

The Influence of E-Module Based on Contextual Approaches on Historical Thinking Skills

Tiur Nurmayany Raharjo¹, Agus Mulayana², Yeni Kurniawati Sumantri³

¹Universitas Pendidikan Indonesia, Bandung, Indonesia

¹Universitas Pendidikan Indonesia, Bandung, Indonesia

¹Universitas Pendidikan Indonesia, Bandung, Indonesia

tiurnurma@upi.edu, agusmulyana66@upi.edu, yenikurniawati@upi.edu

Received date	Accepted date	Published date
------------------	------------------	-------------------

Abstract This research is motivated by Kurikulum Merdeka in History lessons which contains achievements to be able to contextualize events that occurred in the past. The ability of teachers who have now developed by having the ability to create and use electronic-based teaching materials can develop electronic-based teaching materials containing historical material that is linked to contextual issues. Seeing this, the researcher conducted a quasi-experimental study aimed at analyzing the influence of e-modules based on a contextual approach to historical thinking skills. The researcher saw this influence by using a quasi-experiment with a time series design conducted at SMA Negeri 26 Bandung. The results of the study showed that e-modules based on a contextual approach can show an influence on historical thinking skills with a moderate increase in the category.

Keywords: contextual approach, e-module, historical thinking, history learning

Abstrak Penelitian ini dilatarbelakangi oleh Kurikulum Merdeka dalam pelajaran Sejarah yang berisi capaian untuk mampu mengontekstualisasikan peristiwa yang terjadi di masa lalu. Kemampuan guru yang kini telah berkembang dengan memiliki kemampuan membuat dan menggunakan bahan ajar dengan berbasis elektronik maka dapat mengembangkan bahan ajar berbasis elektronik yang berisi materi sejarah yang dikaitkan dengan isu kontekstual. Melihat hal tersebut, peneliti melakukan penelitian kuasi eksperimen yang bertujuan menganalisis pengaruh e-modul berbasis pendekatan kontekstual terhadap kemampuan berpikir sejarah. Peneliti melihat pengaruh tersebut dengan menggunakan kuasi eksperimen dengan desain time series yang dilakukan di SMA Negeri 26 Bandung. Hasil penelitian menunjukkan bahwa e-modul berbasis pendekatan kontekstual dapat menunjukkan pengaruh terhadap kemampuan berpikir sejarah dengan besaran peningkatan dalam kategori sedang.

Kata kunci : pendekatan kontekstual, e-modul, berpikir sejarah, pembelajaran sejarah



INTRODUCTION

History learning provides an understanding that what is happening now is related to the past and decisions taken today will determine changes in the future. This is in line with the rationale for history subjects in the Learning Outcomes document of the Kurikulum Merdeka which states that understanding and awareness of Indonesianness must be known by all Indonesian people, questions about where we come from, how we are now, and in what direction we want to go in the future are various questions about our existence as a nation or even humans in general (Kemdikbud Ristek, 2022, p. 242). The right way to realize historical thinking is with a contextual approach. In the document it is written:

Progressively, history learning must be able to contextualize various events that occurred in the past with various events experienced now, so that we can think about each other, listen, compare, or make decisions, as well as an orientation for a better future life (Kemdikbud Ristek, 2022, p. 244).

Johnson stated that the CTL system is an educational process that aims to help students see meaning in the academic material they are studying by connecting academic subjects with the context of their daily lives, namely with the context of their personal, social, and cultural circumstances (Johnson, 2008, p. 67). Contextual learning is an approach used by teachers to connect learning materials with students' life experiences. The contextual approach is a learning concept that helps teachers link the material taught to students' real-world situations and encourages students to make connections between the knowledge they have and its application in their lives as family members and society (Yudhawati and Haryanto, 2011, p. 51). This explanation is in line with Suriansyah, et al. who explained that contextual learning is a learning approach that emphasizes full student involvement in the learning process to be able to find the material being studied and connect it to real-life situations so as to encourage students to be able to apply it in their lives (Suriansyah, et al., 2014, p. 89).

History learning in general has used e-modules as teaching materials developed by teachers. Teachers have used e-modules containing history teaching materials, using power point applications, nearpod, canva, genially, and others. However, the teaching materials are still in the form of electronic books or e-books or modified media but the content is still a transfer from textbooks which results in history learning being merely memorization which is less useful for students' lives today. "Teaching of history in recent years continues to be traditional, and is based on the inert transmission of information, the almost exclusive use of the textbook and the memorization of content" (López-García, 2023, p. 2). History learning needs to change by following the 21st century learning paradigm, one of which is learning that can train analytical thinking skills (decision making) rather than mechanistic (routine) thinking that is rote (Syaputra and Sariyatun, 2019, p. 22).

History learning that merely transfers information is not in line with the achievement of history learning that develops the concept of historical thinking, namely the concept of change, continuity, repetition, and development in history. The delivery of history lessons that can link past conditions with the present is not conveyed so that it is far from the contextual elements expected in the achievement of history learning. This statement is supported by Komalasari (2010, p. 27) who stated that "contextual learning requires learning materials not only to be developed from textbooks, but materials to be developed from the context of students' daily living environment, both physical environment, social life, culture, economy and psychology, and integration between subject matter". History learning with a contextual approach needs to be implemented, one of which is with e-modules based on a contextual approach. "The contextual-based history learning e-modules are a way of optimizing history learning activities" (Marta, Abdurakhman, and Djunaidi, 2023, p. 327).

E-modules based on a contextual approach with history learning materials can develop historical thinking skills, namely chronological thinking, understanding the process of development and change in society. Historical thinking skills include "the big six" or six keys in building historical thinking skills, namely historical significance, evidence, continuity and change, analyzing cause and consequence, historical perspectives, and ethical dimensions (Seixas and Morton, 2012, p. 4). The six keys can be used by teachers in managing history learning to build historical thinking skills.

E-modules are teaching materials that have various features that are useful for managing learning. "E-modules are one type of teaching material developed using electronic devices that are equipped with text, images and videos" (Dewi and Lestari, 2020, p. 345). E-modules can contain content that can be adjusted to the learning steps and worksheets needed. E-modules are one of the learning tools that can facilitate student learning because they contain clear objectives, lesson materials, activity sheets and can check student understanding (Akhmadi, Rofi'i and Hartono, 2021, p. 77). The development of e-modules can utilize various applications that contain text, images, videos, and are also interactive by utilizing game features such as in the Quizziz, Nearpod, Genially, and other applications. E-modules used in learning with various features can be more interactive and in accordance with the characteristics of generation Z as digital natives based on seven main components, namely constructivism, inquiry, questioning, learning community, modeling, reflection, and authentic assessment.

E-module research has been conducted by Tanama, Degeng, and Sitompul in 2023. In their research, they developed a history e-module with the Canva application which aims to increase learning enthusiasm. E-modules with Canva use a scientific approach and apply HOTS (Higher Order Thinking Skills) questions that can increase students' learning enthusiasm and learning outcomes. In their research, they also suggest "to add more innovative components or

applications to support classroom learning so that better results are obtained" (Tanama, Degeng, and Sitompul, 2023, p. 80). Other research on e-modules has been developed by Sholehah, et al. (2023) with research and development methods. They use e-modules based on POGIL (Process Oriented Guided Inquiry Learning). "The advantages of POGIL-based e-modules compared to other media are complete materials, reading sources from POGIL-based e-modules are primary sources, there are videos, images, reading links that make it easier for students to explore the material further" (Sholehah, 2023, p. 118). Research on the development of contextual-based e-modules has been conducted by Akhmadi, Rofi'i and Hartono (2021) which resulted in the conclusion that e-modules can increase the effectiveness of student learning activities and teacher activities in the learning process. Research on contextual-based e-modules has also been conducted by Marta, Abdurakhman, and Djunaidi (2023) which shows that contextual-based e-modules can make history learning activities more optimal.

This study aims to answer the influence of E-modules based on a contextual approach on historical thinking skills as seen from differences in historical thinking results over time. The E-modules in this study are packaged with an attractive and interactive display using the Genially platform-based application. Researchers use this platform because in addition to having complete features with text, images, links to other sources from the internet, and gamification, it can also be designed with attractive images and transitions so that the content of the teaching materials is more varied, in-depth, and interactive.

METHOD

The experimental model used is the equivalent time series design. This design can be used to study one group in one period. "A time-series design consists of studying one group, over time, with multiple pretest and posttest measures or observations made by the researcher" (Cresswell, 2015, p. 314). The following are the stages in the equivalent time-series design.

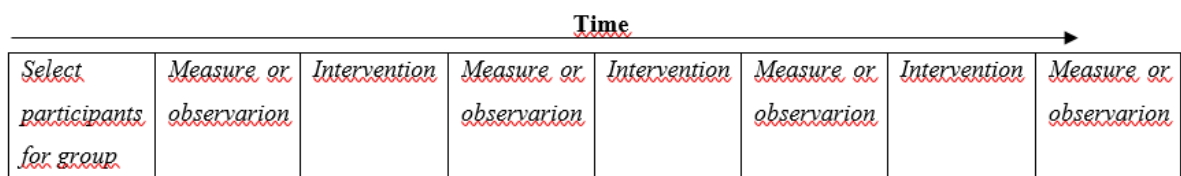


Figure 1.1

Quasi-Experimental Equivalent Time-Series Design (Cresswell, 2015, p. 315)

Steps with Equivalent Time-Series design, namely (1) select participants or samples in the study, (2) measure the dependent variable with a pretest, (3) treatment 1 to the experimental group, (4) measure the dependent variable with a post-test to see the effect of treatment 1, (5) treatment 2 to the experimental group, (6) measure the dependent variable with a post-test to see the effect of treatment 2, (7) treatment 3 to the experimental group, (8) measure the dependent variable with a post-test to see the effect of treatment 3.

The research population was all students at SMA Negeri 26 Bandung. SMA Negeri 26 Bandung. The class sample used was class XI 3 with a total of 23 students. This study measures historical thinking skills based on 'The Big Six' or six keys to historical thinking from Sixas and Morton. 'The Big Six' is taken from five points that are adjusted to the needs of the research, namely historical significance, evidence, continuity and change, cause and consequence, and historical perspective. The five parts of 'The Big Six' were developed into indicators in creating objective test grids. The instrument used by researchers to measure historical thinking skills with a multiple-choice test of 30 questions consisting of three historical materials designed with High Order Thinking Skill (HOTS) questions. The questions were given in stages, namely ten pretest questions taken from a combination of three materials, the first to third posttest with ten questions with different materials according to the material that is in accordance with the discussion of the e-module based on the contextual approach. Based on the seven components of the contextual approach, in the e-module in this study, four components were taken.

Table 1.1 Components of the contextual approach in the e-module

Components of a Contextual Approach	Indicators
<i>Constructivism</i>	Contains an introduction to concepts, historical materials and in-depth material review instructions. In addition, the e-module contains stimuli to observe the situation in the student's environment or current issues.
<i>Questioning</i>	Contains instructions for conducting question and answer activities carried out by students with questions related to historical material or current conditions.
<i>Learning Community</i>	Contains instructions for discussing in groups and presenting discussion results regarding alternative solutions to the problems presented.
<i>Reflection</i>	Contains directions for reflecting on learning that has taken place by paying attention to the current situation as an impact of the past and the actions needed to build a better future, supplemented with relevant concepts or theories as a basis for decision making.

Seixas and Morton (2012), stated that there are six elements in historical thinking, which in this study focused on five elements, namely historical significance, continuity and change, historical perspective, the ethical dimension, cause and consequence. The following is an explanation of the five elements of historical thinking that are adjusted to the needs of the research, namely:

1. Historical significance
 - a. Identifying events, people, or developments that have historical significance if they result in change.
 - b. Analyzing events, people, or developments that have historical significance related to the assessment of historical evidence.
2. Evidence
 - a. Ability to interpret primary sources.
 - b. Analyzing the context of its historical background, conditions and worldviews that were common at the time in question.
3. Continuity and change.
 - a. Sequencing historical events based on chronology.
 - b. Evaluating changes in broad history over time.
4. Cause and consequence
 - a. Identifying various short-term and long-term causes and consequences of a historical event and recognizing the complex interconnectedness between the two.
 - b. Identifying the relationship between the actions of historical actors and conditions at that time.
5. Historical perspective
 - a. Explaining the differences between current worldviews (beliefs, values, and motivations) and previous historical periods.
 - b. Identifying the perspectives of historical actors by considering their historical context.

The five elements of the concept of 'The Big Six' historical thinking are the focus of the research. The points of the sections or subsections of the five elements become the grid in making objective test instruments to measure historical thinking skills.

The e-module based on the contextual approach that has been created by researchers is then tested for the validity of the e-module with expert opinion including validity analysis through the assessment of 2 expert lecturers. The instrument in the form of a multiple-choice test was tested for validity and reliability by being tested first at SMA Negeri 4 Bandung with 60 students as respondents. The validity test data for the objective test instrument showed seven invalid

questions which were then corrected and submitted to the supervising lecturer as an expert in their field before the questions were used in the experiment. The results of the reliability test in the objective test instrument test to measure historical thinking skills showed an *Alpha* value of 0.70. The value is compared with r-table value with a value of $n = 60$, which is 0.25. *Alpha* value $>$ r-table ($0.70 > 0.25$) then it can be concluded that the question items are reliable or trusted as data collectors of historical thinking skills.

The data analysis technique in this study uses quantitative analysis. Analysis by looking at the initial data (pretest) with the final data (posttest). The data analyzed first is the data from post-test 1 to post-test 3 by conducting a normality test. If the results of the normality test show that the data is normally distributed, a different test is carried out with a parametric test. If the data is not normally distributed, a non-parametric test is carried out.

RESULT AND DISCUSSION

The research was conducted at SMA Negeri 26 Bandung on October - November, 2024. The research was conducted by implementing a contextual-based e-module with a pretest before treatment and a posttest at the end of each treatment. The pretest was conducted to determine the initial ability of students' historical thinking skills and problem-solving skills. The initial ability of the students used 10 questions taken from 30 posttest questions that represented each indicator of historical thinking skills.

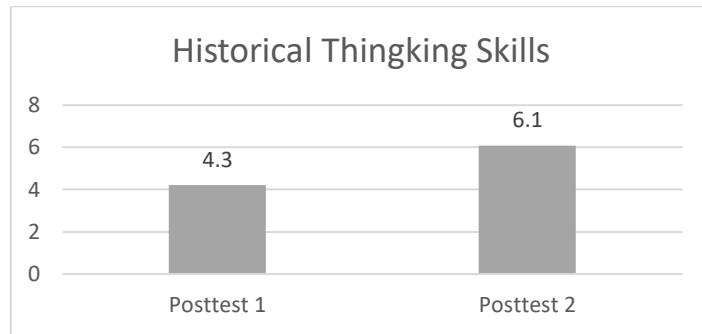
The data that can be taken are 23 respondents. The number of students in class XI 3 is 35 students. However, there were several students who were absent during the treatment. During the three meetings, there were several students who were absent. Twelve students who did not follow the action or treatment during the study, so the data taken for the study were 23 students. The data obtained to measure historical thinking skills using tests in experiment 1 and experiment 2 obtained the following data:

Table 1.3

Recapitulation of Average Scores for Pretest-Posttest 1 and 2

Assesment	Historical Thinking Skill (scale 0-10)
<i>Posttest 1</i>	4.3
<i>Posttest 2</i>	6.1

The average score of historical thinking skills posttest 1 was 4.22 and posttest 2 was 6.09. The average value obtained has increased. If seen in the graph, it can be seen in the following chart:

**Graph 1.1****Difference in Mean Scores of Posttest 1 and Posttest 2**

To see the difference between posttest 1 and 2 of historical thinking skills using statistical test. The results of statistical test can be seen in the following table:

Table 1.4**Normality Test and Difference Test Posttest 1 and Posttest 2 Historical thinking skills**

Assesment	Average	Normality Test (Shapiro-Wilk)	Description	T Count	Paired samples T-Test Posttest 1 dan Posttest 2	Description
Posttest 1	4.3	0.16	Normally distributed data	-3.7	0.00	There is a difference
Posttest 2	6.1	0.32				

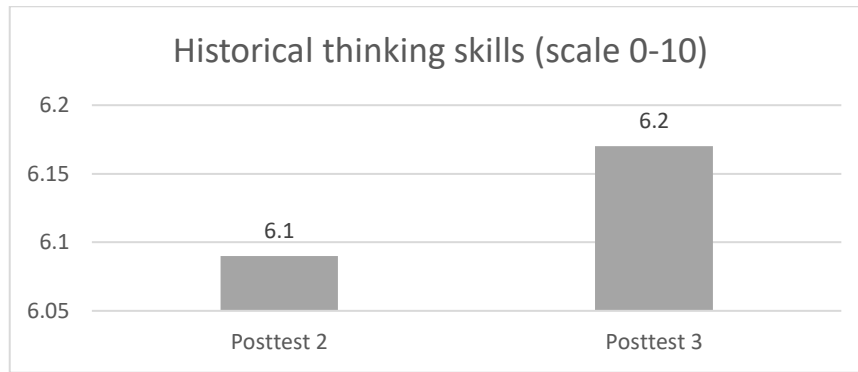
The results of the normality test obtained a value of 0.16 for posttest 1 and 0.32 for posttest 2. Both are significant > 0.05 so it can be concluded that the data is normally distributed. The normally distributed data was then subjected to a parametric test, a paired sample T-test which produced a significance value of 0.00 which was < 0.05 , so it can be concluded that there is a difference between posttest 1 and posttest 2.

The data obtained to measure historical thinking skills using tests in experiments 2 and 3 obtained the following data:

Table 1.5**Recapitulation of Average Scores of Pretest-Posttest 2 and 3**

Assesment	Historical Thinking Skill (scale 0-10)
Posttest 2	6.1
Posttest 3	6.2

The average score of historical thinking skills posttest 2 was 6.09 and posttest 3 was 6.17. The average value obtained has increased. If viewed in the graph, it can be seen in the following chart:

**Graph 1.2****Difference in Mean Scores of Posttest 2 and Posttest 3**

The differences between posttest 2 and 3 of historical thinking skills using statistical tests can be seen in the following table:

Tabel 1.6**Normality Test and Difference Test Posttest 2 and Posttest 3 Historical thinking skills**

Assesment	Average	Normality Test (Shapiro-Wilk)	Description	T Count	Paired samples T-Test Posttest 1 dan Posttest 2	Description
Posttest 2	6.1	0.32	Normally distributed data	0.18	0.86	There is no difference
Posttest 3	6.2	0.26				

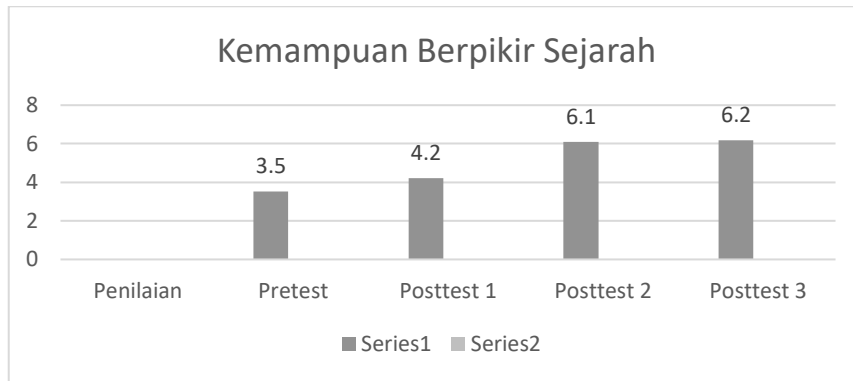
The results of the normality test obtained a value of 0.32 for posttest 2 and 0.26 for posttest 3. Both are significant > 0.05 so it can be concluded that the data is normally distributed. The normally distributed data was then subjected to a parametric test, paired sample test or paired samples T-test which produced a significance value of 0.856 which is > 0.05 so it can be concluded that there is no difference between posttest 2 and posttest 3.

The data collected to measure historical thinking skills using the historical thinking skills test from the pretest, posttest 1, posttest 2, and posttest 3 scores can be seen in the following table:

Table 1.7**Recapitulation of Average Scores for Pretest and Posttest 1, 2, and 3.**

Assesment	Pretest	Posttest 1	Posttest 2	Posttest 3
Historical Thinking Skills (scale 0-10)	3.5	4.2	6.1	6.2

The average scores of pretest and posttest 1, 2, and 3 in historical thinking skills increased as seen in the following graph:

**Graph 1.3****Mean Score of Historical thinking skills Pretest. Posttest 1. 2. and 3**

The influence of e-modules based on contextual approaches on historical thinking skills can be seen from the results of pretest and posttest 3 with the following statistical tests:

Table 1.8**Normality Test and Difference Test of Pretest and Posttest 3 Historical thinking skills**

Assesment	Avera ge	Normality Test (Shapiro- Wilk)	Description	T Count	Paired samples T- Test Posttest 1 dan Posttest 2	Description
Pretest	3.5	0.08	Normally distributed data	-5.09	0.00	Terdapat perbedaan
Posttest 3	6.2	0.26				

The results of the normality test for historical thinking skills obtained a score of 0.08 for the pretest and 0.26 for posttest 3. Both are significant > 0.05 so it can be concluded that the data is normally distributed. The normally distributed data was then subjected to parametric tests. paired samples T-test which produced a significance value of 0.00 which is < 0.05 , so it can be concluded that there is a difference between the pretest and posttest 3. The magnitude of the difference between the pretest and posttest 3 can be calculated by its n-gain. The gain value obtained is 0.4 which is included in the moderate category. Based on the data and data analysis, it can be concluded that the e-module based on the contextual approach has an effect on historical thinking skills. The results of the pretest score for historical thinking skills through the test obtained a score of 3.5 out of a maximum score of 10. The pretest score shows that historical thinking skills are still low. The low historical thinking skills in the experimental class can be said to be reasonable because historical thinking skills is included in the high-level thinking skill for students in the class category with intermediate historical skills.

The implementation of e-modules based on a contextual approach provides a learning experience with digital media as a modified historical teaching material with interactive features

and an attractive appearance. Researchers who act as teachers present e-modules in class and students can access them on their cellphones. E-modules with interesting images and texts make students enthusiastic to explore the historical learning material that has been provided in the e-module based on a contextual approach.

The results of the first posttest showed an increase of 0.7 from the pretest results of 3.5 with the first posttest of 4.2. These results indicate an increase in historical thinking skills. In the implementation of the second experiment, students have had learning experience with e-modules based on a contextual approach so that the learning process is more in accordance with the predetermined stages and has more free time. The results of the second posttest score for historical thinking skills increased by 1.8 from 4.2 in the first posttest while the second posttest was 6.1. The results of the statistical calculations also showed a difference between the first posttest and the second posttest.

The increase in the historical thinking skills score increased in posttest 3 by 0.08 from posttest 2 by 6.1 with the third posttest by 6.2. However, the results of the statistical calculations showed that there was no difference between posttest 2 and posttest 3. There was no difference between the second posttest and the third posttest because students were accustomed to using e-modules so that the difference was not too big like the results of posttest 1 and posttest 2.

The calculation of the pretest with the third posttest which is a test that measures historical thinking skills which was carried out after three times showed an increase from the treatment showing a pretest score of 3.5 and a posttest score of 6.2. The results of the statistical measurements showed that there was a difference between the pretest and the third posttest so that the hypothesis was accepted. When viewed from the magnitude of the difference between the pretest and the third posttest, the n-gain can be calculated to be 0.4 which is included in the moderate category.

CONCLUSION

History learning is expected to contextualize various events that occurred in the past that are related to current conditions. The implementation of contextual learning can utilize digital media as teaching materials developed by teachers. The ability of teachers who have been able to create digital media in teaching and the characteristics of students who are the digital generation provide recommendations for teachers to develop digital teaching materials. One of the digital teaching materials in history learning is an e-module based on a contextual approach.

The e-module contains history lesson material that connects history learning with the conditions of the student's environment and current issues. History learning needs to develop historical thinking skills as one of the aspects expected in learning achievements in the Merdeka curriculum. One way to achieve the skills is to use an e-module based on a contextual approach.

The results of a quasi-experimental study with a time series design showed an increase in the average score of historical thinking skills after using an e-module based on a contextual approach. The statistical results also showed an influence on historical thinking skills between before and after the implementation of an e-module based on a contextual approach.

REFERENCES

- Akhmadi, M. N., & Hartono, H. (2021). Pengembangan E-modul IPS SD Berbasis Kontekstual Materi Menghargai Peninggalan Sejarah di Lingkungan Setempat. *Jurnal Teladan: Jurnal Ilmu Pendidikan dan Pembelajaran*, 6(2), 75-84.
- Creswell, J. W. (2015). *Educational Research Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. New Jersey: Pearson.
- Dewi, M. S. A., dan Lestari, N. A. P. (2020). E-modul Interaktif Berbasis Proyek Terhadap Hasil Belajar Siswa. *Jurnal Imiah Pendidikan Dan Pembelajaran*, 4(3), 433-441.
- Johnson, E.B. (2008). *Contextual Teaching and Learning Menjadikan Kegiatan Belajar-Mengajar Mengasyikan dan Bermakna*. Bandung: Mizan Learning Center.
- Kemdikbud Ristek Badan Standar, Kurikulum, Dan Asesmen Pendidikan. (2022). Keputusan Kepala Badan Standar, Kurikulum, Dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 033/H/KR/2022. Jakarta: Kemdikbud Ristek.
- Komalasari, K. (2010). *Pembelajaran Kontekstual Konsep dan Aplikasi*. Bandung: PT Refika Aditama.
- López-García, A. (2023). Effectiveness of a Teaching Methodology Based on the Theory of Historical Thinking Through Active Methods and Digital Resources in Spanish Adolescents. In *Frontiers in Education* (Vol. 8, p. 1175123). DOI: 10.3389/feduc.2023.1175123
- Marta, N. A., Abdurakhman, A., & Djunaidi, D. (2023). Preparing Graduates for the Workforce: The Development of Contextual-Based History Learning E-Modules in Vocational Schools. *Paramita: Historical Studies Journal*, 33(2).
- Seixas, P., dan Morton, T. (2012). *The Big Six Historical Thinking Concepts*. - : Nelson Education.
- Sholehah, H., dkk. (2023). E-modul Berbasis Process Oriented Guided Inquiry Learning Untuk Peningkatan Critical Thinking. *Agastya: Jurnal Sejarah dan Pembelajarannya*. Vol 13(2), hlm 115-131. DOI: 10.25273/ajsp.v13i2.14404
- Suriansyah, A, dkk. (2014). *Strategi Pembelajaran*. Jakarta: PT RajaGrafindo Persada.
- Syaputra, E., & Sariyatun, S. (2019). Pembelajaran Sejarah di Abad 21 (Telaah Teoritis terhadap Model dan Materi). *Yupa: Historical Studies Journal*, 3(1), 18-27.
- Tanama, J., Degeng, I. N. S., dan Sitompul, N. C. (2023). Pengembangan E-Modul Sejarah Indonesia dengan Aplikasi Canva untuk Meningkatkan Semangat Belajar Siswa Kelas XI SMA. *Jurnal Teknologi Pendidikan: Jurnal Penelitian dan Pengembangan Pembelajaran*, 8(1), 71-83. DOI: 10.33394/jtp.v8i1.5648
- Yudhawati, R dan Haryanto, D. (2011). *Teori-Teori Dasar Psikologi Pendidikan*. Jakarta: PT Prestasi Pustakakarya.