

## THE EFFECT OF ZEP QUIZ BASED FORMATIVE ASSESSMENT MEDIA ON HISTORY LEARNING INTEREST OF CLASS X STUDENTS SMA NEGERI SRONO

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### ABSTRACT

This study was conducted to determine the effect of Zep Quiz-based formative assessment on students' interest in learning history. This study is a quantitative experimental study with a quasi-experimental design using a pretest-posttest control group design. The sample was selected using random sampling, consisting of 54 students from two classes: Class X.3 as the experimental class and Class X.2 as the control class. Data on learning interest were collected through a questionnaire and analyzed using an independent samples t-test. The results showed that the average posttest score for the experimental class was 45,75, which was higher than that of the control class, which was 38,96. The results of the hypothesis test showed a calculated t-value of 5,912 with a significance level (2-tailed) of < 0,001, indicating a significant difference between the two classes. These findings indicate that the Zep Quiz-based formative assessment tool is effective in influencing students' interest in learning history compared to conventional assessments. Thus, the Zep Quiz has the potential to serve as an alternative digital assessment tool that supports technology-based history learning in enhancing students' interest in learning.

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### INTRODUCTION

Based on Law No. 20 of 2003, the essence of education is defined as a purposeful, well-organized effort to build a learning setting that helps students reach their full potential (Pristiwanti et al., 2022). Education, as the foundation of human

development, plays an important part in forming a generation that is knowledgeable, critical thinkers, and capable of adapting to the changing times to face future challenges. Education is inherently dynamic, meaning it will continue to evolve in tandem with changes in the environment and the times (Widyaningrum et al., 2025).

In today's digital age, education is not just the transfer of knowledge, but also about adapting to advances in information technology. At the heart of education lies a process known as learning. Learning is defined as a form of interaction involving the teacher as the conveyor of information or messages and the students as the recipients (Harifa, 2018). In learning activities, teachers are essential in designing learning activities that feel purposeful and engaging through various innovations so that the learning process runs effectively and objectives are optimally achieved (Lail et al., 2021).

All learning activities can integrate technology, including history education. History is a subject that studies past events and deals with historical facts (Sari et al., 2024). In practice, history education can be implemented in various ways through the use of digital media, ranging from web-based applications to interactive simulations. The use of digital technology can provide opportunities to elevate students' interest in learning (Firmansyah, 2024). In the Kamus Besar Bahasa Indonesia (KBBI), interest is defined as a strong inclination toward something, passion, and desire (KBBI, 2025). According to Santoso, the concept of interest is closely related to an individual's emotions, which are reflected in a sense of liking, fascination, and enjoyment toward something (Kanusta, 2021).

Interest has a considerable affect on learning activities. According to Marimba, interest in learning is essentially a student's inclination toward something because they find it engaging during the learning process, which is generally demonstrated by a sense of enjoyment (Ricardo & Meilani, 2017). According to Safari as cited in Sawitri (2023), students' interest in learning can be measured by four aspects or indicators: perasaan senang, ketertarikan siswa, perhatian siswa, dan keterlibatan siswa. Interest in learning serves as the primary driver that fosters motivation, creates a more interactive learning environment, and enhances the appeal of the learning experience for students. If learning activities do not conform with students' interests, they tend to be reluctant to engage fully in learning, as there is nothing that captures their interest. Students' interest in learning through the use of digital technology is highly relevant and closely linked to the implementation of the Merdeka Curriculum, which is student-centered and places a strong emphasis on students. The Merdeka Curriculum facilitates learning by integrating digital technology, enabling the learning process to become more interactive, relevant, and flexible, and allowing students to learn independently (Tunas & Pangkey, 2024). Regarding the learning process, one important aspect is assessment. The learning process and assessment are interrelated and aim to support student success (Kamilina, 2024).

Assessment is an activity carried out comprehensively throughout the learning process. Assessment functions as a tool to evaluate and determine the level of learning achievement and providing information to teachers and students that can be used as feedback (Rahmawati et al., 2023). Based on their categories, assessments in the Merdeka Curriculum are split into three types: diagnostic, formative, and summative assessments. Among these types of assessment, formative assessment is a fundamental and crucial form of evaluation. Formative assessment serves as feedback for both educators and students to improve the learning process (Kamilina, 2024).

Based on preliminary pre-research observations at SMA Negeri Srono, it appears that the history learning process tends to lack variety and is not very engaging. One of the causes is the limited variety of interactive media used in both learning activities and the assessment process. History teachers at the school still rely on conventional assessment tools such as student worksheets, oral tests, and written paper-and-pencil tests as forms of formative assessment for students. These findings show that the assessment process, which is still dominated by conventional methods, has not been able to invent an engaging learning environment, resulting in students' low interest in history. Furthermore, this also indicates that the potential of digital technology has not been optimally utilized in history instruction at this school.

Given these challenges, there is a need for innovation in assessment tools that are designed to be more engaging and interactive, thereby boosting students' interest in learning. This is especially true given that today's students are highly tech-savvy. Moreover, according to the Central Statistics Agency (BPS), high school students constitute the generation with the highest rate of internet usage in Indonesia, with the highest figure reaching 33.13% (Hakiki, 2025). Digital technology provides opportunities to implement more varied and interactive formative assessments through various digital applications

(Saekoko et al., 2025). According to Dewi et al. (2021), there are various technologies that can assist teachers in using assessment tools. One form of digital technology-based formative assessment is Zep Quiz.

As a digital platform, Zep Quiz can be used by teachers to generate interactive quizzes in real time. Using Zep Quiz as a formative assessment tool with its engaging, game-based visuals helps create a learning environment that is both competitive and enjoyable (Rahayu et al., 2025). With Zep Quiz, teachers can create a variety of question types. Zep Quiz also features an automatic leaderboard, as well as various engaging game modes (Widyaningrum et al., 2025). With tools like Zep Quiz, formative assessment serves not only as a means of evaluation but also as a way to encourage students to become more enthusiastic about the learning process.

Previous studies indicate that the interactivity offered by digital quiz apps or platforms is highly effective in enhancing the learning process. For instance, a study conducted by Rahmawati et al. (2024) showed that the Kahoot assessment tool had a major contribution to improving high school students' interest in learning history; these results offer a solid basis for the effectiveness of game-based quiz tools in history lessons. Another study conducted by Widyaningrum et al. (2025) indicated that Zep Quiz successfully created a learning environment that was both enjoyable and competitive, which directly led to increased motivation among junior high school students in computer science classes.

Although some previous studies have indicated that digital quiz platforms can boost students' motivation and interest in learning, these studies have generally been limited to the use of platforms such as Kahoot or to testing Zep Quiz at various school levels for subjects other than history. There are several gaps that have not yet been addressed by previous researchers and need to be further explored. No study has specifically examined the effect of Zep Quiz-based formative assessment on students' affective aspects namely, their interest in learning in the context of high school history education. This gap indicates that the effectiveness of Zep Quiz in high school history education still requires empirical validation. Therefore, this research is urgent and critically important to conduct.

By testing Zep Quiz in the context of history classes and focusing on students' interest in learning, this study complements previous research. The novelty of this research is its examination of the use of Zep Quiz as a formative assessment tool in high school history classes, as well as its evaluation of its impact on students' interest in learning. In contrast to foregoing studies, which primarily focused on other subjects or different school levels, this research delivers concrete proof concerning the use of Zep Quiz in the context of history learning in high school.

Based on the background that has been shown above, this research seeks to ascertain the influence of Zep Quiz-based formative assessment media on the interest in learning history of class X students SMA Negeri Srono. The findings of this research are anticipated to provide valuable insights into the effect of Zep Quiz-based assessment media on students' interest in learning, particularly in history classes. Likewise, it is hoped that this study will contribute to history teachers' efforts to develop innovative and creative formative assessment strategies, as well as provide schools with a basis for create policy determination as to the utilization and facilitation of learning in the digital age.

## METHOD

The approach used in this study is a quantitative experimental design with a quasi-experimental design. The quasi-experimental design was selected due to the impracticality of randomly assigning individual participants to either the experimental or control groups. Therefore, this study utilized pre-existing classes as the research groups. This study involved two groups of subjects: the treatment (experimental) group and the comparison (control) group. A pretest-posttest control group design was employed. According to Sugiyono (2013), a pretest-posttest control group design involves measurements taken before and after the intervention.

**Table 1.** Research Design

|                    | Pretest        | Treatment | Posttest       |
|--------------------|----------------|-----------|----------------|
| Experimental Class | O <sub>1</sub> | X         | O <sub>2</sub> |
| Control Class      | O <sub>1</sub> | -         | O <sub>2</sub> |

Source: Sugiyono (2013)

Description:

X = Treatment (Zep Quiz media)

O1 = Pretest (measurement before treatment)

O2 = Posttest (measurement after treatment)

This study was conducted at SMA Negeri Srono, involving all X class students divided into nine classes as the study population. Using random sampling, two classes were randomly selected for this study. Random sampling was used because all X classes share relatively homogeneous characteristics based on the school's class division system. Classes were selected at random to minimize potential bias in determining the experimental and control groups. Meanwhile, data collection in this study utilized a questionnaire as the primary instrument or measurement tool. The questionnaire in this research was designed using a 4-point Likert scale for each statement. The development of this questionnaire was based on indicators of learning interest, which included both positive and negative statement items. Data collection for this research was carried out utilizing observation, questionnaires, and documentation. The data processing stages after all data were collected included descriptive statistics and several tests, such as the homogeneity test, normality test, and hypothesis testing.

## RESULT AND DISCUSSION

### Result

This research was carried out at SMA Negeri Srono and aims to determining the effect of Zep Quiz-based formative assessment media on students' interest in learning history. The study involved 54 students as the sample, drawn from two different classes: Class X.3 (28 students) as the treatment (experimental) group, and Class X.2 (26 students) as the comparison (control) group. Both the experimental and control classes had two sessions each during the study period. In the experimental class, students received an intervention utilizing a Zep Quiz-based formative assessment tool. In contrast, the control class continued without any specific intervention, using conventional paper-based assessment tools. During the core learning phase, both classes were taught the same subject matter: "The Era of Islamic Kingdoms in Indonesia." To ensure the natural flow of the teaching and learning environment, the material in both classes was delivered directly by their own subject teachers, not by the researchers. This was designed to avoid the Hawthorne Effect a condition in which students alter their behavior or performance simply because they are aware they are being observed by a stranger (Syarif et al., 2025). In this case, the researcher's role was limited solely to administering the intervention during the formative assessment activities.

In the experimental class, students were provided with the Zep Quiz platform. Students were given individual assignments as part of their formative assessment, consisting of questions in the form of an interactive quiz using the Zep Quiz platform. During the implementation, the researcher distributed access codes in the form of barcodes to the students, which were displayed via a projector; the students then accessed the quiz using their own devices. Students could change their names and avatars as they wished, then answered the questions. After completing the quiz, their scores were displayed, along with a real-time leaderboard. In the control class, the assessment was conducted conventionally using paper-based materials. Students were given individual assignments as their formative assessment, consisting of written test questions on paper. In practice, the researcher distributed the paper-based test to the students, who then worked on the questions. After the students finished all the questions, their work was collected for grading by the researcher and the teacher, and their scores were not given to them immediately.

### Validity and Reliability Test

Before the instrument was used, it was necessary to conduct a pilot study to determine its suitability through validity (content and item) and reliability tests. The content validity test was based on expert judgment by two experts regarding the research instrument, yielding a validity score of 0.64. With this score, the content validity of the instrument met the criteria for high validity. Next were the item validity and reliability tests, conducted using SPSS 30. The outcomes of the validity test, performed via Pearson's Product-Moment correlation, showed that out of the 20 statements tested, 14 were valid (calculated  $r > \text{table } r$ ) and 6 were invalid. Consequently, these 14 statements were used in the study. Meanwhile, the outcomes

of the reliability test with Cronbach's Alpha for these 14 statements showed a value of 0.882, indicating high reliability and falling into the "good" category. Based on these findings, the instrument met the criteria for suitability as a research data collection tool.

### Descriptive Statistical Analysis

Through this analysis, a detailed description of the collected data is presented. The data presented includes the mean, the minimum value, the maximum value, and the standard deviation.

**Table 2.** Descriptive Statistics Results

| Variable                   | Statistic      | Value |
|----------------------------|----------------|-------|
| <i>Pretest</i> Experiment  | Mean           | 42.25 |
|                            | Minimum        | 33    |
|                            | Maximum        | 54    |
|                            | Std. Deviation | 5.104 |
| <i>Posttest</i> Experiment | Mean           | 45.75 |
|                            | Minimum        | 38    |
|                            | Maximum        | 54    |
|                            | Std. Deviation | 4.385 |
| <i>Pretest</i> Control     | Mean           | 42.38 |
|                            | Minimum        | 32    |
|                            | Maximum        | 53    |
|                            | Std. Deviation | 5.216 |
| <i>Posttest</i> Control    | Mean           | 38.96 |
|                            | Minimum        | 32    |
|                            | Maximum        | 48    |
|                            | Std. Deviation | 4.025 |

Source: Output SPSS version 30

The descriptive statistics data in Table 2 demonstrates that, the experimental class scored an average of 42.25 on the pretest, while the average on the posttest was 45.75. The minimum score on the pretest was 33, while the maximum score was 54. Meanwhile, on the posttest, the minimum score was 38 and the maximum score was 54. The standard deviation was 5.104 on the pretest and 4.385 on the posttest. Meanwhile, the mean score for the control class on the pretest was 42.38, whereas the mean score on the posttest was 38.96. The minimum score on the pretest was 32, while the maximum score was 53. On the posttest, the minimum score was 32 and the maximum score was 48. The standard deviation was 5.216 on the pretest and 4.025 on the posttest.

### Homogeneity Test

The homogeneity test aims to guarantee and ensure that the two groups have equivalent or comparable characteristics (Machali, 2018). According to the outcomes of the homogeneity test, it will be determined which group will serve as the experimental class and which as the control class. The data used for this homogeneity test consists of pretest questionnaire data on students' learning interest. The homogeneity test was conducted with Levene's test with the assistance of SPSS 30. The basic criterion for this homogeneity test is that if the significance level is higher than 0.05, the groups are considered equal or homogeneous. Conversely, if the significance level is lower than 0.05, the groups are considered different or not homogeneous.

**Table 3.** Homogeneity Test Results

| Variable | Basis / Measure | Levene Statistic | df1 | df2 | Sig. |
|----------|-----------------|------------------|-----|-----|------|
|----------|-----------------|------------------|-----|-----|------|

|                           |                                      |       |   |        |      |
|---------------------------|--------------------------------------|-------|---|--------|------|
| Student Learning Interest | Based on Mean                        | 0.014 | 1 | 52     | .905 |
|                           | Based on Median                      | 0.017 | 1 | 52     | .896 |
|                           | Based on Median and with adjusted df | 0.017 | 1 | 51.490 | .896 |
|                           | Based on trimmed mean                | 0.012 | 1 | 52     | .913 |

Source: Output SPSS version 30

The findings of the homogeneity test in Table 3 demonstrate that, the significance value for “Based on Mean” was 0.905. As this value surpasses 0.05, it can be inferred that the two groups selected as the sample are similar or homogeneous. This conclusion suggests that the two groups represent the same population and share comparable characteristics concerning of their interest in learning prior to receiving the treatment.

#### Normality Test

A normality test was carried out to guarantee that the research data followed a normal distribution (Machali, 2018). The Shapiro-Wilk test was used via SPSS version 30 software. The data used for this normality test consisted of the posttest questionnaire data on students’ interest in learning. The basic criterion for this normality test is that if the p-value is above 0.05, the data can be categorized as normally distributed. Conversely, if the p-value is below 0.05, the data is categorized as not normally distributed.

**Table 4.** Normality Test Results

| Tests of Normality        |                     | Kolmogorov-Smirnov <sup>a</sup> |    |       | Shapiro-Wilk |    |       |
|---------------------------|---------------------|---------------------------------|----|-------|--------------|----|-------|
|                           |                     | Statistic                       | df | Sig.  | Statistic    | df | Sig.  |
| Student Learning Interest | Posttest Experiment | 0,094                           | 28 | .200* | 0,970        | 28 | 0,592 |
|                           | Posttest Control    | 0,136                           | 26 | .200* | 0,959        | 26 | 0,363 |

Source: Output SPSS version 30

The findings of the normality test in Table 4 demonstrate that, the significance value (Sig.) obtained using the Shapiro-Wilk test for the experimental class’s posttest was 0.592, whereas for the control class’s posttest it was 0.363. These values are above 0.05, indicating that the posttest scores suggest the data from both classes are normally distributed. Therefore, since the assumption of normal distribution is met, the hypothesis testing can proceed.

#### Hypothesis Test

After conducting a series of prerequisite tests, which showed that both groups were homogeneous and the data followed a normal distribution, the analysis then moved forward with hypothesis testing. Hypothesis testing is a stage that allows for a decision to be made namely, whether to reject or accept the hypothesis being tested (Machali, 2018). This test employs the Independent Sample t-Test. This test aimed to determine if there were any variations in learning interest among students across both classes after the treatment was administered. This hypothesis testing was conducted using SPSS 30. The decision rule for this test is that if the significance level is below 0.05, H<sub>0</sub> is rejected and H<sub>1</sub> is accepted. Conversely, if the significance level is greater than 0.05, H<sub>0</sub> is accepted and H<sub>1</sub> is rejected. The hypotheses formulated for this research are as follows:

(H<sub>1</sub>): There is an influence of Zep Quiz based formative assessment media on the interest in learning history of class X students SMA Negeri Srono.

(H<sub>0</sub>): There is no influence of Zep Quiz based formative assessment media on the interest in learning history of class X students SMA Negeri Srono.

**Table 5.** Independent Sample t-Test Results

| Variable                  | Assumption                  | Levene's Test for Equality of Variances |       |       |        | Significance |             | t-test for Equality of Means |                  | 95% Confidence Interval of the Difference |       |
|---------------------------|-----------------------------|-----------------------------------------|-------|-------|--------|--------------|-------------|------------------------------|------------------|-------------------------------------------|-------|
|                           |                             | F                                       | Sig.  | t     | df     | One-Sided p  | Two-Sided p | Mean Diff.                   | Std. Error Diff. | Lower                                     | Upper |
| Student Learning Interest | Equal variances assumed     | 0.438                                   | 0.511 | 5.912 | 52     | < .001       | < .001      | 6.788                        | 1.148            | 4.484                                     | 9.092 |
|                           | Equal variances not assumed |                                         |       | 5.931 | 51.995 | < .001       | < .001      | 6.788                        | 1.144            | 4.492                                     | 9.085 |

Source: Output SPSS version 30

According to the outcomes of the Independent Samples t-Test presented in Table 5, the obtained significance value (Sig., 2-tailed) of <0.001. as the results is below 0.05 (<0.001 < 0.05), H0 is rejected and H1 is accepted. Based on the above calculations, the calculated t-value was found to be 5.912 with (df) = 52. Meanwhile, the t-table value was recorded at 2.006 at a significance level of 0.05. This comparison demonstrates that the obtained t-value is higher than the critical t-value (5.912 > 2.006). Therefore, the hypothesis states that the Zep Quiz-based formative assessment media has an influence on students' interest in learning. These findings confirm that the Zep Quiz media, as a form of treatment, has a substantially influence on students' interest in learning history.

### Discussion

This research seeks to investigate and find out the influence of Zep Quiz based formative assessment tools on students' interest in learning history. After the experimental class was taught using Zep Quiz, both classes were given a posttest questionnaire. The posttest results indicated a change in students' interest. The control class recorded an average score of 38,96, while the experimental class recorded a higher average of 45,75. In the experimental class, students demonstrated noticeably higher levels of interest and engagement during the assessment process. According to Rahayu et al. (2025), the use of Zep Quiz as a formative assessment tool with engaging, game-based visuals helps create a competitive and enjoyable learning environment.

This is because the Zep Quiz platform is a gamification-based platform equipped with an automatic leaderboard feature, as well as various engaging game modes (Widyaningrum et al., 2025). With a tool like Zep Quiz, formative assessment is not only useful as part of evaluation or grading but also as a means to motivate students to learn with greater enthusiasm. This aligns with Putri's view, as cited in Saekoko et al. (2025), that the application of game-based formative assessment can increase student participation and significantly reduce student boredom during learning.

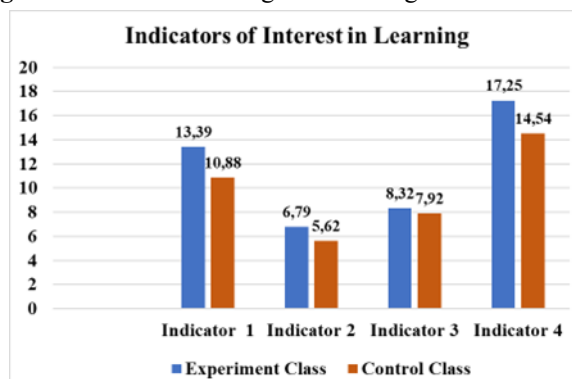
This contrasts with the control class, which used conventional media, where students were less active and enthusiastic while taking the assessment. As noted by Qudsiy (2021), learning activities particularly during the assessment process that still rely on conventional media such as written tests are considered less engaging and less memorable for students. This is supported by the findings of Rahmawati et al. (2024), who noted that the execution of media in the learning and ment processes that is incompatible with students' needs can easily erode their interest in learning. Therefore, varied and innovative media are needed to foster their curiosity and spark new interests.

Interest in learning can be demonstrated by students showing a greater inclination or fondness for a particular subject, as reflected in their active engagement in teaching and learning activities. This aligns with Kanusta (2021) view that students who are interested in a particular subject typically exhibit a high level of engagement with that subject. Conversely,

when students are not interested in learning, they will not learn optimally because there is nothing interesting to motivate them.

The findings of this research are consistent with Safari's theory of learning interest as cited in Sawitri (2023), which states that learning interest can be observed through four indicators: perasaan senang, ketertarikan siswa, perhatian siswa, dan keterlibatan siswa. The increase in these four indicators suggests that the use of Zep Quiz not only influences students' cognitive development but also fosters and strengthens the affective aspect specifically, learning interest due to a more engaging learning experience.

**Figure 1.** Bar Chart Average of Learning Interest Indicators



Source: Personal Document

Based on the averages for each learning interest indicator presented in Figure 1, the results clearly show that the experimental class performed better on all learning interest indicators used. For indicator 1) Sense of enjoyment, the experimental class achieved an average of 13.39, whereas the control class scored 10.88; 2) Student interest, the experimental class scored 6.79, while the control class scored 5.62; 3) Student attention: 8.32 for the experimental class and 7.92 for the control class; and 4) Student engagement: 17.25 for the experimental class and 14.54 for the control class.

On the indicator of *perasaan senang*, the average score in the experimental class recorded a higher than in the control class. This denotes that the Zep Quiz-based formative assessment tool can provide a more enjoyable assessment experience compared to conventional assessments. This is because Zep Quiz incorporates gamification elements such as attractive visuals, a game-like atmosphere, and a leaderboard feature, which offer a different experience compared to paper-based tests. As a result, students no longer view assessments as a stressful experience, but rather as an pleasant learning process. This aligns with Safari's theory of learning interest, which states that feelings of joy are one indicator of learning interest. When students experience positive emotions during the learning process or assessments, they tend to enjoy the learning process more and show greater interest in the subject matter in this case, history. In addition, Zep Quiz also provides immediate feedback, allowing students to feel a sense of satisfaction from seeing the results of their work right away. This differs from conventional assessments, where feedback is typically provided only after the teacher has completed the grading process.

In terms of *ketertarikan siswa*, the experimental class also recorded a greater average score than the control class. This improvement is due to the characteristics of Zep Quiz, which presents assessments in the form of interactive quizzes, thereby capturing students' attention from the beginning to the end of the assessment activity. The variety of features such as avatars, game mode options, engaging visuals, and leaderboards makes the assessment activity feel more varied compared to the use of conventional worksheets.

According to Safari's theory of learning interest, interest is a motivator that makes a person feel drawn to an object, activity, or experience that leaves a positive impression. This interest arises because students have an assessment experience

that differs from the usual one. As a generation accustomed to using technology, they tend to be more easily drawn to learning activities that utilize interactive media rather than conventional media. Therefore, the utilization of Zep Quiz serves not only as an assessment tool but also as a catalyst that can foster students' interest in learning history.

Regarding the perhatian siswa indicator, the experimental class also achieved a higher average score than the control class. This indicates that the use of Zep Quiz can help students maintain their concentration throughout the assessment process. Because questions are presented gradually via a digital device, students are better able to focus on answering them, and the interactive interface also encourages them to stay focused. Unlike conventional assessments that present a set of questions on paper, Zep Quiz creates a more interactive atmosphere, keeping students' attention engaged until the end of the activity.

Based on Safari's theory of learning interest, which states that attention is a person's focus on an object, and that students who are interested in that object tend to devote far greater attention to it. In this context, the use of Zep Quiz creates an interactive learning environment, thereby helping to maintain students' attention throughout the activity. Meanwhile, conventional assessments typically lack the visual stimuli and interaction needed to maintain students' attention.

In terms of keterlibatan siswa, the experimental class recorded a greater average score than the control class. This indicates that the use of Zep Quiz can foster student engagement during the assessment process. Unlike conventional assessments, which tend to be individual and passive, Zep Quiz creates a competitive atmosphere through its leaderboard feature and real-time feedback. These features foster healthy competition, encouraging students to answer questions with greater enthusiasm. Additionally, the real-time display of results allows students to track their standing and progress, which can motivate them to remain engaged throughout the assessment.

Based on Safari's theory of learning interest, which states that student engagement is a form of active participation in activities that interest them. When students are interested in a subject, they tend to be motivated to become directly involved in activities related to that subject. If students feel challenged, have an enjoyable learning experience, and receive immediate feedback, their tendency to participate will increase. Therefore, using Zep Quiz as a formative assessment tool can foster student engagement in history learning more effectively than conventional assessments.

Overall, the Zep Quiz-based formative assessment tool has been found to positively influence students' interest in learning in a range of aspect. This indicates that the implementation of the Zep Quiz-based formative assessment tool is not only useful as a learning evaluation tool but can also invent a more engaging, interactive, and enjoyable learning atmosphere. Based on Safari's theory of learning interest, these four indicators are interrelated: enjoyment of an activity fosters interest, which in turn leads students to pay closer attention, thereby increasing their engagement in learning activities.

Furthermore, according to the analysis findings, the data evidence that the Zep Quiz-based formative assessment tool has a notable effect on students' interest in learning. The determination of whether or not there is an effect in this research is based on the outcome of hypothesis testing (t-test). Based on the outcome of the hypothesis test (t-test) using an Independent Samples t-Test, it was found that the calculated t-value was 5.912 with a significance level (Sig., 2-tailed) of  $< 0.001$ . This indicates that the t-test value is significantly below 0.05 ( $< 0.001 < 0.05$ ); therefore,  $H_0$  is rejected and  $H_1$  is accepted. Therefore, that outcome suggest a significant dissimilarity among the two groups studied. Consequently, it can be stated that the Zep Quiz-based formative assessment media influences students' interest in learning.

These findings align with the results of a research by Widyaningrum et al. (2025), which showed that the implementation of Zep Quiz an interactive, game-based learning tool can boost students' motivation to learn. This increase stems from the fact that Zep Quiz fosters an enjoyable and competitive learning environment, resulting in heightened student enthusiasm during lessons. Furthermore, its interactive and visually engaging features, combined with a variety of game modes, have proven effective in boosting students' motivation to learn. A key similarity with this study lies in the use of Zep Quiz, which incorporates gamification elements such as leaderboards, real-time scoring, and visually appealing, interactive displays making it effective in encouraging student participation throughout the learning process.

Nevertheless, there is a fairly fundamental difference between this study and that one. That study focused on efforts to improve junior high school students' motivation to learn in computer science, whereas this study examined high school students' interest in learning history. The differences in the variables tested, educational level, and subject context indicate that this research expands the empirical insights into the impact of Zep Quiz not merely as a game-based learning medium but also as a formative assessment tool in history lessons. Thus, this study reinforces the findings of Widyaningrum et al. (2025) namely that the integration of gamification elements in Zep Quiz has a positive impact on students' affective aspects, even when applied to different variables, subjects, and educational levels.

Furthermore, these findings are also aligned with the results of a research by Rahmawati et al. (2024), which demonstrated that the implementation of Kahoot-based assessment tools significantly influences students' interest in learning history. This effect stems from the use of technology-based assessment tools presented in the form of a game specifically, Kahoot. As an application, Kahoot can increase student engagement during learning activities. This is because Kahoot's features and its use in the classroom help create an enjoyable learning environment. The similarities between this study and the aforementioned study include the fact that both examined high school students and both focused on learning interest. Additionally, both studies utilized interactive digital assessment tools to transform the evaluation process into a more engaging learning activity.

Both Kahoot and Zep Quiz offer assessments that function beyond merely evaluating academic performance but also create a learning environment that can boost student enthusiasm during the evaluation process. However, there is a difference between this study and that study. That study used Kahoot, whereas this study used Zep Quiz as the evaluation medium. This difference in assessment tools indicates that the effectiveness of digital assessments is determined not only by the type of platform used but also by its interactivity in providing an enjoyable learning experience. Thus, this study not only supports the findings of Rahmawati et al. (2024) but also reinforces the evidence that digital assessment tools serve as viable alternative for boosting high school students' interest in learning history.

Thus, the outcomes of this research align with and strengthen several foregoing findings that digital-based formative assessment tools, such as Zep Quiz, have an impact and are capable of fostering students' interest in learning, including in history. Assessment activities that incorporate interactive digital technology and integrate gamification elements will generate a sense of enjoyment and interest among students, thereby increasing both their attention and engagement. Referring to the opinion of Saekoko et al. (2025), digital technology provides opportunities to implement more varied and interactive formative assessments through various digital application platforms.

Furthermore, these results underscore the importance of utilizing digital technology and encourage teachers to implement innovative learning or assessment tools such as Zep Quiz or other similar tools that are relevant to the needs of today's digital-generation students. This study has several limitations. First, the intervention was administered over only two sessions, so it cannot yet illustrate the long-term impact of using Zep Quiz. Second, this study measured only the affective aspect namely, students' interest in learning rather than its influence on cognitive or other aspects. Therefore, future research is expected to provide a longer intervention period and test other variables to obtain a stronger picture of the effectiveness of Zep Quiz as a learning assessment tool.

## CONCLUSION

According to the outcomes from the data analysis and the discussion presented above, it can be inferred that the Zep Quiz-based formative assessment tool has a notable influences on students' interest in learning history. The use of Zep Quiz as a formative assessment tool can create the assessment process more entrancing and pleasing. This fosters increased enjoyment, interest, concern, and student engagement in learning. These findings indicate that gamified digital assessments are not merely tools for evaluating learning but also support the creation of a more meaningful learning atmosphere and foster students' interest in learning. This study offers practical implications for history teachers by demonstrating that Zep Quiz or other similar tools can be utilized as alternative technology-based formative assessment tools. Such use can lead to more

innovative and student-centered learning. Furthermore, the outcomes of this research amplify the use of digital technology in implementing history instruction in line with the Merdeka Curriculum and the learning needs of the current era. This study opens the door for future research that could expand the use of Zep Quiz by examining not only students' interest in learning but also its impact on other aspects such as learning motivation, learning outcomes, and historical thinking skills. Further research is also recommended to apply Zep Quiz to different history topics and to involve students from various educational levels to gather a more detailed and thorough perspective on how effective Zep Quiz. Thus, Zep Quiz-based formative assessment tools have tremendous potential to be developed in various learning contexts to enhance the quality of education in today's era of digital advancement.

## REFERENCES

- Dewi, L. U., Irwandi, D., & Bahriah, E. S. (2021). Pengaruh Media Penilaian Formatif Online Quizizz Terhadap Hasil Belajar Siswa Materi Sistem Periodik Unsur. *JRPK: Jurnal Riset Pendidikan Kimia*, 11(1), 19–26. <https://doi.org/10.21009/JRPK.111.04>
- Firmansyah, H. (2024). Pengaruh Penggunaan Teknologi Digital Dalam Pembelajaran Sejarah Terhadap Berpikir Sejarah Peserta didik. *Innovative: Journal Of Social Science Research*, 4(3), 7704–7714. <https://j-innovative.org/index.php/Innovative/article/view/11015>
- Hakiki, S. (2025, September). *Pengguna Internet Indonesia Didominasi Lulusan SMA*. GoodStats. <https://goodstats.id/article/pengguna-internet-indonesia-didominasi-lulusan-sma-27RtQ>
- Harifa, S. (2018). *Pengembangan Lembar Kerja Praktikum Siswa (LKPS) Terintegrasi Inkuiri Terbimbing Pada Materi Hidrolisis Garam* [Universitas Negeri Medan]. <https://digilib.unimed.ac.id/id/eprint/34619>
- Kamilina, N. D. (2024). *Pengaruh Asesmen Formatif Berbasis Quizizz Terhadap Minat Belajar Siswa Kelas V Dalam Pengerjaan Soal IPAS di SDN Kalianget Timur I* [STKIP PGRI Sumenep]. <http://repository.stkippggrisumenep.ac.id/id/eprint/2240>
- Kanusta, M. (2021). *Gerakan Literasi dan Minat Baca* (H. Shofa, Ed.). CV. Azka Pustaka. <https://books.google.co.id/books?id=TTZZEAAAQBAJ>
- KBBI. (2025). *Minat*. KBBI Daring. <https://kbbi.kemdikbud.go.id/entri/minat>
- Lail, M., Arif Musadad, A., & Isawati, I. (2021). Penggunaan Model Cooperative Learning Tipe Example Non Example Dengan Media Flipchart Untuk Meningkatkan Minat dan Hasil Belajar Sejarah. *Jurnalcandi*, 21(1), 104–120. <https://jurnal.uns.ac.id/candi/article/view/56903/0>
- Machali, I. (2018). *Metode Penelitian Kuantitatif Panduan Praktis Merencanakan, Melaksanakan dan Analisis Dalam Penelitian Kuantitatif* (A. O. Habib, Ed.; 1st ed.). Perkumpulan Program Studi Manajemen Pendidikan Islam (PPMPI). <https://archive.org/details/imam-machali-metode-penelitian-kuantitatif-2018>
- Pristiwanti, D., Badariah, B., Hidayat, S., & Sari Dewi, R. (2022). Pengertian Pendidikan. *Jurnal Pendidikan Dan Konseling*, 4(6), 7911–7915. <https://journal.universitaspahlawan.ac.id/index.php/jpdk/article/view/9498>
- Qudsiy, A. (2021). *Pengaruh Media Penilaian Formatif Berbasis Aplikasi Quizizz Terhadap Minat Belajar Matematika Peserta Didik Kelas VIII SMP 1 Kudus Tahun Ajaran 2020/2021* [Institut Agama Islam Negeri Kudus]. <http://repository.iainkudus.ac.id/id/eprint/5119>
- Rahayu, W. W., Sutini, S., Prasetyo, A., & Putri, D. P. (2025). Efektivitas Model Pembelajaran Kooperatif Think Pair Share Berbantuan Liveworksheet dan Zep Quiz Untuk Meningkatkan Hasil Belajar Matematika Siswa. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 9(3), 1525–1536. <https://doi.org/10.31004/cendekia.v9i3.4522>
- Rahmawati, F., Bunari, B., & Fiqri, Y. Al. (2024). Pengaruh Media Evaluasi Pembelajaran Kahoot Untuk Meningkatkan Minat Belajar Sejarah Siswa Kelas X SMAN 2 Tambang. *Jiip - Jurnal Ilmiah Ilmu Pendidikan*, 7(11), 12582–12588. <https://doi.org/10.54371/jiip.v7i11.6231>

- Rahmawati, N. I., Fajriani, D., Suriyanto, B., Hidayat, A., & Ngundiati, N. (2023). Penggunaan Quizizz Sebagai Media Asesmen Formatif Untuk Meningkatkan Minat Belajar Ekonomi Materi Sistem Pembayaran. *Innovative: Journal Of Social Science Research*, 3(2), 7236–7248. <https://j-innovative.org/index.php/Innovative/article/view/1149>
- Ricardo, R., & Meilani, R. I. (2017). Impak Minat dan Motivasi Belajar Terhadap Hasil Belajar Siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 2(2), 79. <https://doi.org/10.17509/jpm.v2i2.8108>
- Saekoko, N., Benu, S., Oematan, I. W. A., & Bara Pa, H. D. (2025). Peran Evaluasi Formatif Dalam Meningkatkan Kualitas Pembelajaran di Era Digital. *Jurnal Ilmiah Literasi Indonesia*, 1(2), 336–350. <https://ojs.indopublishing.or.id/index.php/jili/article/view/262/221>
- Sari, L., Rustiyarso, R., & Firmansyah, H. (2024). Analisis Minat Belajar Sejarah Siswa Kelas XII Sekolah Menengah Atas Negeri. *Ainara Journal (Jurnal Penelitian Dan PKM Bidang Ilmu Pendidikan)*, 5(4), 466–474. <https://doi.org/10.54371/ainj.v5i4.624>
- Sawitri, E. R. (2023). *Model Discovery Learning Berbantuan Komik Untuk Meningkatkan Minat dan Hasil Belajar* (T. D. Susilo & H. Siswanto, Eds.). Uwais Inspirasi Indonesia. [https://books.google.co.id/books?id=GbGpEAAAQBAJ&pg=PA11&dq=indikator+minat+belajar+menurut+safari&hl=id&newbks=1&newbks\\_redir=1&sa=X&ved=2ahUKEwiGocLn0OyUAXVlyzgGHTbGH8IQ6AF6BAgKEAM](https://books.google.co.id/books?id=GbGpEAAAQBAJ&pg=PA11&dq=indikator+minat+belajar+menurut+safari&hl=id&newbks=1&newbks_redir=1&sa=X&ved=2ahUKEwiGocLn0OyUAXVlyzgGHTbGH8IQ6AF6BAgKEAM)
- Sugiyono, S. (2013). *Metode Penelitian Kuantitatif, Kualitatif dan R&D* (19th ed.). Alfabeta. <https://archive.org/details/buku-metode-penelitian-sugiyono>
- Syarif, A. M., Fanani, A. Z., Himawan, H., & Widjajanto, B. (2025). *Metodologi Penelitian Dalam Informatika* (L. N. Harnaningrum, Ed.). Ritecs. [https://www.google.co.id/books/edition/METODOLOGI\\_PENELITIAN\\_DALAM\\_INFORMATIKA/Ts3TEQAAQBAJ?hl=id&gbpv=0](https://www.google.co.id/books/edition/METODOLOGI_PENELITIAN_DALAM_INFORMATIKA/Ts3TEQAAQBAJ?hl=id&gbpv=0)
- Tunas, K. O., & Pangkey, R. D. H. (2024). Kurikulum Merdeka: Meningkatkan Kualitas Pembelajaran Dengan Kebebasan dan Fleksibilitas. *Journal on Education*, 6(4), 22031–22040. <https://doi.org/10.31004/joe.v6i4.6324>
- Widyaningrum, D., Smaragdina, A. A., Dwi Rizky, D., Ardiansyah, Y. E., & Prasasti, F. A. M. (2025). Meningkatkan Motivasi Belajar Siswa Menggunakan Zep Quiz Pada Pembelajaran Informatika di SMP. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(02), 200. <https://journal.unpas.ac.id/index.php/pendas/article/view/28792>