The Effectiveness of the Utilization of Epic Pen
in Mathematics Education Course 2

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Abstract: This study aims to describe the effectiveness of the use of epic pens in mathematics education 2 courses. The method of this research is quantitative descriptive. The subjects of this study are 26 students of the Elementary Education Study Program (PGSD) Semester five of the Open University. The instrument used was 8 questions. The results of the study obtained an average score on a scale of five, which was 4.37. These results when consulted with the Weighted Means Score (WMS) table in the range of 4.01 - 5.00 indicate a very effective category. So it can be concluded that the epic pen is very effective in the mathematics education course 2 PGSD semester five of the Open University.

Keywords: Effectiveness, Epic Pen, Mathematics, Education.

Abstrak: Penelitian ini bertujuan untuk mendeskripsikan efektivitas pemanfaatan epic pen pada mata kuliah pendidikan matematika 2. Metode penelitian ini adalah deskriftif kuantitatif. Subjek penelitian ini adalah 26 mahasiswa Program Studi Pendidikan Dasar (PGSD) Semester lima Universitar Terbuka. Instrumen yang digunakan yaitu 8 pertanyaan. Hasil penelitian perolehan skor rata-rata pada skala lima yaitu 4,37. Hasil tersebut jika dikonsultasikan dengan tabel Weighted Means Score (WMS) pada rentang 4,01 - 5,00 menunjukkan kategori sangat efektif. Maka dapat disimpulkan bahwa epic pen sangat efektif digunakan pada mata kuliah pendidikan matematika 2 PGSD semester lima Universitas Terbuka.

Kata Kunci: Efektivitas, Epic Pen, Matematika, Pendidikan.

Introduction

The development of information and communication technology today has provided many conveniences in various aspects of life, including in the field of education (Huraerah et al., 2024). Technology has become an important tool in the learning process, both in the context of primary education and higher education (Fricticarani et al., 2023). In the digital era like now, lecturers and students are required to be more creative and innovative in utilizing various learning support applications to create a more effective and interesting learning atmosphere (Revola, 2023).

Mathematics learning in college, especially in the Mathematics Education 2 course, students' understanding of abstract and logical concepts is often a challenge in itself (Hawkins et al., 2025). Conventional delivery methods that rely solely on slide presentations or oral explanations are not always able to bridge these difficulties (Ansya et al., 2025). Therefore, interactive media is needed that can help tutors explain the material in a more concrete and visual way (Wulandari et al., 2023). One of the media that can be used is the Epic Pen, which is a software that allows users to write, draw, and mark directly on the computer screen during the learning process. This epic pen provides flexibility for lecturers to emphasize specific parts of the material, as well as visualize mathematical ideas in real-time. Thus, Epic Pen can increase student engagement and clarify the delivery of material.

Based on the results of the briefing of TTM and Tuweb tutors for the 2024 semester Even on April 9, 2025 at the UPBJJ UT Bengkulu Meeting Room. It was found that for lecture activities at the Open University, there are those who carry out face-to-face and some use the website. Lectures at the University are open using Web-based tutorials (Halim et al., 2024)Face-to-face (Wardana, 2024) and online tutorials (Mikaresti et al., 2023), specifically face-to-face are certain courses only (Sari et al., 2024). The application used for the webinar tutorial (tuweb) of the open university uses the microsoft teams application (Riyanto et al., 2023). Microsoft Teams is a collaboration and communication app developed by Microsoft as part of the Microsoft 365 service (Pratama & Mansur, 2023). Teams is designed to help teams and organizations work together efficiently through features like (Berampu & Nurbaiti, 2024): 1) Chat, For communication between individuals or groups, either in person (real-time) or indirectly, 2) Meetings, Allowing users to make video or audio calls, including webinars and online conferences, 3) Teams and Channels, Collaboration structures where each team has a channel for a specific topic or project, facilitating grouping discussions, 4). File Sharing, Integration with OneDrive and SharePoint allows users to share, save, and edit documents collaboratively, 5) Application Integration, Can connect with various other applications such as Word, Excel, PowerPoint, Planner, Trello, and third-party applications, 6). Security and Management, Supports multi-factor authentication, data encryption, and access control for information security. This mathematics education 2 course is carried out on a website.

This research not only aims to determine the effectiveness of the use of epic pens in mathematics education 2 courses, but also to provide input for the development of technology-based learning strategies in universities. It is hoped that the results of this research can encourage the use of other interactive applications and improve the quality of education, especially in mathematics learning which has been considered difficult and boring by some students.

Method

This study uses a descriptive quantitative approach. This approach is used to describe the use of Epic Pen in learning the Mathematics Education 2 course systematically and measurably through numerical data obtained from questionnaires (Wajdi et al., 2024). The goal is to find out the extent to which the Epic Pen is used and how students respond to its effectiveness in learning. The population in this study is all students who take the Mathematics Education 2 course in the even semester of the 2024/2025 academic year at the Elementary School Teacher Education Study Program, Open University. The sample was taken by

purposive sampling, namely students who actively participated in lectures and active PGSD students in semester V. The number of samples in this study was 26 respondents.

Data Collection Technique, Data is collected using a questionnaire (closed questionnaire) consisting of several statements that measure aspects: 1) Ease of understanding explanations using epic pens, 2) Tutors' activeness in explaining the material using epic pens, 3) Writing or scribbles from epic pens, 4) Impact on material comprehension, 5) Visual appearance of epic pens, 6) Student motivation, 7) Use of epic pens in courses, and 8). The use of the Epic Pen helps to clarify the tutor's explanation on the presentation screen. The scale used is the Likert scale of 1–5 (strongly disagree to strongly agree). Data Analysis Technique, Data obtained from questionnaires are analyzed quantitatively using descriptive statistics, namely: Percentage.

Result and Discussion

Results

The number of respondents recorded through google form in this study was 26 respondents. The details of the percentage of respondents are as follows:

a. Epic pen makes it easier for me to understand the tutor's explanation in the mathematics education course 2
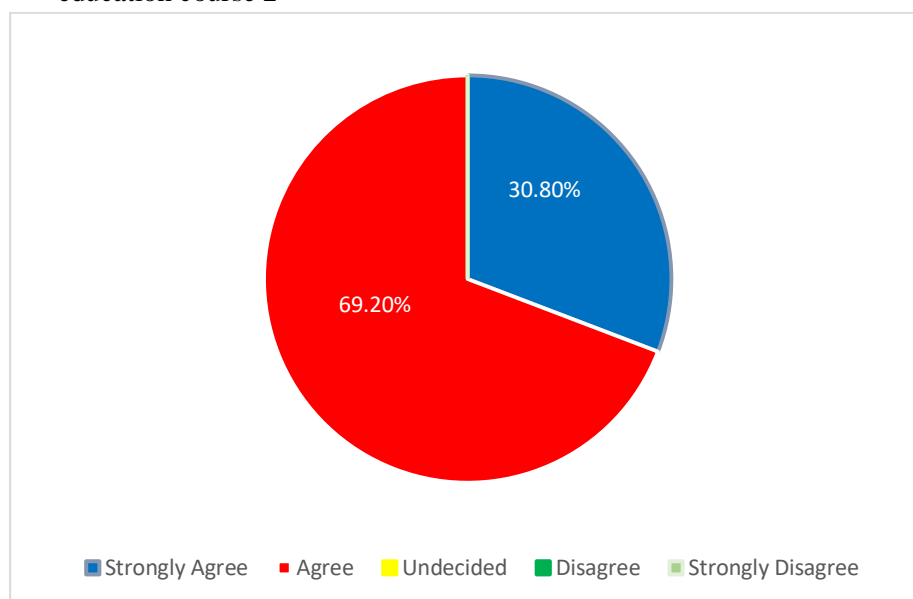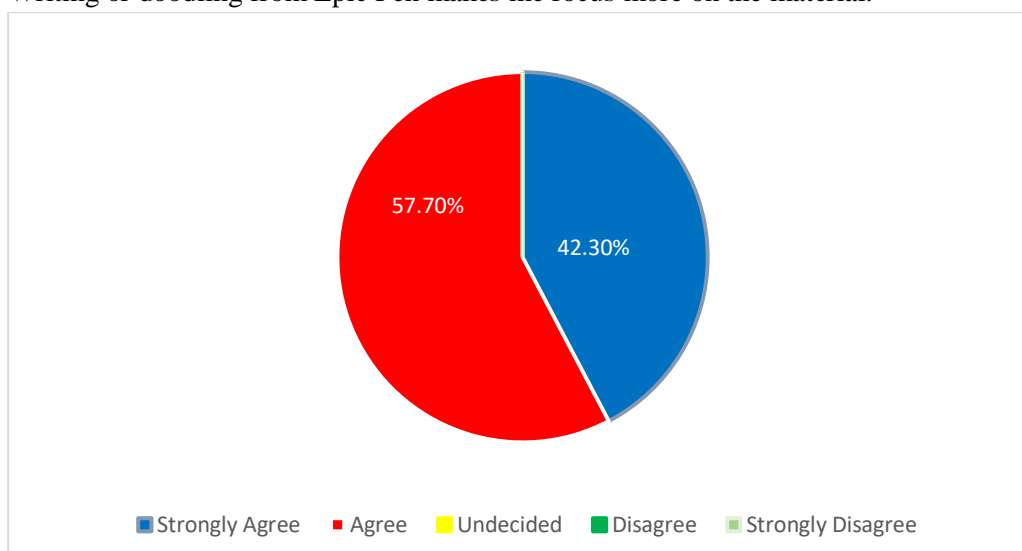

Based on the diagram above, it is known that 8 respondents or 30.8% strongly agree, 18 respondents or 69.2% agree, 0 respondents or 0% agree answers, 0 respondents or 0% disagree and 0% disagree 0 respondents or 0%. From this acquisition, it can be seen that students tend to answer yes "Epic pen makes it easier for me to understand the explanation of the tutor in the mathematics education course 2".

b. Tutors actively use the Epic Pen when explaining material
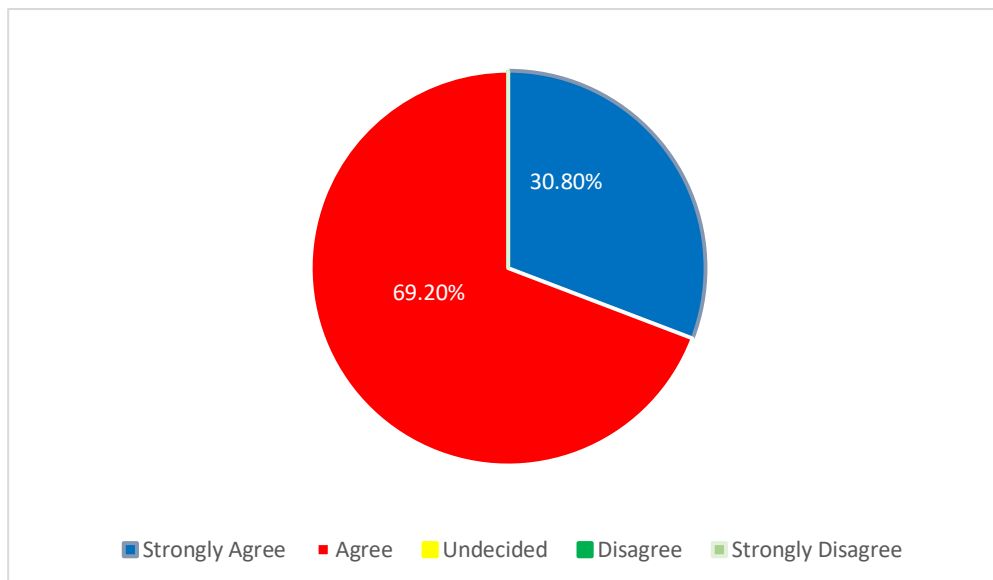
Based on the diagram above, it is known that 8 respondents or 30.8% strongly agree, 18 respondents or 69.2% agree, 0 respondents or 0% agree answers, 0 respondents or 0% disagree and 0% disagree 0 respondents or 0%. From these findings, it can be seen that students tend to answer yes "Tutors actively use Epic Pen when explaining material"

c. Writing or doodling from Epic Pen makes me focus more on the material.
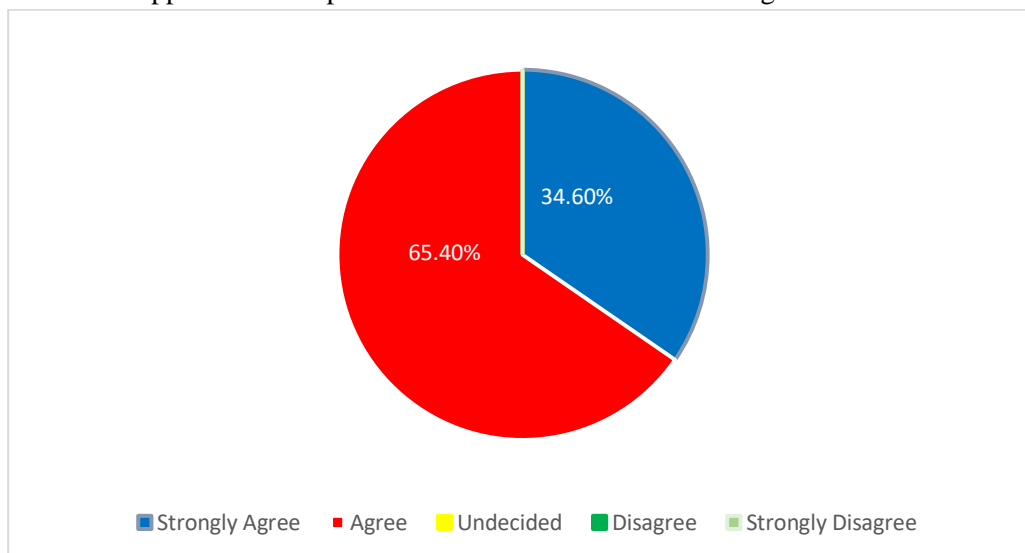

Based on the diagram above, it is known that the answer strongly agrees with 11 respondents or 42.3%, the answer agrees with 15 respondents or 57.5%, the answer is queen-hesitant 0 respondents or 0%, the answer disagrees with 0 respondents or 0% and the answer is strongly disagree with 0 respondents or 0%. From these findings, it can be seen that students tend to answer yes "Writing or doodles from Epic Pen make me focus more on the material."

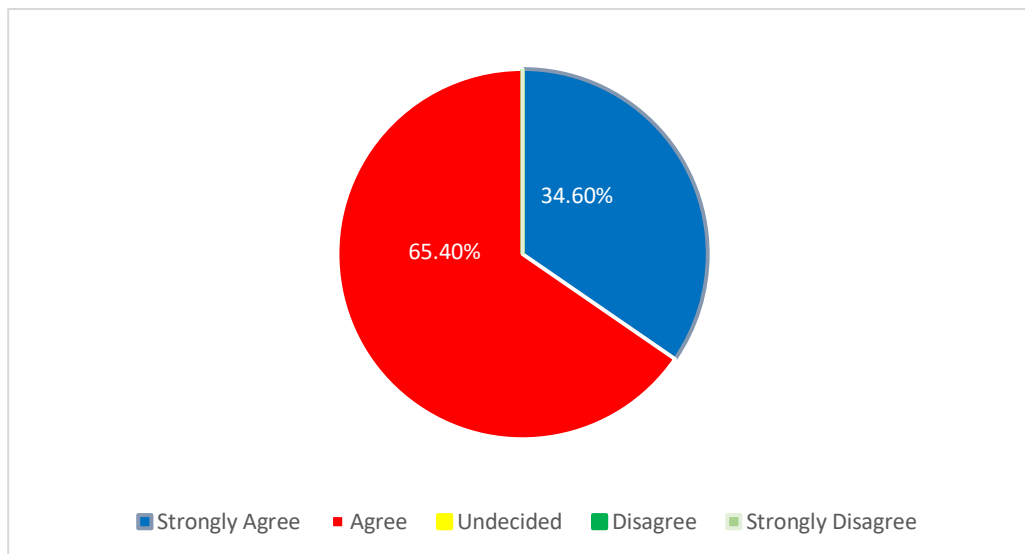d. Epic Pen helps me understand the steps in solving math problems
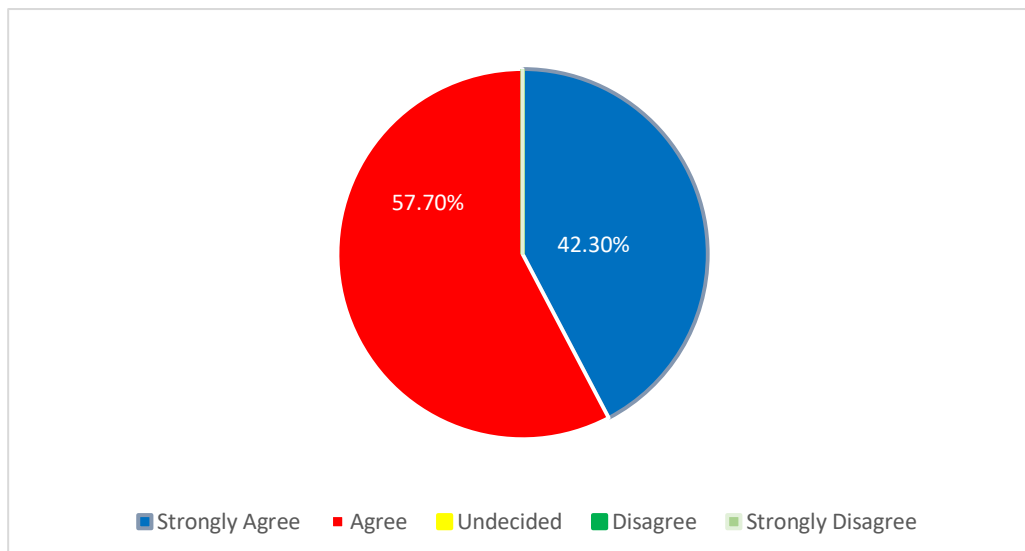
Based on the diagram above, it is known that the answer strongly agrees with 11 respondents or 42.3%, the answer agrees with 15 respondents or 57.5%, the answer is queen-hesitant 0 respondents or 0%, the answer disagrees with 0 respondents or 0% and the answer is strongly disagree with 0 respondents or 0%. From these findings, it can be seen that students tend to answer yes "Epic Pen helps me understand the steps in solving math problems"

e. The visual appearance of Epic Pen is attractive and not confusing.

Based on the diagram above, it is known that the answer strongly agrees with 9 respondents or 34.6%, the answer agrees with 17 respondents or 65.4%, the queen-hesitating answer 0 respondents or 0%, the answer does not agree with 0 respondents or 0% and the answer strongly disagrees with 0 respondents or 0%. From these findings, it can be seen that students tend to answer yes "The visual appearance of the Epic Pen is interesting and not confusing"

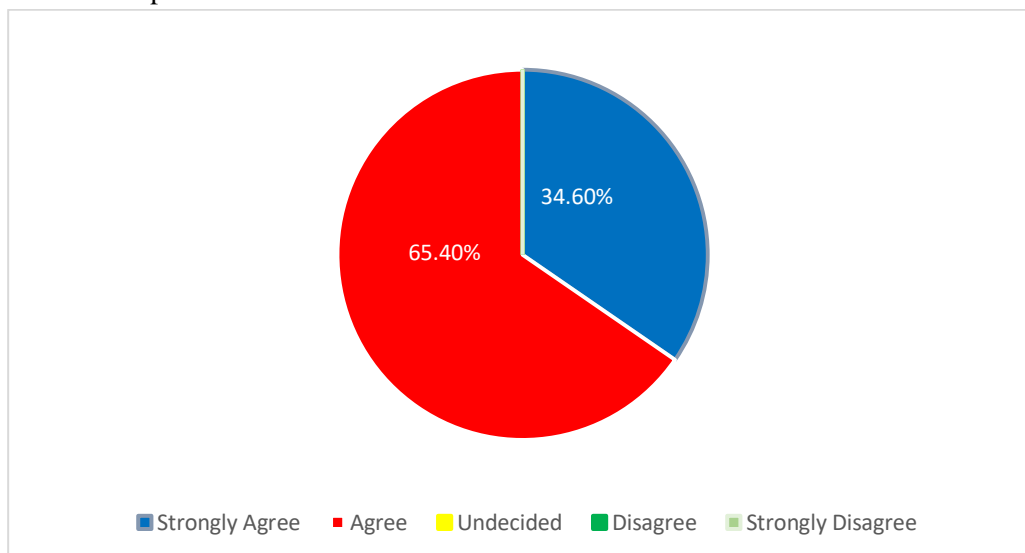f. I feel more motivated to learn when the tutor uses the Epic Pen.

Based on the diagram above, it is known that the answer strongly agrees with 9 respondents or 34.6%, the answer agrees with 17 respondents or 65.4%, the queen-hesitating answer 0 respondents or 0%, the answer does not agree with 0 respondents or 0% and the answer strongly disagrees with 0 respondents or 0%. From these findings, it can be seen that students tend to answer yes "I feel more enthusiastic about learning when tutors use Epic Pen"

g. I want the Epic Pen to continue to be used in math education 2 courses

Based on the diagram above, it is known that the answer strongly agrees with 9 respondents or 34.6%, the answer agrees with 17 respondents or 65.4%, the queen-hesitating answer 0 respondents or 0%, the answer does not agree with 0 respondents or 0% and the answer strongly disagrees with 0 respondents or 0%. From these findings, it can be seen that students tend to answer yes "I want the Epic Pen to continue to be used in mathematics education 2 courses"

h. The use of the Epic Pen helps to clarify the tutor's explanation on the presentation screen.
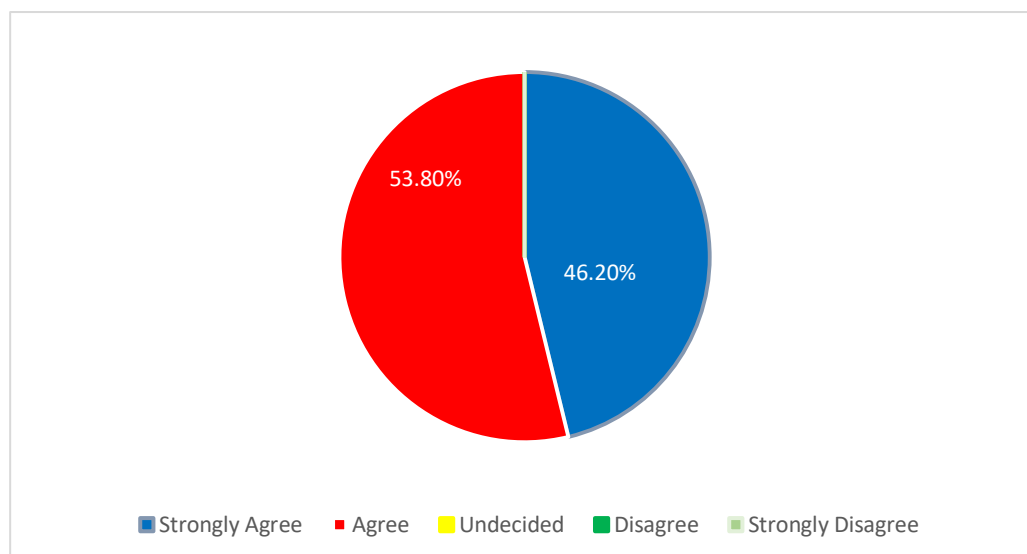
Based on the diagram above, it is known that the answer strongly agrees with 12 respondents or 46.2%, the answer agrees with 14 respondents or 53.8%, the answer is hesitant queen-hesitation 0 respondents or 0%, the answer disagrees with 0 respondents or 0% and the answer strongly disagrees with 0 respondents or 0%. From this finding, it can be seen that students tend to answer yes "The use of Epic Pen helps clarify the tutor's explanation on the presentation screen"

Discussion

The results of the recapitulation and percentage calculation of the student response questionnaire can be seen in table 1.

Table 1 Student Response Questionnaire Results Data

Yes	Statement	F	Frequency and Percentage of Answers						
			SS	S	RR	TS	STS	Total	Average
1.	Epic Pen made it easy for me to understand the tutor's explanations in math education 2	**F**	8	18				26	4.31
		%	30,8	69,2				100	
2.	Tutors actively use the Epic Pen when explaining material	**F**	8	18				26	4.31
		%	30,8	69,2				100	
3.	Writing or doodling from Epic Pen makes me focus more on the material	**F**	11	15				26	4.42
		%	42.3	57.7				100	
4.	Epic Pen helps me understand the steps in solving math problems	**F**	11	15				26	4.42
		%	42.3	57.7				100	
5.	The visual appearance of the Epic Pen is attractive and not confusing	**F**	9	17				26	4.35
		%	34.6	65.4				100	
6.	I feel more motivated to learn when the tutor uses the Epic Pen	**F**	9	17				26	4.35
		%	34.6	65.4				100	
7.		**F**	9	17				26	4.35

	I want the Epic Pen to continue to be used in math education 2 courses	**%**	34.6	65.4				100	
8.	The use of Epic Pen helps clarify the tutor's explanation on the presentation screen	**F**	12	14				26	4.46
		%	46.2	53.8				100	
									4.37

The results of the average acquisition of respondents' tendencies in table 1 of statement number 8 were obtained from the results that PGSD Students in Semester V of the Open University with the statement of the Use of Epic Pen helped clarify the tutor's explanation on the presentation screen, this was evidenced by the acquisition of an average of 4.46 respondents' tendencies. Based on the data above, it can be interpreted that the average response of PGSD Students Semester V of the Open University was obtained that the use of the Epic Pen for the Mathematics Education Course 2 was very effective. This is evidenced by the acquisition of an average score on a scale of five which is 4.37. These results when consulted with the Weighted Means Score (WMS) table in the range of 4.01 - 5.00 indicate a very effective category.

However, there are several obstacles that are also noted in the process of implementing this Epic pen. One of them is the dependence on the device used. If the laptop or projector experiences technical problems, the use of the Epic Pen will not be optimal. In addition, not all lecturers are used to the use of this Epic pen, so training or adaptation is needed first before using it effectively in lectures. Overall, this discussion shows that Epic Pen is one of the effective and efficient learning media in supporting the teaching and learning process in universities, especially in courses that emphasize understanding logic and visualization such as Mathematics Education 2. The results of this study support the importance of innovation in technology-based learning strategies to improve the quality of mathematics education in the digital era. This is supported by research (WDS, 2022) that to teach mathematics online, supporting tools are needed in teaching activities to meet expectations. In line with research (Nasrum & Subawo, 2022) that the main supporting factor for online lectures to be carried out can be used to write on the monitor screen.

Conclusion

The effectiveness of the use of epic pen for mathematics education 2 courses is very effective. This can be proven by the total score on a scale of five, which is 4.37. The use of the Epic Pen is very positive. Most students feel that this Epic pen helps them focus on the material, because the lecturer can immediately give marks or notes on important parts. This epic pen is also considered flexible and does not interfere with the main appearance of the material presented, so as not to reduce the effectiveness of delivering lecture content.

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