



The Effect of EdrawMind-Based Mind Mapping Learning Media and Learning Motivation on History Learning Outcomes at SMA Negeri 70 Jakarta

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Abstract: This study examines the effectiveness of EdrawMind mind mapping media on motivation and learning outcomes in History, specifically on the topic of the Indonesian people's resistance to colonialism at SMA Negeri 70 Jakarta. The research aims to analyze the influence of EdrawMind on learning outcomes, test the relationship between motivation and learning outcomes, and identify its impact on student motivation. This quasi-experimental study with a nonequivalent control group design involved 72 grade XI students (36 experimental, 36 control) in the odd semester of the 2025/2026 academic year. Data were collected through questionnaires, tests, and observations, then analyzed using SPSS with T-tests, linear regression, and prerequisite tests. The results show: (1) EdrawMind did not have a significant effect on learning outcomes ($p=0.944$); (2) Motivation had a positive and significant effect on learning outcomes ($p=0.006$) with a contribution of 10.5%; (3) EdrawMind significantly increased learning motivation ($p=0.000$) with an average increase of 10.72 points. It is concluded that EdrawMind is effective in increasing motivation but has not yet impacted cognitive history learning outcomes.

Keywords: EdrawMind; history learning; learning outcomes

Abstrak: Penelitian ini mengkaji efektivitas media mind mapping EdrawMind terhadap motivasi dan hasil belajar Sejarah pada materi perlawanan rakyat Indonesia terhadap kolonialisme di SMA Negeri 70 Jakarta. Tujuan penelitian adalah menganalisis pengaruh EdrawMind terhadap hasil belajar, menguji hubungan motivasi dengan hasil belajar, serta mengidentifikasi dampaknya terhadap motivasi siswa. Penelitian kuasi-eksperimen dengan desain nonequivalent control group design ini melibatkan 72 siswa kelas XI (36 eksperimen, 36 kontrol) pada semester ganjil 2025/2026. Data dikumpulkan melalui angket, tes, dan observasi, lalu dianalisis dengan SPSS menggunakan uji T, regresi linear, dan uji prasyarat. Hasil menunjukkan: (1) EdrawMind tidak berpengaruh signifikan terhadap hasil belajar ($p=0,944$); (2) Motivasi berpengaruh positif signifikan terhadap hasil belajar ($p=0,006$) dengan kontribusi 10,5%; (3) EdrawMind signifikan meningkatkan motivasi belajar ($p=0,000$) dengan peningkatan rata-rata 10,72 poin. Disimpulkan bahwa EdrawMind efektif meningkatkan motivasi namun belum berdampak pada hasil belajar kognitif sejarah.

Kata Kunci: EdrawMind; hasil belajar; pembelajaran sejarah



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Introduction

Based on the legal foundation of the National Education System, particularly Law No. 20 of 2003 Article 3, the function of education is formulated as an effort to develop human capabilities, character, and civilization with dignity in order to realize the intellectual life of the nation. More specifically, the national education goal is to actualize the potential of learners into individuals who are faithful and devoted to God Almighty, noble in character, physically and spiritually healthy, knowledgeable, skilled, creative, independent, and able to act as democratic and responsible citizens. The commitment to realizing these goals is reflected in the statement of Fajar Riza Ul Haq, Deputy Minister of Primary and Secondary Education as well as a Muhammadiyah activist, together with Minister of Primary and Secondary Education Abdul Mu'ti at the 122nd Muhammadiyah Milad Reception. They affirmed their determination to provide quality education that is inclusive for all levels of society. This commitment is an integral part of the Indonesian government's ongoing agenda to reform and improve the quality of education in order to produce superior human resources.

At the launch of the ICT-Based Learning (PembalTIK) and We Must Learn (Kihajar) STEM 2024 program broadcast live on Educational Television and the official YouTube channel of the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), Secretary General Suharti conveyed her assessment of the Merdeka Curriculum. According to her, the curriculum has offered flexibility and a focus on core content to build student competencies. The implication is the need to create school environments that are safe, inclusive, and respectful of diversity as spaces for learners to grow and develop. More broadly, education is viewed as a crucial variable in economic growth, particularly through increasing the productivity of a workforce with adequate educational backgrounds. Furthermore, education plays a strategic role in ensuring the sustainability and success of national development (B.L., 2018). The quality of an educational system can be evaluated through two main aspects: process quality and outcome quality. An educational process can be said to be of high quality if the learning implementation is effective and efficient, optimizing all supporting elements such as learning objectives, educators, learners, teaching materials, teaching methodologies, as well as learning facilities and infrastructure (Anwar Anysah B.L., 2018).

One of the main challenges is creating inspiring learning. Teachers must be able to create an enjoyable classroom atmosphere that motivates students. Inspiring learning is learning that encourages students to discover new things creatively. By creating a pressure-free learning environment, a sense of enjoyment will arise that drives student learning motivation (Meliny & Hidayati, 2024).

Along with the implementation of the Merdeka Curriculum, learning is expected to become more flexible, inclusive, and engaging. With the rapid development of technology supported by the availability of internet networks, the world of education must be able to take advantage of these advancements. One way is by using interactive and enjoyable technology-based learning media.

Iwan Syahril, as Director General of Early Childhood Education, Primary Education, and Secondary Education, emphasized that technological advances need to be optimized to create learning experiences that are deep and engaging for students. From this perspective, learning media is positioned as a crucial supporting instrument in teaching and learning activities, particularly when conveying complex concepts or materials. Furthermore, the integration of learning media is considered to be able to promote dynamic, innovative, efficient, and enjoyable learning environments (PAUD-Dikdasmen, 2024). The logical implication of this condition

requires educators to adopt a creative and innovative attitude, both in the design and utilization of various learning media.

SMA Negeri 70 Jakarta was chosen as the research site for several special considerations. This school has adequate technology facilities, such as internet access and projectors, supporting the application of digital media in learning. Additionally, students at this school come from diverse backgrounds, making it representative for testing the effectiveness of innovative learning media. The selection of this location was also based on preliminary findings that history learning motivation at this school was still low, marked by learning outcomes below the minimum competency standard (KKM) and a lack of student engagement during the learning process.

Research by Putri (2022) indicates that in practice, optimization of learning media by teachers has not yet been achieved. This phenomenon can be observed, for example, in the context of history learning at SMA Negeri 70 Jakarta. Qualitative data obtained through interviews with history teachers at the school revealed that the relatively low learning achievement of students is a major obstacle in achieving ideal learning outcomes. Furthermore, student responses indicate that difficulties in understanding historical material often stem from the dominance of conventional and repetitive teaching methods, particularly the lecture method. The majority of students also expressed low interest in the history subject, which ultimately correlates with their suboptimal academic performance. Additional findings highlighted the heterogeneity of students' backgrounds and levels of understanding of historical material. Some students specifically complained that historical material was perceived as difficult and monotonous, which subsequently led to a decline in their learning motivation.

Anwar Ansyah's (2018) findings reinforce this argument by asserting that motivation is the main determinant that drives students' optimal learning achievement. According to this perspective, low student learning motivation often stems from the use of monotonous learning media and the application of non-varied and unappealing teaching methods. Therefore, there is an urgent need for educators to innovate the learning process by designing more creative approaches, one of which is through the use of interactive teaching media. Such media is expected to increase student engagement while cultivating their intrinsic interest in historical material. Furthermore, the teacher's role also includes developing learning materials presented in an engaging and contextual manner. This well-designed material development aims to increase student learning motivation, which will ultimately facilitate the achievement of the learning success indicators formulated in educational objectives.

In response to the challenges of conventional note-taking, Tony Buzan (2005) introduced the concept of mind mapping as an alternative note-taking technique claimed to be more creative and effective. This concept was designed in alignment with the principles of how the human brain works by utilizing visual elements such as colors, symbols, and images. This view is reinforced by Windura (2008) who states that the mind mapping technique has the potential to optimize brain capacity, as it facilitates the exploration of various possibilities in the thinking and learning process.

EdrawMind can trigger student motivation and learning outcomes because of its ability to present material visually, interactively, and in a structured manner. Previous research findings on mind mapping indicate that this media facilitates students' understanding of material provided by teachers, thereby potentially improving their learning outcomes. This is consistent with EdrawMind's features that enable the creation of colorful, dynamic, and easy-to-understand mind maps, helping the brain retain information more effectively than plain text. Additionally, the hierarchical structure in mind mapping makes it easier for students to see the

relationships between concepts clearly, deepening their understanding and improving memory retention (Liu et al., 2018; Polat & Aydın, 2020).

Kayyis Fithri Ajhuri (2021) in his book argues that motivation is an important main factor during the learning process, especially for children who are still in the learning stage. Lack of motivation can cause various problems, such as laziness, lack of focus, frequent truancy, and potential that does not develop optimally. Conversely, proper motivation can encourage children to exert maximum effort and achieve extraordinary results. In learning, motivation serves to encourage and increase enthusiasm. Without motivation, learning activities tend to be unfocused and less productive, whereas strong motivation makes a person study diligently, purposefully, and with enthusiasm, making success easier to achieve.

The selection of learning outcomes as the subject of this study is based on their role as the primary indicator of learning success. In the context of the history subject, particularly the material on "Resistance to Colonialism," student learning outcomes reflect their level of understanding of complex events involving figures, strategies, and the values of struggle. However, initial observations showed that conventional teaching methods such as lectures and PowerPoint presentations are often ineffective in improving learning outcomes, as students have difficulty connecting chronological concepts. This is where EdrawMind-based mind mapping learning media becomes an innovative solution. Mind mapping not only helps students visualize relationships between ideas hierarchically, but also increases learning motivation through an interactive and creative approach. EdrawMind was chosen for its digital features, such as attractive templates and real-time collaboration (Sousa, L., & Rocha, Á. 2019).

Referring to the identified problems, this study adopts a quantitative methodology to analyze the impact of two main variables, namely the application of EdrawMind-based mind mapping learning media and the level of learning motivation, on student academic achievement (learning outcomes) in the context of the history subject. By implementing more innovative and attractive learning media at SMA Negeri 70 Jakarta, this research aims to produce empirically measurable statistical evidence showing a positive correlation between the use of such media and improvements in student motivation and learning performance.

Research Method

The research method used in this study is the experimental method. The experimental method is a quantitative approach that aims to test the impact of independent variables (treatment) on dependent variables (outcomes) in a controlled environment. This environment is conditioned to minimize the intervention of external variables that might affect research results. One strategy is to utilize a control group as a comparison, so that the effect of the treatment can be isolated more accurately (Sugiyono, 2023).

The experimental research design used in this study is quasi-experimental. The quasi-experimental design was developed as an alternative to the true experimental design, which is often difficult to apply practically. Although it uses a control group, this design has limitations in controlling external variables that could potentially compromise the validity of the research results. However, methodologically, this approach is considered more robust than pre-experimental design. The application of quasi-experimental design is generally chosen when researchers face obstacles in forming an ideal control group that meets research needs (Sugiyono, 2023).

The design form used in this study is the nonequivalent control group design. In this design, two groups are selected non-randomly and then given a pretest to determine the initial conditions and whether there are differences between the experimental and control groups. A good pretest result is one where the scores of the experimental group do not differ significantly.

In this quasi-experimental study, two groups of students were involved: the experimental group and the control group. Both groups underwent pretest and posttest stages, but received different treatments. The experimental group was given an intervention using EdrawMind media, while the control group used PowerPoint media. This study uses a modified experimental method with a factorial design approach. This design was chosen because it allows observation of the influence of moderating variables that can affect the relationship between the treatment (independent variable) and the outcome (dependent variable) (Sugiyono, 2023). In this study, learning motivation acts as a moderating variable classified into two levels: high and low motivation. The factorial concept in this design refers to the use of several interacting factors.

The population in this study consisted of students in classes XI-A, XI-B, XI-C, XI-D, and XI-E at SMA Negeri 70 Jakarta in the history subject. The sampling technique used was nonprobability sampling, specifically purposive sampling, which determines samples based on certain considerations. The samples taken were students from classes XI-A and XI-E with a total of 72 students.

In this study, data were collected through two methods: tests and questionnaires. The test was administered twice, at the pretest and posttest stages. The questionnaire used a Likert scale with four response options. Scores were determined a priori, where positive responses (e.g., "strongly agree") were scored 4, and negative responses (e.g., "strongly disagree") were scored 1.

Questionnaire data analysis was performed by identifying the scores obtained by each student. The calculation and data analysis process was assisted by Microsoft Excel 365. The first step was to calculate the total score based on the provided table. Subsequently, the percentage of learning motivation was calculated using the designated formula.

The research procedure began with conducting a pretest in both the control and experimental classes to identify initial differences between the two groups. Subsequently, the experimental group underwent a learning process utilizing EdrawMind-based media, while the control group used PowerPoint media as a learning tool. After the intervention stage was completed, both groups were given a posttest using the same set of questions to measure final outcomes. The complete flow of the research procedure can be seen in the provided flowchart.

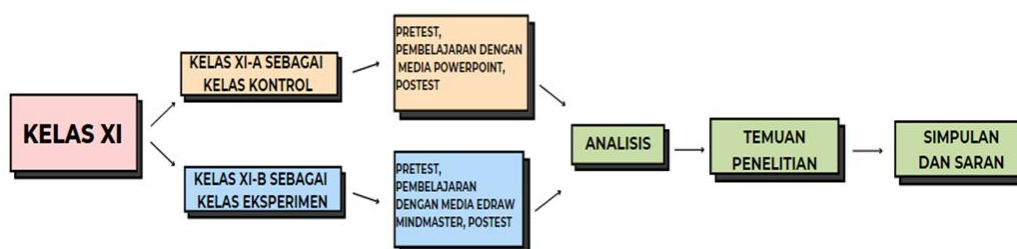


Figure 1. Research Procedure Flowchart

In research, the measurement tools used must meet two main criteria, namely validity and reliability, so that the results obtained can be scientifically justified. Data analysis was carried out in two stages: 1). Prerequisite Analysis Test: Determining the appropriate type of analysis to test the research hypotheses; and 2). Hypothesis Testing: Performing statistical analysis to test the formulated hypotheses.

Qualitative analysis techniques were applied at the initial stage to assess the content validity of all instruments used. Key instruments, such as lesson plans (RPP) or EdrawMind-

based modules, learning implementation questionnaires, learning motivation questionnaires, and learning outcome test questions, were consulted with experts consisting of lecturers and history subject teachers. This process aims to evaluate the suitability of the instruments with learning indicators, clarity of presentation, relevance to the curriculum, and alignment with the characteristics of students at SMA Negeri 70 Jakarta. This qualitative assessment serves as the initial foundation before the instruments are further tested quantitatively.

Subsequently, quantitative analysis techniques were implemented systematically to test the psychometric characteristics of each instrument. The first stage was item validity testing, both for the learning outcome tests and the motivation questionnaire. After content validation by experts, the instruments were pilot-tested on a group of students with characteristics similar to the research sample (but not part of the main sample). Pilot data were then analyzed using IBM SPSS 25 by calculating the correlation between each item score and the total score.

The second stage was the reliability test, which measures the internal consistency of the instruments. Reliability for tests and questionnaires was measured using the Cronbach's Alpha coefficient. Instruments were considered to have adequate consistency if the Cronbach's Alpha value reached a minimum of 0.70. In this study, the value obtained was 0.82, indicating a high level of reliability. In addition, each test item was also analyzed for its difficulty level (easy, moderate, difficult) and discriminating power (ability to differentiate between high-achieving and low-achieving students) through statistical calculations using SPSS, to ensure the quality of the instruments used.

Prior to hypothesis testing, a Prerequisite Analysis Test was conducted to ensure the data met the required statistical assumptions. This stage included; 1). Normality Test on pretest, posttest, and motivation questionnaire score data using the Shapiro-Wilk and Kolmogorov-Smirnov methods. Data are considered normally distributed if the significance value (p) > 0.05. 2). Homogeneity Test, which tests the equality of variances between the experimental and control groups. The homogeneity assumption is met if the significance value (p) > 0.05.

After the prerequisites were met, Hypothesis Testing was conducted using three main statistical methods; 1). Independent Samples T-Test, to compare learning outcomes (posttest) between the experimental group (using EdrawMind) and the control group (using PowerPoint). This test determines whether there is a significant difference due to the intervention. 2). Simple Linear Regression Test, to analyze the effect of learning motivation on learning outcomes. This analysis produces a regression equation showing the magnitude of motivation's contribution to learning outcomes. 3). Paired Samples T-Test, applied to the experimental group to test differences in learning motivation before (pretest) and after (posttest) the use of EdrawMind. The aim is to prove whether this media significantly increases student learning motivation.

Research Results

Overview of the Research Location

This research was conducted at SMA Negeri 70 Jakarta, located at Jl. Bulungan Blok C No.1, RT.11/RW.7, Kramat Pela, Kec. Kby. Baru, South Jakarta City, Special Capital Region of Jakarta. The research was conducted in Semester I of the 2025/2026 academic year in September. The timing of the research was determined based on the school's academic calendar.

This research was conducted at SMA Negeri 70 Jakarta with special considerations. This school has adequate technology facilities, such as internet access and projectors, supporting the application of digital media in learning. Additionally, students at this school come from diverse backgrounds, making it representative for testing the effectiveness of innovative learning media. The selection of this location was also based on preliminary findings that history learning motivation at the school was still low, marked by learning outcomes below the

minimum competency standard (KKM) and a lack of student engagement during the learning process.

Research Instrument Testing

Before the research was conducted, the instruments (questionnaire and test) were pilot-tested to ensure their appropriateness, validity, and reliability.

Validity Test

The validity test used the Pearson Product Moment correlation formula at a significance level of 0.05. With a sample size of $N=72$, the r -table value obtained was 0.232.

Learning Motivation Questionnaire

Based on the pilot test results, all 20 statement items were declared VALID because the r -calculated value $>$ r -table value and the significance value (p -value) $<$ 0.05. The following is a summary of the validity test results for the motivation questionnaire:

Table 1. Validity Test Results for the Learning Motivation Questionnaire

No.	Correlation Coefficient (r -calculated)	r table	p -value	Result
1	0,634	0,232	0,000	Valid
2	0,601	0,232	0,000	Valid
3	0,545	0,232	0,000	Valid
4	0,601	0,232	0,000	Valid
5	0,489	0,232	0,000	Valid
6	0,656	0,232	0,000	Valid
7	0,523	0,232	0,000	Valid
8	0,567	0,232	0,000	Valid
9	0,689	0,232	0,000	Valid
10	0,512	0,232	0,000	Valid
11	0,456	0,232	0,000	Valid
12	0,578	0,232	0,000	Valid
13	0,434	0,232	0,000	Valid
14	0,606	0,232	0,000	Valid
15	0,645	0,232	0,000	Valid
16	0,612	0,232	0,000	Valid
17	0,561	0,232	0,000	Valid
18	0,534	0,232	0,000	Valid
19	0,656	0,232	0,000	Valid
20	0,678	0,232	0,000	Valid

Source: Research Data, 2025

Learning Outcome Test Items

Of the 10 test items administered, all items were declared valid.

Table 2. Validity Test Results for the Learning Outcome Test Items

No.	Correlation Coefficient (r -calculated)	r table	p -value	Result
1	0,605	0,232	0,000	Valid
2	0,612	0,232	0,000	Valid
3	0,465	0,232	0,000	Valid
4	0,449	0,232	0,000	Valid
5	0,557	0,232	0,000	Valid

6	0,701	0,232	0,000	Valid
7	0,639	0,232	0,000	Valid
8	0,528	0,232	0,000	Valid
9	0,598	0,232	0,000	Valid
10	0,696	0,232	0,000	Valid

Source: Research Data, 2025

Reliability Test

Reliability was calculated using the Cronbach's Alpha formula. The calculation results show; 1). Learning Motivation Questionnaire: Cronbach's Alpha value of 0.888. Based on the criteria, this value falls in the Very High category. 2). Learning Outcome Test: Cronbach's Alpha value of 0.820. Based on the criteria, this value falls in the High category. Thus, both instruments were declared reliable and suitable for use.

Difficulty Level and Discriminating Power of Test Items

Item analysis was conducted to determine the difficulty level and discriminating power of the learning outcome test items.

Difficulty Level

Table 3. Difficulty Level Test Results for Test Items

No.	Difficulty Index (P)	Category
1	0,75	Moderate
2	0,78	Moderate
3	0,92	Easy
4	0,89	Easy
5	0,94	Easy
6	0,86	Easy
7	0,75	Moderate
8	0,58	Moderate
9	0,92	Easy
10	0,36	Moderate

Source: Research Data, 2025

Criteria: Difficult (0.0–0.3), Moderate (0.3–0.7), Easy (0.7–1.0).

Discriminating Power

Table 4. Discriminating Power Test Results for Test Items

No.	Discriminating Power (D)	Category
1	0,53	Good
2	0,53	Good
3	0,31	Fair
4	0,36	Fair
5	0,33	Fair
6	0,56	Good
7	0,53	Good
8	0,44	Fair
9	0,42	Good
10	0,61	Good

Source: Research Data, 2025

Data Description

The study applied a quasi-experimental design involving the population of Grade XI students at SMAN 70 Jakarta as research subjects. The sample consisted of 72 students divided into two classes; 1). Experimental Class (36 Students): Using EdrawMind-based Mind Mapping media. 2). Control Class (36 Students): Using conventional PowerPoint media. The data obtained included learning outcome data (cognitive) and learning motivation data (affective).

Prerequisite Analysis Test

Normality Test

The purpose of the normality test is to identify the distribution pattern of the data, whether it follows a normal distribution or deviates from it. Procedurally, data are declared normally distributed if the significance value (p-value) obtained exceeds the threshold of 0.05.

Table 4. Normality Test Results

Data Group	p-value	Decision
Learning Outcome Pretest – Experimental	0,008	Not Normal
Learning Outcome Posttest – Experimental	0,053	Normal
Learning Outcome Pretest – Control	0,004	Not Normal
Learning Outcome Posttest – Control	0,021	Not Normal
Motivation Pretest – Experimental	0,187	Normal
Motivation Posttest – Experimental	0,358	Normal
Motivation Pretest – Control	0,234	Normal
Motivation Posttest – Control	0,234	Normal

Source: Research Data, 2025

The results show that all learning motivation data were normally distributed, while the learning outcome data showed varying normality.

Homogeneity Test

The homogeneity test aims to determine whether the variance of data between groups is equal (homogeneous). The testing criterion is that if the significance value > 0.05 , the data are homogeneous.

Table 5. Homogeneity Test Results

Data Group	p-value	Decision
Learning Outcome Pretest	0,877	Homogen
Learning Outcome Posttest	0,773	Homogen
Motivation Pretest	0,348	Homogen
Motivation Posttest	0,555	Homogen

Source: Research Data, 2025

The test results show that all data groups have homogeneous variances.

Hypothesis Testing

Hypothesis 1 is that there is a direct effect of using EdrawMind-based mind mapping media on learning outcomes. This hypothesis tests the effect of using EdrawMind-based mind mapping media on learning outcomes. The test was conducted using an Independent Sample T-Test.

Table 6. Independent Sample T-Test Results (Learning Outcomes

Kelompok	Mean	Mean difference	Significance (2-tailed)
Experimental Class (edrawmind)	77,78	-0,28	0,944
Control Class (PowerPoint)	78,06		

Source: Research Data, 2025

Based on Table 6, the significance value of 0.944 (> 0.05) indicates there is no significant difference in learning outcomes between the experimental and control classes. Therefore, the first hypothesis was not proven. Based on the results of statistical analysis, there is no significant direct effect of using EdrawMind-based mind mapping media on student learning outcomes in the history subject. This finding is supported by the Independent Samples T-Test results showing a significance value of 0.944 ($p > 0.05$), which indicates no statistically significant difference between the experimental and control groups. The average learning outcome score of the experimental group at 77.78 differed by only 0.28 points compared to the control group at 78.06. This minimal difference further reinforces the finding that EdrawMind media intervention did not have a significant impact on improving students' cognitive learning outcomes.

Theoretically, this phenomenon can be explained through the perspective of Cognitive Load Theory (CLT) developed by Sweller (1988, 1994). Cognitive Load Theory focuses on how working memory processes information and argues that by minimizing extraneous cognitive load and promoting germane cognitive load, the effectiveness of learning can be improved (Clark & Kimmons, 2023). The application of new learning media such as EdrawMind at the initial phase of implementation creates a fairly high extraneous cognitive load. Students not only have to process complex historical material, but also have to allocate cognitive resources to learn the interface and technical features of the EdrawMind application. This adaptation process causes working memory capacity to become divided, thereby reducing students' ability to consolidate historical information into long-term memory. In contrast, conventional methods like PowerPoint have become familiar technology for students, enabling them to focus directly on the substance of the material without facing technical obstacles.

A comparative analysis with the control group using PowerPoint media reveals the advantages of the conventional method in the efficiency of fact-based material delivery. PowerPoint enables teachers to present historical content in a linear and structured manner, with a clear chronological order of important events. Although criticized for its teacher-centered approach, this method proves effective in transferring declarative knowledge — such as dates, names of figures, and the sequence of historical events — in a relatively short time. On the other hand, the process of creating mind maps in the experimental class required a longer time allocation for the design and conceptualization stage, thereby limiting the scope of material that could be covered.

Based on the foregoing discussion, the first hypothesis stating that there is a direct effect of using EdrawMind-based mind mapping media on learning outcomes is declared unproven. This finding leads to the conclusion that educational media innovation does not automatically guarantee an improvement in cognitive learning outcomes, particularly for the history subject which has the characteristic of content-dense material requiring systematic chronological understanding.

Hypothesis 2 is that there is a direct effect of learning motivation on learning outcomes. This hypothesis tests the effect of learning motivation on learning outcomes. The test was conducted using Simple Linear Regression.

Table 7. Simple Linear Regression Test Results

Model	Regression Coefficient(B)	R Square (R ²)	Significance
(Constant)	45,23		
Learning Motivation	0,52	0,105	0,006

Source: Research Data, 2025

Based on Table 7, the significance value of 0.006 (< 0.05). The regression equation obtained is $Y = 45.23 + 0.52X$ with a contribution (R^2) of 10.5%. Therefore, the second hypothesis is proven. The findings of the statistical analysis show a significant direct influence between students' level of learning motivation and their academic achievement in the history subject. Testing through linear regression analysis yielded a significance value of 0.006 ($p < 0.05$), indicating a relationship between the learning motivation variable and learning outcomes. The linear regression equation obtained, Learning Outcomes = $45.23 + 0.52(\text{Motivation})$, indicates that every increase of one unit in the learning motivation score is associated with an increase of 0.52 units in the learning outcome score. This interpretation shows a positive relationship between the two variables. Nevertheless, the coefficient of determination (R^2) value of 0.105 reflects that the learning motivation variable can only explain approximately 10.5% of the total variation in learning outcomes. The dominant remaining variation, approximately 89.5%, is explained by other factors not included in this analysis model.

Theoretically, this finding can be examined through the framework of Expectancy-Value Theory (Eccles & Wigfield, 2020). The limited contribution of motivation indicates that task value alone is insufficient without being supported by a strong expectancy of success. In the context of history learning, factors such as verbal ability, long-term memory, and effective learning strategies directly shape students' expectancy. Prior knowledge not only facilitates comprehension but can also increase utility value because students can connect new information with their existing knowledge framework. Thus, a student may have high intrinsic motivation (intrinsic value), but if their expectancy is low due to inadequate cognitive ability or learning strategies, the conversion of motivation into optimal learning outcomes will be hindered.

A comparative analysis with previous research reinforces the finding that learning motivation is often a weak predictor for subjects that are characterized by memorization and conceptual understanding, such as history. In the control group using conventional methods, although the level of student learning motivation was relatively lower compared to the experimental group, the learning outcomes achieved were not significantly different. This phenomenon suggests that structured direct instruction remains effective in transferring declarative knowledge, regardless of students' motivation levels. In other words, for achieving learning objectives oriented toward content mastery, a systematic and focused learning approach plays a more crucial role than simply creating an enjoyable learning environment.

Based on this in-depth discussion, the second hypothesis stating that there is a direct effect of learning motivation on student learning outcomes is declared proven, albeit with a limited contribution. The practical implication of this finding is the need for educators to design learning strategies that not only focus on increasing motivation, but also strengthen other academic supporting factors such as the development of learning strategies, provision of cognitive scaffolding, and optimization of assessment for learning.

Hypothesis 3 is that there is a direct effect of using EdrawMind-based mind mapping media on learning motivation. This hypothesis tests the effect of using EdrawMind-based mind mapping media on learning motivation. The test was conducted using a Paired Sample T-Test.

Table 8. Paired Sample T-Test Results (Learning Motivation)

Group	Mean Pre-test	Mean Post-test	Increase (Mean Difference)	Significance
Experimental Class (EdrawMind)	53,11	63,83	10,72	0,000
Control Class (PowerPoint)	57,97	64,33	6,36	0,000

Source: Research Data, 2025

Based on Table 8, there is a significant increase in motivation in the experimental class with a significance value of 0.000. The increase in the experimental class (10.72) was higher compared to the control class (6.36). Therefore, the third hypothesis is proven. The results of statistical analysis prove that there is a significant direct effect of using EdrawMind-based mind mapping media on the improvement of student learning motivation. Testing with the Paired Samples T-Test yielded a significance value of 0.000 ($p < 0.05$), indicating a very significant difference between learning motivation before and after the treatment. The average learning motivation score increased by 10.72 points, from 53.11 in the pretest to 63.83 in the posttest. This considerable gain score reflects the effectiveness of EdrawMind media in creating a learning environment capable of arousing and increasing student learning motivation.

The success of EdrawMind in increasing learning motivation can be explained through the synergistic integration of the principles of the Cognitive Theory of Multimedia Learning (Mayer, 2020) and the psychological impact of Student-Centered Learning. From a cognitive perspective, EdrawMind's visual-spatial features, such as colored templates, symbolic icons, and hierarchical layouts, directly apply Mayer's principles such as segmenting (breaking down information into units within nodes), pre-training (introducing concepts through icons/visuals), and coherence (eliminating irrelevant information). These principles reduce extraneous cognitive load, allowing students' cognitive resources to be allocated for deeper processing (germane cognitive load), which facilitates understanding and retention.

The active process of designing a mind map positions students as agents of their own learning. This activity fulfills the basic psychological needs in Self-Determination Theory (Ryan & Deci, 2017), namely: a sense of autonomy through customization and design freedom; a sense of competence when successfully creating a structured knowledge representation; and a sense of relatedness when mind maps are shared and discussed. These needs are powerful drivers of intrinsic motivation. Thus, EdrawMind is not merely a visual tool (multimedia), but a learning environment that integrates cognitive efficiency and psychological fulfillment, which together strengthen learning engagement.

A comparative analysis with the control group using PowerPoint media reveals EdrawMind's superiority in the motivational aspect. Although the control group also experienced an increase in learning motivation with a gain score of 6.36 points, this figure is significantly lower than the experimental group. The fundamental weakness of PowerPoint media lies in its linear and teacher-dominated presentation, where students act as passive observers in the learning process. Although PowerPoint can present information in a visually appealing manner, its one-way delivery format limits students' space to express creativity and construct understanding independently. Conversely, EdrawMind empowers students as the main actors in the learning process, which is in accordance with the constructivist principle that knowledge is actively built by the learner.

Conclusion

Based on the results of data analysis and the discussion conducted, it can be concluded that the use of EdrawMind-based mind mapping media does not have a significant effect on the history learning outcomes of Grade XI students at SMA Negeri 70 Jakarta. This finding was evidenced through the Independent Samples T-Test, which yielded a significance value of 0.944, which is greater than the significance level of 0.05. On the other hand, learning motivation was proven to have a positive and significant effect on history learning outcomes, as shown by the linear regression test with a significance value of 0.006, which is less than 0.05. Furthermore, the use of EdrawMind-based mind mapping media was proven to significantly improve the history learning motivation of students, as evidenced through the Paired Samples T-Test with a significance value of 0.000. Therefore, it can be concluded that although EdrawMind does not directly improve cognitive learning outcomes, this media is effective in increasing learning motivation, which ultimately contributes to the achievement of students' history learning outcomes.

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References

- Acesta, A. (2020). Pengaruh penerapan metode mind mapping terhadap kemampuan berpikir kreatif siswa. *Naturalistic: Jurnal Kajian dan Penelitian Pendidikan dan Pembelajaran*, 4(2b), 581–586. <https://doi.org/10.35568/naturalistic.v4i2b.766>.
- Adhitama, N., Parmin, P., & Sudarmin, S. (2015). Implementasi quantum learning berbantuan mind mapping worksheet untuk mengukur kemampuan komunikasi dan hasil belajar peserta didik. *Unnes Science Education Journal*, 4(3), 1022–1030. <https://journal.unnes.ac.id/sju/usej/article/view/8856>.
- Agustin, D., Syahbana, A., & Paradesa, R. (2018). Pengaruh metode mind mapping terhadap kemampuan pemahaman konsep matematis dan motivasi belajar siswa SMP Negeri 5 Prabumulih. *Jurnal Pendidikan Matematika RAFA*, 4(1), 9–18. <https://doi.org/10.19109/jpmrafa.v4i1.2461>.
- Ariani, A. (2024). *Penerapan model pembelajaran STAD (student teams achievement divisions) berbantuan mind mapping untuk meningkatkan motivasi dan hasil belajar siswa kelas XI SMA Negeri 2 Sekampung materi sistem gerak manusia*. Skripsi. IAIN Metro.
- Aspiatun, A. (2020). Penerapan desain pembelajaran mind mapping untuk peningkatan prestasi belajar matematika materi lingkaran pada siswa kelas VIII SMP Negeri 3 Nganjuk. *Jurnal Edukasi Matematika dan Sains*, 8(1), 18–25. <https://doi.org/10.25273/jems.v8i1.6164>.
- Bishnoi, M. (2024). Role of motivation in the path of learning: Leading towards golden road of sustainability. *International Journal of Advanced Academic Studies*, 6(6), 8–11. <https://www.allstudyjournal.com/article/1208/S-6-6-8-404.pdf>.
- Camp, G., Surma, T., & Kirschner, P. A. (2021). Foundations of multimedia learning. In R. E. Mayer & L. Fiorella (Eds.), *The Cambridge handbook of multimedia learning*. Cambridge University Press. <https://doi.org/10.1017/9781108894333.004>.

- Cantona, I. G. E., & Sudarma, I. K. (2020). Model pembelajaran SAVI berbantuan media mind mapping meningkatkan hasil belajar IPA siswa kelas V. *Jurnal Pedagogi dan Pembelajaran*, 3(2), 269–277. <https://doi.org/10.23887/jp2.v3i2.26615>.
- Casmini, N. L. (2022). Penerapan metode mind mapping untuk meningkatkan motivasi dan hasil belajar kimia siswa kelas XII MIPA 1 SMAN 2 Busungbiu. *Jurnal Ilmiah Pendidikan Profesi Guru*, 3(1), 193–201. <https://doi.org/10.23887/jippg.v3i1.28245>.
- Clark, C., & Kimmons, R. (2023). Cognitive load theory. In *EdTechnica: The open encyclopedia of educational technology* (pp. 109–115). <https://doi.org/10.59668/371.12980>
- Eccles, J. S., & Wigfield, A. (2020). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology*, 61, 101859. <https://doi.org/10.1016/j.cedpsych.2020.101859>
- EdrawMind. (2023). White paper on educational features. <https://www.edrawmind.com/ad-educational-features.html>. Diakses tanggal 10 Januari 2026.
- Ekawati, N. M., & Kusumaningrum, D. (2020). Pengaruh penerapan metode pembelajaran mind mapping terhadap hasil belajar siswa kelas V sekolah dasar negeri 2 Sumberrejo tahun pelajaran 2018/2019. *JPDI (Jurnal Pendidikan Dasar Indonesia)*, 5(2), 31–36. <https://doi.org/10.26737/jpdi.v5i2.2091>.
- Elita, U. (2018). Peningkatan hasil belajar menggunakan metode pembelajaran mind mapping. *BIOEDUSAINS: Jurnal Pendidikan Biologi dan Sains*, 1(2), 177–182. <https://doi.org/10.31539/bioedusains.v1i2.372>.
- Enanda, A., & Triyono, M. B. (2016). Penerapan metode pemberian tugas pembuatan mind mapping untuk meningkatkan motivasi dan prestasi belajar siswa. *Jurnal Dinamika Vokasional Teknik Mesin*, 1(1), 32–36. <https://doi.org/10.21831/dinamika.v1i1.11454>.
- Fauziah, R., & Alatas, F. (2016). Pengaruh lembar kerja siswa berbasis mind map terhadap hasil belajar siswa SMA pada konsep fluida statis. *Edusains*, 8(1), 1–8. <https://doi.org/10.15408/es.v8i1.1406>.
- Goldfayl, D. (1995). Affective and cognitive domain learning with multimedia: Two sides of the same coin. In *Proceedings of the 12th Annual Conference of the Australian Society for Computers in Learning in Tertiary Education (ASCILITE)* (pp. 211–220). <http://www.ascilite.org/conferences/melbourne95/smtu/papers/goldfayl.pdf>.
- Hamalik, O. (2014). *Kurikulum dan Pembelajaran*. Bumi Aksara.
- Karim, A. (2014). Meningkatkan motivasi belajar pendidikan sejarah kebudayaan Islam (SKI) melalui metode pembelajaran mind mapping. *Quality*, 2(1), 1–18. <https://journal.iainkudus.ac.id/index.php/Quality/article/view/205>.
- Kristiana, D. (2016). Implementasi mind mapping terhadap motivasi dan hasil belajar mahasiswa. *Jurnal Dimensi Pendidikan dan Pembelajaran*, 4(2), 1–9. <https://doi.org/10.24269/dpp.v4i2.198>.
- Lestari, W. A. U., Akhdinirwanto, R. W., & Maftukhin, A. (2012). Penggunaan mind mapping untuk meningkatkan hasil belajar pada siswa MTs Negeri Purworejo. *Radiasi: Jurnal Berkala Pendidikan Fisika*, 1(1), 76–79. <https://jurnal.umpwr.ac.id/radiasi/article/view/383>.

- Lubis, R., Herlina, M., & Rukmana, J. (2019). Pengaruh model pembelajaran think pair share menggunakan media mind mapping terhadap aktivitas dan hasil belajar kognitif siswa. *BIOEDUSAINS: Jurnal Pendidikan Biologi dan Sains*, 2(2), 160–178. <https://doi.org/10.31539/bioedusains.v2i2.978>.
- Lumentut, R. S., Said, I., & Mustapa, K. (2017). Pengaruh model pembelajaran guided inquiry dengan mind map terhadap hasil belajar dan motivasi siswa pada materi redoks di kelas X SMA Negeri 5 Palu. *Jurnal Akademika Kimia*, 6(2), 113–118.
- Makrifah, I. A. (2019). Penggunaan teknik mind mapping untuk meningkatkan kemampuan menulis paragraf berbahasa Inggris. *Briliant: Jurnal Riset dan Konseptual*, 4(1), 151–160. <https://doi.org/10.28926/briliant.v4i2.286>.
- Mayer, R. E. (2024). The past, present, and future of the cognitive theory of multimedia learning. *Educational Psychology Review*, 36, 8. <https://doi.org/10.1007/s10648-023-09842-1>.
- Muhamad, S., & Solfarina. (2015). Mind mapping dalam pembelajaran struktur atom pada siswa kelas X SMA Negeri 1 Palu. *Jurnal Akademika Kimia*, 4(3), 116–122. <https://www.neliti.com/publications/224075/mind-mapping-dalam-pembelajaran-struktur-atom-pada-siswa-kelas-x-sma-negeri-1-pa#cite>.
- Nisak, E. (2018). Penerapan metode mind mapping untuk meningkatkan hasil belajar PKn pada siswa kelas IX SMPN 1 Kalidawir. *Briliant: Jurnal Riset dan Konseptual*, 3(1), 13–21. <https://doi.org/10.28926/briliant.v3i1.131>.
- Nyoman, N., & Wati, K. (2021). Dampak model pembelajaran mind mapping dalam meningkatkan hasil belajar siswa di sekolah dasar. *Journal of Education Action Research*, 5(4), 440–446. <https://doi.org/10.23887/jear.v5i4.43652>.
- Priyandana, I. W. P., Dibia, I. K., & Ujianti, P. R. (2021). Upaya meningkatkan hasil belajar IPA melalui media pembelajaran mind mapping berbantuan aplikasi Edraw MindMaster. *MIMBAR PGSD Undiksha*, 9(2), 287–294. <https://doi.org/10.23887/jjpsd.v9i2.36520>.
- Purnama, R., & Ratman. (2015). Pengaruh mind mapping melalui brain based learning terhadap hasil belajar siswa pada materi ikatan kimia di kelas X MIA SMA Negeri 1 Marawola. *Jurnal Akademika Kimia*, 4(3), 149–154. <https://www.neliti.com/publications/224077/pengaruh-mind-mapping-melalui-brain-based-learning-terhadap-hasil-belajar-siswa#cite>.
- Rahayu, A. H., Santosa, S., & Endarto, D. (2015). Upaya meningkatkan motivasi dan hasil belajar geografi melalui penerapan media audio visual dengan metode mind map. *Jurnal GeoEco*, 1(1), 10–17. <https://jurnal.uns.ac.id/GeoEco/article/view/8886>.
- Rahayu, P. I., Pratitis, N. T., & Matulesy, A. (2021). Efektifitas pelatihan problem solving dengan teknik mind mapping untuk meningkatkan kreativitas guru pendidikan anak usia dini. *Briliant: Jurnal Riset dan Konseptual*, 6(2), 329–338. <https://doi.org/10.28926/briliant.v6i2.594>.
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press.
- Sari, E. N., Ridlo, S., & Utami, N. R. (2016). Pengaruh model pembelajaran discovery learning dengan mind mapping terhadap hasil belajar siswa pada materi sel di SMA. *Unnes Science Education Journal*, 5(3), 1403–1407.

- https://www.researchgate.net/publication/352026001_Efektifitas_Pelatihan_Problem_Solving_dengan_Teknik_Mind_Mapping_untuk_Meningkatkan_Kreativitas_Guru_Pendidikan_Anak_Usia_Dini.
- Schneider, S., Beege, M., Nebel, S., & Rey, G. D. (2022). The cognitive-affective-social theory of learning in digital environments (CASTLE). *Educational Psychology Review*, 34, 1–38. <https://doi.org/10.1007/s10648-021-09626-5>.
- Seda, E., Ain, N., & Sundaygara, C. (2019). Pengaruh model pembelajaran discovery learning berbasis mind mapping terhadap hasil belajar siswa. *RAINSTEK: Jurnal Terapan Sains & Teknologi*, 1(3), 1–13. <https://doi.org/10.21067/jtst.v1i3.3728>.
- Setyani, N. A., & Suhendar, U. (2022). Analisis keterkaitan minat belajar dan motivasi belajar dalam proses pemahaman konsep matematika. *SEPREN: Journal of Mathematics Education and Applied*, 4(1), 11–22. <https://doi.org/10.36655/sepren.v4i01.733>.
- Shin, D. J. D., Lee, H. J., Lee, G., & Kim, S.-I. (2019). The role of curiosity and interest in learning and motivation. In K. A. Renninger & S. Hidi (Eds.), *The Cambridge handbook of motivation and learning* (pp. 443–464). Cambridge University Press. <https://doi.org/10.1017/9781316823279.020>.
- Solehah, S., & Riyanto, R. (2016). Penerapan metode mind mapping dan model student facilitator and explaining (SFAE) untuk meningkatkan hasil belajar peserta didik kelas VIII A. *Jurnal Edukasi Matematika dan Sains*, 4(2), 121–128. <https://www.neliti.com/publications/77693/penerapan-metode-mind-mapping-dan-model-student-facilitator-and-explaining-sfae#cite>.
- Sukarata, I. G. A., Yudiana, K., & Rati, N. W. (2023). Media pembelajaran mind mapping berbantuan Edraw MindMaster pada pembelajaran IPA kelas V sekolah dasar. *Innovative: Journal of Social Science Research*, 3(2), 14801–14813. <https://j-innovative.org/index.php/Innovative/article/view/1932>.
- Sumarto, P. (2017). Meningkatkan hasil belajar siswa melalui model number head together berbantuan mind mapping. *Briliant: Jurnal Riset dan Konseptual*, 2(2), 147–156. <https://doi.org/10.28926/briliant.v2i2.39>.
- Sumiati, M. (2020). Implementasi peta pikiran (mind mapping) dalam menguasai teori kejuruan untuk meningkatkan hasil belajar siswa. *Briliant: Jurnal Riset dan Konseptual*, 5(3), 551–560. <https://doi.org/10.28926/briliant.v5i3.534>.
- Untari, E., & Susanto, L. (2022). Pembelajaran matematika menggunakan metode mind mapping, snowball throwing, dan teams games tournaments (TGT). *Jurnal Edukasi Matematika dan Sains*, 10(1), 130–139. <https://doi.org/10.25273/jems.v10i1.12171>.
- Variani, N. L. D., & Agung, A. A. G. (2020). Model pembelajaran discovery learning berbantuan media mind mapping terhadap hasil belajar IPA siswa kelas V. *Jurnal Pedagogi dan Pembelajaran*, 3(2), 290–302. <https://doi.org/10.23887/jp2.v3i2.26631>.
- Yohanie, D. D. (2015). *Eksperimentasi pembelajaran matematika dengan model mind mapping terhadap hasil belajar siswa*. Skripsi. Universitas Nusantara PGRI Kediri.
- Zahro, F., Degeng, I. N. S., & Mudiono, A. (2018). Pengaruh model pembelajaran student team achievement division (STAD) dan mind mapping terhadap hasil belajar siswa kelas IV sekolah dasar. *Premiere Educandum: Jurnal Pendidikan Dasar dan Pembelajaran*, 8(2), 196–205. <https://doi.org/10.25273/pe.v8i2.3021>.