to process research data related to the results of the Final Semester Exams and the completion of the final project. When the final project they use the type of quantitative research. This causes them to prefer to use data processing services for their duties because they do not understand and how to use the SPSS program or other data processing programs.

Multimedia learning is considered more effective because it is able to complement learning with models, exercises, reference tools, simulation systems and environments, tests, and complex calculations [5]. Multimedia is an electronic learning media that is widely used to combine media in the form of text messages, images, sounds, videos, and animations [6]. Using computer-based learning multimedia can also make learning more memorable for participants for the material being studied [7]. Based on the problems discussed above, the researchers wanted to conduct a study entitled "SPSS Multimedia Learning as an Effort to Improve Student Learning Independence".

2 Research Methods

The research method used is experimental research. The reason the researchers used the experiment was because the purpose of this study was to determine the impact of using SPSS on multimedia learning as an effort to increase student learning independence.

The experiment used by this researcher can be classified as a quasi-experiment because it cannot meet one of the experimental criteria that should be, namely random sampling of the study. To minimize the influence of irrelevant variables, the pair-matching method is used [8]. The design used in this study is a pre-experiment (non-design), which is not a real experiment because there are external variables that also affect the formation of the dependent variable (dependent variable). While the form of the design is "pre-test and post-test one group design" i.e. the study only uses one experimental class without any comparison class or control class.

Study this located in the Faculty Teacher Training and Education, University of Lampung. Experimental technique used is "One Group Pre-test-Post-test Design" i.e. design research started with pre-test then ended with post-test after given treatment. Sample study as many as 20 active students follow training by routine.

3 Results and Discussion

Multimedia learning is a learning media that prioritizes the activeness of students. Multimedia usually utilizes a computer that allows users to navigate, interact, and communicate [9]. Multimedia can combine various types of digital media such as writing, images, sound, and video into integrated interactive applications [10]. Of course this can be adjusted to the development of students, school conditions, and learning objectives.

SPSS learning multimedia as effort increase independence study intended student _ for increase Skills data processing through student SPSS application. Study this use design design quasi experimental (pretest-posttest non equivalent control group design). Study this conducted for obtain data as destination study namely: 1). Develop knowledge through SPSS learning multimedia as a effort increase Skills data processing through student SPSS application. 2). Knowing ability data processing through SPSS students in line with destination that, researcher To do treatment and do pre-test and post-test. In looking at the effectiveness obtained by researchers using SPSS in processing the data. The calculation results obtained through the pre-test and post-test can be seen in the Table 1.

Based on the table, it can be seen that the results of the t test show the average value (mean) of the pre-test of 51.09. Meanwhile, in the post test, it can be seen that the results of the t test show the average value (mean) of the pre test of 81.25. From the table the results of the pre test and post test can be seen the difference in student learning outcomes with an increase of 30.16. Thus, it can be said that the use of multimedia learning is effective to increase student learning independence.

The use of multimedia properly and appropriately will provide many benefits for both teachers and students. The benefits that can be obtained in the use of multimedia are that learning becomes interesting, more interactive, learning time efficiency, learning quality can be increased, and the teaching and learning process is carried out flexibly anywhere and anytime, and students' learning attitudes can be improved [11].

The use of learning multimedia that is useful for deepening knowledge both from several branches of science is no exception for education which can bring up new considerations in using learning multimedia. In the results of data processing carried out by researchers in the implementation of training on the use of SPSS multimedia in student learning independence, there is a difference in the final results (posttest) from the initial results (pretest) with a drastic increase in results after the training, so we can see that the

Table 1. Results of Pre-Test and Post-Test scores

Pre-Test Score		
<i>Class</i>	<i>Total (N)</i>	<i>Average (Mean)</i>
Experiment	20	51.09
Post Test Score		
<i>Class</i>	<i>Total (N)</i>	<i>Average (Mean)</i>
Experiment	20	81.25

training carried out interesting and effective to use SPSS learning multimedia in terms of student learning independence with increased results.

This SPSS multimedia is used for fourth semester students where a pre-test is carried out before treatment is carried out. The results of the pre-test show that students' knowledge tends to be low and they do not understand how to use the SPSS application as a medium for processing research data. After the treatment is completed, students are then given a post test which aims to measure how far the knowledge and results of the learning that have been carried out. The post test results showed a significant increase in students' knowledge.

4 Conclusion

Based on the results of the SPSS Learning Multimedia research as an effort to improve student learning independence, several conclusions can be drawn:

- SPSS learning multimedia for students is very necessary and useful in the process of completing students' final assignments.
- Participants in this training, namely Lampung University students, were very active and enthusiastic about participating in the training. So that the research implementation process can take place well and the objectives of the activities can be achieved.
- The results of the pretest show a value that is still relatively low. Participants consisting of Lampung University students totaling 20 people only got a score of 51.09.
- Post test results after participating in data processing training activities using SPSS multimedia are 81.25
- There is an increase in the score from pre test to post test of 30.16. Based on this, it can be concluded that there is an increase in knowledge about data processing using SPSS learning multimedia.

References

1. Pramesti, D., & Hendrik, M. (2021). Praktik Berwirausaha Secara Daring dalam Pembelajaran Kewirausahaan pada Mahasiswa. *Edukatif: Jurnal Ilmu Pendidikan*, 3(6), 4605–4613.
2. Anugrahana, A. (2020). Hambatan, solusi dan harapan: pembelajaran daring selama masa pandemi covid-19 oleh guru sekolah dasar. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, 10(3), 282–289.
3. Ismail, R., & Safitri, F. (2019). Peningkatan kemampuan analisa dan interpretasi data mahasiswa melalui pelatihan program SPSS. *JMM (Jurnal Masyarakat Mandiri)*, 148–155.
4. Irawan, J., Handayani, A. A. T., & Zohri, L. H. N. (2021). Operasionalisasi IBM SPSS 21 untuk Meningkatkan Kemampuan dan Keterampilan Olah Data.
5. Priyanto, D. (2009). Pengembangan multimedia pembelajaran berbasis komputer. *INSANIA: Jurnal Pemikiran Alternatif Kependidikan*, 14(1), 92–110.
6. Shalikhah, N. D. (2017). Media pembelajaran interaktif lectora inspire sebagai inovasi pembelajaran. *Warta LPM*, 20(1), 9-16.

7. Rais, M. (2015). Pengaruh penggunaan multimedia presentasi berbasis prezi dan gaya belajar terhadap kemampuan mengingat konsep. *Jurnal MEKOM (Media Komunikasi Pendidikan Kejuruan)*, 2(1), 10-24.
8. Jogiyanto, H. M. (2004). *Metodologi penelitian bisnis*. Yogyakarta: BPFE–UGM.
9. Rusman, Riyana C., Kurniawan. (2012). *Pembelajaran berbasis teknologi informasi dan komunikasi : mengembangkan profesionalitas guru*. Jakarta : Rajawali Pers.
10. McEwan, T., & Cairncross, S. (2004). Evaluation and multimedia learning objects: towards a human-centred approach. *Interactive Technology and Smart Education*.
11. Kulasekara, G. U., Jayatilleke, B. G., & Coomaraswamy, U. (2008). Designing interface for interactive multimedia: learner perceptions on the design features. *Asian Association of Open Universities Journal*.

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