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# Development of Canva-Based Animation E-Mind Mapping Guide

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**Abstract**

Online learning in the context of the pandemic and digital age demands innovation in learning approaches. The transformation from face-to-face learning directly (offline) to virtual face-to-face (online) raises concerns about declining student learning quality. The study responded to this challenge by designing a Canva-based animated e-mind mapping guide as an innovative solution to improve students' understanding of online learning. This research adopts the ASSURE model teaching material development design involving 111 students of the Faculty of Tarbiyah and Teacher Training IAIN Palopo. This guide is designed to meet the needs of students with kinesthetic and visual learning styles. Involving teaching material experts, learning media experts, course lecturers, and students, this research uses validation sheets, questionnaires, and learning outcome test instruments. Data analysis involves qualitative techniques, descriptive statistics, and inferential T-tests to measure differences in learning outcomes before and after using guidelines. The results showed that Canva-based animated e-mind mapping guides effectively improved student understanding. The validity of this guide was confirmed through positive evaluations from validators and positive feedback from students and lecturers. Student performance assessment and pretest-posttest tests support the effectiveness of this method in supporting the learning process. The success of this guide highlights the importance of innovation and adaptation in education in the digital age, creating engaging, interactive, and efficient learning. This research contributes to students' understanding of online learning and inspires other educational institutions to adopt similar approaches in addressing today's educational technology challenges.
**Keywords:** *E-Mind Mapping Animation, Canva*

## Introduction

The transformation of learning from face-to-face (offline) to virtual face-to-face (online) shows concern about the decline in cognitive, affective, and psychomotor quality of students (Janattaka & Adella, 2021; Rumahuru et al., 2021). Post-COVID-19, learning is then designed in a blended manner. The challenge of blended learning is selecting learning techniques and mastery of information technology. What will be achieved in learning can be effective and efficient if the techniques used can facilitate students' learning. For example, student ineffectiveness in learning is that the material presented does not interest students' learning. This problem can be overcome by using appropriate learning techniques so that learning outcomes meet the KKM standards set by the school.

The mind mapping technique or mind map is one alternative that can make it easier for students to understand the lesson. Mind maps are a method used to maximize students' thinking skills by combining right and left brain abilities in tandem (Amin, 2017; Lukman & Ishartiwi, 2014). Tony Buzan, an expert on human potential development in 1974, initiated the first mind-mapping method(Buzan, 2012). Mind mapping visually presents learning by presenting main ideas, concepts, and information. Mind maps can make it easier for students to understand

concepts and remember the essence of learning, and learning becomes fun and not boring. Previous research has shown that learning with mind mapping positively affects student learning outcomes. The importance of using technology such as Canva in the world of education, considering the Industrial Revolution 4.0, requires educators and students to use technology to facilitate all learning activities.

So far, studies on developing learning aids in digital format have not attracted much attention from researchers. Existing studies generally conduct studies in the form of action research or descriptive research. In this digital era, using technology in learning can make it easier for learners to understand the material faster. Several studies have developed learning aids or digital guides (Fadilah et al., 2021; Nurjannati et al., 2017). Furthermore, studies on mind mapping have been widely carried out and have helped students understand the subject matter more quickly (Lukman & Ishartiwi, 2014; Masita & Wulandari, 2018; Rosliana, 2019). However, e-mind mapping animation is a completely new term—some studies on e-mind mapping but still in conventional form (Kurniasari & Mardikaningsih, 2018). Animation in mind mapping here plays a role in strengthening understanding and attracting more attention to learning.

This development research aims to design a guide for making mind mapping in digital form with animation. This e-mind mapping is done on the Canva design platform. Canva was chosen as a manufacturing medium because this form platform is easily accessible and used even by beginners. In addition, Canva has a free version that is sufficient enough to create media or learning videos. The development of e-mind mapping is carried out on several arguments, namely, 1) in the current era of digitalization, the use of digital technology in learning is necessary. 2) Special efforts are needed to improve students' learning skills to make it easier to understand the material presented; in this case, e-mind mapping is used as an alternative. 3) Mind mapping can easily construct quickly the understanding of students or students compared to conventional learning.

## Method

This research is a development research using the design of a teaching materials development model. The assure research model has six stages, namely: (1) Analyze Learners, (2) State Objectives, (3) Select Methods, Media, and Materials, (4) Utilize Media and Materials, (5) Require Learner Participation, and (6) Evaluate and Revise. This research was conducted at the State Islamic Institute (IAIN) Palopo in 2020/2021. The test subjects included teaching material experts, learning media experts, course lecturers, and students of the Madrasah Ibtidaiyah Teacher Education Study Program and Islamic Religious Education.

Experts on teaching materials, learning media, course lecturers, and students provided the research data. The types of data include the results of expert validation of teaching materials, validation of learning media experts, student responses to Canva-based animation e-mind mapping guidelines at the Faculty of Tarbiyah and Teacher Training IAIN Palopo, as well as student learning outcomes using animated e-mind mapping. The instruments include validation documents, questionnaires, and student learning outcome test instruments. According to the instruments used, data collection techniques include questionnaires, interviews, observations, and learning outcome tests (Creswell et al., 2010).

Data analysis was carried out using two techniques, namely qualitative analysis and descriptive statistical analysis and inferential T-tests. Qualitative analysis techniques include data description, interpretation, classification, conclusions, and verification, per the approach outlined by (Sugiyono, 2022). Meanwhile, descriptive statistical analysis and T-tests were used to

measure the extent of differences in student learning outcomes before and after using Canva-based animated e-mind mapping guides.

*Table 1. Practicality test criteria*

| No. | Range of Values | Value Criteria |
|---|---|---|
| 1 | 0% - 20% | Very Impractical (STP) |
| 2 | 21% - 40% | Impractical (TP) |
| 3 | 41% - 60% | Quite Practical (CP) |
| 4 | 61% - 80% | Practical (P) |
| 5 | 81% - 100% | Very Practical (SP) |

# Results

## *Analyze learners (A)*

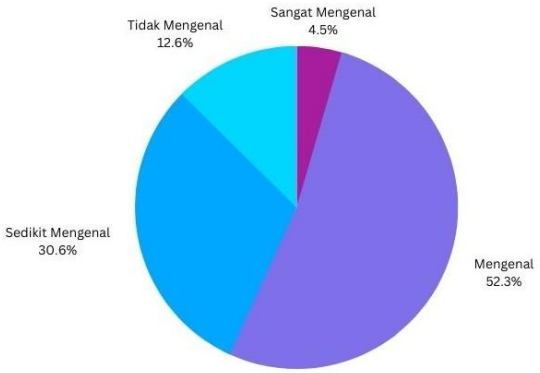


*Figure 1. Student Introduction Level graph created with Canva.*

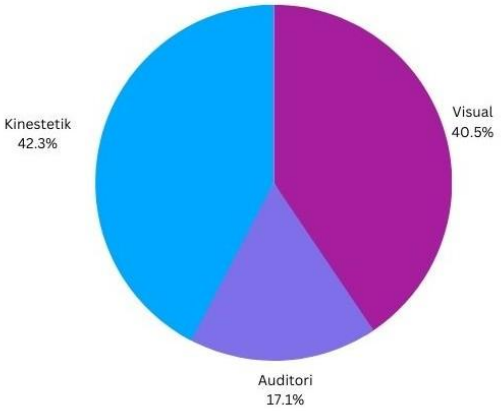


*Figure 2. Student learning styles*

## *Defining Learning Objectives (S - State objectives)*

In developing students' skills in learning, the first stage in the instructional process is to set clear learning goals. At this stage, the goals to be achieved are:

a. Students can create an animated e-mind mapping using Canva.
b. Students understand the basic principles of making an effective mind map.
c. Students can apply animated e-mind mapping in the teaching and learning process.

## *Select, Modify, or Design Learning Materials and Media (S - Select methods, media, and materials)*

In using Canva for e-mind mapping, several key features are relevant and can be utilized to maximize results:

| | |
|---|---|
| Template Features | Graphic Elements |
| Texture and Color Tools | Layout Settings Tool |
| Animation Features | Collaboration Features |
| Autosave | |

### *Using Materials and Media (U - Utilize media and materials)*

*Table 2. Small Group Practicality Test Questionnaire Canva-Based Animation E-Mind Mapping Handbook for Students*

| RESPOND | SUM | MAX SCORE | % | % AVERAGE |
|---|---|---|---|---|
| | S | N | | |
| R1 | 47 | 50 | 94 | 88.6 |
| R2 | 42 | 50 | 84 | |
| R3 | 45 | 50 | 90 | |
| R4 | 43 | 50 | 86 | |
| R5 | 41 | 50 | 82 | |
| R6 | 45 | 50 | 90 | |
| R7 | 43 | 50 | 86 | |
| R8 | 44 | 50 | 88 | |
| R9 | 44 | 50 | 88 | |
| R10 | 49 | 50 | 98 | |

In the Practicality Test of the Large Group of Canva-Based Animated E-Mind Mapping Guidebook for College Students, most respondents positively assessed the guidebook. Specifically, the range of scores given by respondents ranged from 80% to 94% of the maximum score.

*Table 3. Practical Test Questionnaire of Canva-Based Animated E-Mind Mapping Handbook for Lecturers*

| RESPOND | SUM | MAX SCORE | % | % AVERAGE |
|---|---|---|---|---|
| | S | N | | |
| R1 | 33 | 35 | 94.3 | 96.0 |
| R2 | 35 | 35 | 100.0 | |
| R3 | 33 | 35 | 94.3 | |
| R4 | 33 | 35 | 94.3 | |
| R5 | 34 | 35 | 97.1 | |

### *Require learner participation (R - Require learner participation)*

*Table 4. Mind Mapping Results Score*

| Range of Values | Category | Sum |
|---|---|---|
| 95-100 | Excellent | 3 |
| 85-94 | Good | 15 |
| 75-85 | Enough | 3 |
| <75 | Less | 0 |
| Sum | | 21 |

### *Evaluasi dan Revisi (E - Evaluate and revise)*

a. Evaluation by validators

*Table 5. Guide Validation Results*

| No. | Statement | Score | S1 | ∑S | In | V Aspect |
|---|---|---|---|---|---|---|
| 1 | P1 | 5 | 4 | 4 | 1.00 | 0.88 |
| 2 | P2 | 4 | 3 | 3 | 0.75 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | P3 | 5 | 4 | 4 | 1.00 | |
| 4 | P4 | 4 | 3 | 3 | 0.75 | |
| 5 | P5 | 4.3 | 3.3 | 3.3 | 0.83 | |
| 6 | P6 | 3.7 | 2.7 | 2.7 | 0.67 | 0.92 |
| 7 | P7 | 5 | 4 | 4 | 1.00 | |
| 8 | P8 | 4.7 | 3.7 | 3.7 | 0.92 | |
| 9 | P9 | 4.7 | 3.7 | 3.7 | 0.92 | 0.96 |
| 10 | P10 | 4.7 | 3.7 | 3.7 | 0.92 | |
| 11 | P11 | 5 | 4 | 4 | 1.00 | |

*Table 6. Validity criteria*

| Validity Criteria | Assessment Items | Number of Assessment Items |
|---|---|---|
| Very Worth It | 1,3,5,7,8,9,10,11 | 8 |
| Proper | 2,4,6 | 3 |
| Pretty Decent | | |
| Less Decent | | |
| Not Worth It | | |

b. Effectiveness Test

*Table 7. Comparison of Pre-test and Post-test Data*

| Range of Values | Category | Number of Pre-test Scores | Number of Postest Values | % Pre-test | % Postest |
|---|---|---|---|---|---|
| 95-100 | Excellent | 1 | 7 | 2.2 | 15.6 |
| 85-94 | Good | 3 | 26 | 6.7 | 57.8 |
| 75-85 | Enough | 17 | 12 | 37.8 | 26.7 |
| <75 | Less | 24 | 0 | 53.3 | 0.0 |
| Sum | | 45 | 45 | 100.0 | 100.0 |

*Table 8. Results of statistical analysis of T test (t-test: Paired Two Sample for Means)*

| | Pre-test scores | Post-test Scores |
|---|---|---|
| Mean | 72.15556 | 88 |
| Variance | 89.1798 | 42 |
| Observations | 45 | 45 |
| Pearson Correlation | 0.460852 | |
| Hypothesized Mean Difference | 0 | |
| df | 44 | |
| t Stat | -12.2919 | |
| P(T<=t) one-tail | 3.98 | |
| t Critical one-tail | 1.68023 | |
| P(T<=t) two-tail | 7.97 | |
| t Critical two-tail | 2.015368 | |

# Discussion

## *The Need for Canva-Based Animation E-Mind Mapping Guide at the Faculty of Tarbiyah and Teacher Training IAIN Palopo*

Based on the results of an analysis of 111 students of the Faculty of Tarbiyah and Teacher Training IAIN Palopo, it was revealed that there was an urgent need for Canva-based animation e-mind mapping guidelines. From the data obtained, it can be seen that most students have basic knowledge about Canva, but only a small number understand it deeply. In addition, the learning styles of most students tend to be kinesthetic, which emphasizes direct experience and physical activity, as well as visual, which emphasizes the importance of visualization in the

learning process. It shows the great potential of using animated e-mind mapping that can meet the needs of their learning style.

Predetermined learning objectives reinforce the importance of Canva-based animated e-mind mapping guides. With this guide, students are expected to be able to create effective animated e-mind mapping with Canva, understand the basic principles of making mind maps, and apply them in the teaching and learning process. The presentation of information visually and dynamically through animated e-mind mapping can be a catalyst in enriching teaching methods adjusting to technological developments and the needs of today's digital era. Thus, students become passive recipients of information and active actors in a more innovative and collaborative learning process.

In the context of developing digital-based learning methods for students of the Faculty of Tarbiyah and Teacher Training IAIN Palopo, several relevant studies provide additional in-depth insights. The first study, which addressed the development of the Digital Learning Kit, confirmed the importance of innovation in learning approaches to improve student understanding. (Narullia et al., 2021) Although the focus is on accounting subjects, the core relates to competency improvement through digital tools, which aligns with the purpose of this study on the utilization of Canva-based animation e-mind mapping.

Furthermore, research on improving educators' ability to use technology through workshops shows the importance of training in optimizing technology for education (Ayuningtyas et al., 2022). It is relevant to the findings of this study, where it was found that although students have basic knowledge about Canva, only a small percentage understand it deeply.

Finally, research on student learning styles based on the VARK model emphasizes that students prefer absorbing information (Prihaswati & Purnomo, 2021). The fact that kinesthetic and visual learning styles dominate, as revealed in this study, shows the importance of innovations such as animated e-mind mapping to meet the needs of those learning styles.

Although each study has its focus, they all emphasize the importance of technological adaptation in education. It reinforces the findings of this study that Canva-based animated e-mind mapping guides are essential, not only as a tool but also as an innovative approach that supports students to become more active and collaborative in their learning process.

The results of the study that show the urgent need for Canva-based animation e-mind mapping guidelines at the Faculty of Tarbiyah and Teacher Training IAIN Palopo provide several important signs or indications:

a. Educational Paradigm Change

These results show a paradigm shift in the world of education, where conventional learning methods are starting to be abandoned and replaced with more innovative methods by technological developments. It indicates that education must continue adapting to the times to remain relevant.

b. Readiness to Face the Digital Era

With students showing a penchant for kinesthetic and visual learning styles and the need for assistive tools like Canva, it shows that today's younger generation is more prepared and open to incorporating technology into their learning process. It is a sign that education in the digital age is no longer an option but a necessity.

c. The Importance of Personalization in Education

The results of this study indicate that each educational institution, or even each class, may have different needs and characteristics. Therefore, a "one-size-fits-all" approach may no longer be effective. Education that is more personalized and tailored to the specific needs of students is becoming increasingly important.

d. Training and Facilitation Needs

While many students are familiar with the technology, the fact that only a small percentage understand Canva deeply shows a need for further training and facilitation. It is a sign that educational institutions must increase their efforts in providing student technology training.

***Prototype, validity, practicality, and effectiveness of e-mind mapping guides***

Canva-based animation at the Faculty of Tarbiyah and Teacher Training IAIN Palopo

a. Prototype of Canva-based animation e-mind mapping guide at the Faculty of Tarbiyah and Teacher Training IAIN Palopo

To enhance the quality of education at the Faculty of Tarbiyah and Teacher Training IAIN Palopo, a "Canva-Based Animation E-Mind Mapping Guide" prototype was created. This prototype responds to the challenges of the digital age, which demand innovative teaching strategies. With the increasing need for information visualization in the teaching and learning process, the use of Canva-based Mind Maps has become relevant.

This guidebook is here as a solution for students and lecturers to understand and apply the concept of Mind Map on the Canva platform. Four chapters structured within it guide users from basic to advanced deployment. The first chapter introduces the essence of the Mind Map, why this technique is important, and its basic principles. The next chapter presents the variety of types of mind maps that can be developed, providing a broader understanding of the flexibility of this technique. As it goes into the third chapter, the focus shifts to using Canva, where readers are taught how to design a Mind Map with this digital platform. The last chapter provides specific strategies for structuring the elements of the Mind Map so that the results are informative and aesthetic.

With a combinative approach between theoretical and practical, this guidebook is expected to bridge academic needs with technological advances. Through this guide, students and lecturers at the Faculty of Tarbiyah and Teacher Training IAIN Palopo can improve learning effectiveness by utilizing Canva technology while making the teaching and learning process more interactive and dynamic.

Based on research conducted at the Faculty of Tarbiyah and Teacher Training IAIN Palopo, the "Canva-Based Animation E-Mind Mapping" guide prototype was developed to improve students' ability to create effective mind maps with the Canva platform. With four chapters covering basic introductions to element-building strategies, the prototype is designed to provide students with comprehensive guidance.

Meanwhile, research conducted by Fadilla Fadya Said and her colleagues at Imam Bonjol Padang UIN developed a prototype of the "Canva-Assisted Student Worksheet (LKPD)." Although both use the Canva platform, the focus of this prototype is to help eighth-graders understand the concepts of relations and functions (Said et al., 2023). With a systematic approach, this prototype emphasizes the validity and effectiveness of the tool in improving students' conceptual understanding.

On the other hand, research by Indah Puji Astuti and colleagues developed an "Android-Based Learning Media Prototype for Beginning Reading." Although not using Canva, this prototype shows how mobile technology can be integrated into educational curricula to improve students' reading skills at the entry-level (Astuti et al., 2020).

All three prototypes show serious efforts in integrating technology into education. Despite having different focuses and approaches, the similarity lies in the ultimate goal: improving students' understanding and skills through innovative study aids. However, what distinguishes the prototype of IAIN Palopo from the other two is its application to making mind maps, while the other focuses more on certain concepts in the educational curriculum.

b. Validity of Canva-Based Animation e-Mind Mapping Guide at the Faculty of Tarbiyah and Teacher Training IAIN Palopo

Based on the research results, the "Canva-Based Animation E-Mind Mapping Guide" shows excellent quality. From the evaluation involving 11 statements, the majority received high appreciation, especially regarding content validity and language clarity. The data shows the guide's content is highly relevant and structured with clear language. While there is room for improvement, the overall evaluation shows the advantages of this guide. It is reinforced by Table 5, where 8 of the 11 assessment items fall into the "Very Decent" category, signifying the superior quality of the guide. The validation results histogram also confirms this, with most scores in the range of 0.80 to 1.00. These data confirm that this guide has been well designed, received positive validation from validators, and is ready to make a maximum contribution to the learning process at the Faculty of Tarbiyah and Teacher Training IAIN Palopo.

In comparison, research by Irmawati M. et al. from the University of West Sulawesi, who developed the "Canva-Based Interactive E-Module of Set Materials," also showed an excellent level of validity with an average score of 3.5 from various aspects, such as format, content, language, and benefits (M et al., 2023). It shows consistency in the application of Canva as a valid learning tool.

Meanwhile, research by Elidad Gloria Pas et al. from Satya Wacana Christian University on "Development of Mind Mapping-Based Pocket Books" shows that the mind mapping-based pocketbooks developed obtained a validity assessment with the "High" category (Pas & Wardani, 2022). It confirms that the concept of mind mapping, implemented in pocketbooks and e-modules, has great potential to improve the quality of teaching materials.

Furthermore, research by Rahmi Gemila Sari et al. on "Validity of Mind Mapping-Based E-Handouts" resulted in a very valid product with a score of 98.35% (Sari et al., 2023). This high consistency of validity indicates the importance of integrating mind mapping in electronic teaching materials. Finally, research by Ni Putu Anggerina Aryanitha et al. from Universitas Pendidikan Ganesha on "Mind Mapping-Based Interactive Student Worksheets" also shows that the developed LKPD is feasible and effective to use in the learning process (Aryanitha & Agung, 2022).

The studies above show that applying digital technology such as Canva and the concept of mind mapping in teaching materials positively impacts content validity. However, although all studies show positive results, each study has a different focus and context, ranging from the development of e-modules, pocketbooks, and e-handouts to LKPD. However, the similarity lies in efforts to improve the quality of teaching materials through innovation in learning.

c. Practicality of Canva-based animation e-mind mapping guide at the Faculty of Tarbiyah and Teacher Training IAIN Palopo

The Canva-Based Animation E-Mind Mapping Guide has been tested to assess its practicality in student and lecturer groups. From the results of the questionnaire distributed to 10 students in small groups, the majority rated this guide as "Very Practical," with an average practicality of 88.6%. Meanwhile, in a large group of 35 students, this guide received an average practicality rating of 87.2%. That is, this guide is considered to meet the needs and expectations of students in the learning process.

When tested on a group of lecturers through a questionnaire of five respondents, this guide received high appreciation with an average percentage of practicality of 96%. It shows that this guide is not only relevant to students but also very suitable for the needs of lecturers in an educational context. In conclusion, based on feedback from the two groups, the Canva-Based Animation E-Mind Mapping guide is very practical and useful in supporting the learning process.

Based on the results of research conducted on the "Canva-Based Animation E-Mind Mapping Guide," practicality is an important aspect that is emphasized. From the evaluation, this guide

received a high assessment from student groups and lecturers, showing its ease and effectiveness in supporting the learning process.

Compared to the first study on "Development of Electronic Chemistry Pocket Book (E-CPB) integrated mind mapping", there are similarities in practicality evaluation. The research developed E-CPB, which is integrated with mind mapping and assesses its practicality (Badriyah et al., 2022). The developed e-CPB also received a high practicality assessment, similar to the results found in Canva's Animated E-Mind Mapping guide. However, there is a slight difference in context and focus. Although both use visual approaches such as mind mapping, the first study focused more on chemical concepts, especially colloidal materials, while the E-Mind Mapping guide is more general and can be applied to various materials.

Meanwhile, a second study discussing "The Use of Canva Applications in Media Making Guidance and Counseling Services in Schools/Madrasahs" provides a slightly different perspective. This research underscores the Canva application's importance in creating guidance and counseling service media (Prayetno et al., 2022). While the focus is different on guidance and counseling, both emphasize the importance of Canva apps in the practical and effective media creation process.

In conclusion, although the three studies have different contexts and focus, they all show the importance of practicality in learning media and how technology, particularly Canva, can be useful in achieving that practicality.

d. Effectiveness of Canva-Based Animation E-Mind Mapping Guide at Faculty of Tarbiyah and Teacher Training IAIN Palopo

Students are tasked with making animated e-mind mapping based on the guidelines provided. Student performance assessments are determined based on criteria for completeness of information, tidiness, creativity, application of principles, and use of Canva features, with a maximum score of 20 for each criterion. Based on the data obtained, the highest score is 100, while the lowest is 83. Overall, students showed good ability in using Canva for mind mapping.

The recapitulation of the assessment results from Table 4 shows that three students got the "Very Good" category, 15 students got the "Good" category, three students got the "Enough" category, and none got the "Less" category. It shows that most students have good or above-average quality work.

The pretest-posttest results significantly improved students' abilities after the intervention. Pre-test scores range from 50 to 95, while post-tests range from 75 to 100. Most students showed improved performance after the intervention.

Based on the statistical analysis of the T-test, there is a significant difference between pre-test and post-test scores. The average pre-test score was 72.16 and increased to 88 for the post-test. The Pearson correlation showed a moderate positive relationship between the two data sets. A very small p-value confirms a significant difference between the pre-test and post-test, signaling the effectiveness of the method applied.

Learning with a technological approach is now the main highlight in the world of education, especially with various platforms and methods supporting it. The results showed the effectiveness of using the Canva-Based Animation E-Mind Mapping guide in improving student performance. When looking deeper into some other studies, the same pattern emerges, namely the effectiveness of technology in supporting learning.

In research conducted by Gita Permata Puspita Hapsari and friends, it was found that Canva-based animated video media has a positive impact on increasing student motivation and achievement (Hapsari & Zulherman, 2021). It is in line with the findings of this study, which confirms that Canva has great potential in improving learning outcomes. Meanwhile, research from Aji Prayetno and the team highlights Canva's effectiveness in designing learning media,

albeit with a different focus, namely on guidance and counseling services (Prayetno et al., 2022). It demonstrates Canva's flexibility and adaptability in various aspects of education.

Furthermore, although the main focus is not on Canva, research from Mirsya Adelia and colleagues emphasizes the importance of innovation in learning media to increase its effectiveness (Adelia et al., 2023). It resonates with the approach of integrating mind mapping with animation. Finally, research from Bagoes Pradana Saputra shows how the mind mapping method, similar to this study's approach, can improve student learning outcomes in elementary schools (Saputra, 2019).

From this analysis, it is clear that there is a consensus in the scientific literature about the advantages of visual methods and application-based technologies, such as Canva, in supporting the learning process. This study and other studies confirm this argument and provide a solid scientific foundation for the application of technology in education.

Based on the research outcomes, the development and implementation of a Canva-based animation e-mind mapping guide at the Faculty of Tarbiyah and Teacher Training IAIN Palopo carry significant implications across various dimensions. Firstly, the guide enhances the quality of learning by serving as a primary reference in animated mind mapping-based instruction, facilitating a deeper and more interactive understanding of complex concepts. Secondly, its practicality ensures that lecturers and students can easily adopt this guide without necessitating significant additional time and resources, thereby streamlining the learning process. Thirdly, the guide's effectiveness in bolstering learning outcomes also suggests an increase in student motivation, with the engaging nature of animated content promoting active participation and interest. Furthermore, the successful integration of Canva highlights the potential for adaptive technology use in education, potentially inspiring other institutions to embrace similar innovations in their teaching practices. Additionally, the guide offers lecturers valuable tools for creating innovative learning materials, contributing to their professional development and the broader integration of technology in education. The approach also fosters greater collaboration and interactivity between lecturers and students, making the learning process more dynamic through active involvement in e-mind mapping. Lastly, the effective implementation of this guide within the Faculty of Tarbiyah and Teacher Training IAIN Palopo serves as an exemplary model for other educational institutions aiming to incorporate technology into their curricula, thereby broadening the impact and applicability of this innovative teaching strategy.

## Conclusion

This research involved an analysis of 111 students of the Faculty of Tarbiyah and Teacher Training IAIN Palopo, revealing the urgent need for a Canva-based animation e-mind mapping guide. While most students have basic Canva knowledge, few understand how to use it effectively. These results confirm the importance of animated e-mind mapping in supporting learning methods that suit student learning styles, especially those that are predominantly kinesthetic and visual. This research reflects the need for innovation in learning approaches in the digital era, raising the importance of education that is responsive and adaptive to the demands of the times.

Based on research at the Faculty of Tarbiyah and Teacher Training IAIN Palopo, Canva-based animation e-mind mapping guides have proven effective and practical. The prototypes were developed to provide a comprehensive understanding of basic to advanced applications, creating dynamic and interactive learning. Positive evaluations from validators support the validity of this guide, and feedback from students and lecturers shows its high practicality. Through student performance assessments and pretest-posttests, the guide has proven effective in improving

student understanding, underscoring the success of its methods in supporting the learning process. The success of this guide reflects the importance of adaptation and innovation in education in the digital age, supporting a more engaging, interactive, and effective learning process. This success inspires other educational institutions to continue to innovate and adapt to technological developments in education.

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