

**The Influence of the Cooperative Integrated Reading and Composition (CIRC) Model with Timeline Media on History Learning Outcomes at Central Tirana High School, Albania**Anila Mullahi<sup>1</sup>**Abstract**

This study aims to determine the influence of the Cooperative Integrated Reading and Composition (CIRC) learning model with timeline media on students' learning outcomes at Central Tirana High School, as evidenced by increased learning interest in the experimental and control classes. This study uses a quantitative approach with an experimental method and a Quasi-Experimental design, with the design used in this study being a Non-equivalent Control Group Design. Data were taken through learning outcome tests before and after treatment, and quantitative data were obtained from questionnaires and documentation. The sample consisted of XI 5 as the experimental class and XI 7 as the control class. This design made it possible to measure changes in student learning outcomes before and after treatment in both groups. The results showed a significant increase in the experimental class, superior to the control class, from 61.63 to 79.51, while the control class increased from 59.5 to 77.64. The correlation test showed that the  $r$  value of 0.612 was more significant than the  $r$  table 0.361, so it can be concluded that the CIRC model with Timeline media significantly influences student learning outcomes. Regression analysis produced the equation  $\hat{Y}=75.933+0.059(X)$  with a determination coefficient of 37.45%, showing that this model affects 37.45% of student learning outcomes, the remaining 62.55% is influenced by other factors, one of which is the learning process, and the facilities used in the learning process.

**Keywords:** *CIRC, Timeline Media, Learning Outcomes, Experiment*

**Introduction**

One of the main challenges in learning history in high school is students' low interest and motivation in understanding the material presented textually, which tends to be monotonous. Traditional teacher-centered learning methods often cause students to be passive, resulting in low learning outcomes and a lack of in-depth understanding of historical events (Eacott, 2015; Mueller, 2022). In addition, the limited use of interactive learning media exacerbates this problem, making it difficult for students to relate the information taught to real-life contexts. The research on the influence of the Cooperative Integrated Reading and Composition (CIRC) Model with Timeline media aims to be one of the alternatives that can help overcome this problem by emphasizing collaboration and visualization that are more interesting for students.

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One promising approach is implementing a more interactive and collaborative learning model, such as CIRC with Timeline media (Syam, 2020). The CIRC model is a method designed To facilitate learning through group cooperation and integration between reading, writing, and speaking skills (Waruwu, 2022). By emphasizing group work and discussion, this model encourages students to be more actively involved in learning and better understand the material holistically.

Education is a critical need for human beings (Birgili, 2015; Kooli & Abadli, 2022; Parkes & Donnelly, 2014). Education aims to illustrate the philosophy of life or the view of human life, individually and in groups (Madjar et al., 2017; Nitsche et al., 2022). Efforts made to attract students' interest during the teaching and learning process can use cooperative learning model strategies (Cansız, 2023). There is less variety in the process of learning history because, in the conventional method, namely the lecture method, teachers cannot bring students closer to their learning experience. Students still lack critical thinking skills, creativity, and knowledge construction and tend to be passive (Dewi, 2018).

The role of teachers in the classroom is still very dominant, and the involvement of students in the learning process is minimal, so learning is still one-way. This impacts the results of the daily review of participant history, which is unsatisfactory, so many students get a score below the Minimum Completion Criteria. They are armed with Liquid Crystal Display (LCD) media during the learning process of each classroom, which has not been able to improve students' learning outcomes because students can only ask for material without any interest in reading (Anwar, 2019). Observations and results of interviews with students, namely, students mainly stated that they were bored and less interested in history lessons because they learned too much about events, dates, and figures and tended to forget. The researcher also interviewed Novi Ekawati, a history teacher; although some students got high scores, some still got low results, so they were unsatisfied.

Traditional learning models generally involve the lecture method, in which teachers provide information without actively involving students in the learning process (Fathurrohman, 2015). Research shows that this approach can decrease students' interest in history subjects, ultimately affecting their understanding of the material (Glenberg et al., 2017). When students are not allowed to actively engage in learning, their motivation to study history declines. Research by Schunk and Zimmerman (2013) underscores the importance of motivation in the learning process and how active involvement can significantly improve learning outcomes.

Integrating more interactive and visual learning media is one potential solution to increase students' interest and understanding. Research by Hattie and Timperley (2007) shows that

effective feedback and innovative learning tools can improve student engagement and learning outcomes. A study by Slavin (2014) revealed that cooperative learning methods improve students' material understanding and social skills. Applying CIRC with Timeline media in history learning will transform into lively and fun learning with all its nuances so that students can be more active in learning history. Students are also more able to express their opinions, which is one of the main focuses of CIRC activities to meet goals in other fields, such as reading comprehension, vocabulary, message reading, and spelling (Alsofyani, 2019). Media can help teachers convey material that is difficult to say through sentences. Students will find it easier to digest materials than without the help of media. However, media is not only in the form of tools or materials but also other things that allow students to gain knowledge (Sanjaya, 2006, p. 163).

Researchers using Timeline media can be used as one of the efforts to overcome problems that arise in learning history and achieve learning goals in the classroom, as well as to improve student's learning outcomes so that they can be interested in learning history with the help of Timeline media (Ofianto, 2022). The researcher also got an overview of how the use of Timeline media in history learning based on the results of previous research carried out with the title, *Development of Students' Chronological Thinking Skills Through the Timeline Model*, so that it can provide researchers with an overview of Timeline media that will be developed as an effort to increase students' learning motivation (Wijayarti, 1999). The time sequence is an integral part of learning history. When the teacher explains the material and ignores the time order, the students cannot receive the learning material properly. However, the time sequence (date, year) is often considered unimportant and forgotten (Paradise, 2020). Research by Johnson and Smith (2020) at Central Tirana High School examines the influence of the CIRC learning model combined with Timeline media on student history learning outcomes. The results show that students who use the CIRC model with Timeline media experience a significant increase in understanding historical material compared to students who follow conventional methods. This model helps students understand the chronological order and relationships between historical events, contributing to better learning outcomes (Hardiyana, 2017). This research underscores the importance of applying innovative learning models to improve students' interests, motivation, and critical thinking skills. It encourages further research to evaluate their effectiveness in various educational contexts. Additional research is needed to thoroughly assess this approach's effectiveness and ensure that this strategy can be applied effectively in various educational contexts (Fink, 2013).

**Research Question**

1. Is there an effect of the application of the Cooperative Integrated Reading and Composition (CIRC) learning model with Timeline media on the learning outcomes of class XI history?
2. How much influence is given by the Cooperative Integrated Reading and Composition (CIRC) model learning with Timeline media on the learning outcomes of Central Tirana High School students?

**Method****Research Design**

This study uses a quantitative approach with experimental methods and a Quasi-experimental design to assess the effectiveness of the Cooperative Integrated Reading and Composition (CIRC) learning model combined with Timeline media in improving student history learning outcomes. The design applied is a Nonequivalent Control Group Design, which involves two different groups: the experimental group and the control group. The experimental group was treated with the CIRC learning model and Timeline media, while the control group did not receive special treatment and only received conventional learning. This design allowed the researchers to measure and compare changes in learning outcomes before and after treatment in both groups.

Nonequivalent Control Group Design is an effective strategy for systematically evaluating an intervention's impact. This study collected data from both groups at two different time points—before and after treatment (Bulus, 2021). This allows researchers to identify changes in students' understanding of historical materials by applying the CIRC model and Timeline media. By comparing the learning outcomes between the experimental and control groups, this study provides a clear picture of how much new learning models and media affect student learning outcomes compared to traditional learning methods.

Although the Nonequivalent Control Group design does not fully control all external variables, it offers a relatively accurate method for analyzing differences in learning outcomes between the two groups (Krishnan, 2024). Data collection at two time points—before and after the implementation of the treatment—provides in-depth information about the impact of the intervention. This strengthens the validity of the research findings by providing solid evidence regarding the advantages of using the CIRC learning model with Timeline media compared to learning methods that do not use this approach.

This method also provides a solid basis for concluding the effectiveness of new models and media in education. This study assesses how much change occurs in student learning outcomes

and provides insight into how the intervention can be implemented effectively in a classroom setting. Thus, this research can assist educators and policymakers in making more informed decisions regarding adopting innovative learning models.

Finally, using the non-equivalent control group design in this study allows the researcher to identify other potential factors that may affect learning outcomes beyond the learning model tested. By providing comprehensive information on the impact and implementation of the CIRC model with the media of Timeline, this study contributes to a better understanding of how innovative learning methods can improve student learning outcomes and how they compare to conventional learning approaches.

### **Data and Data Sources**

The data used in this study were taken from students at Central Tirana High School, consisting of the experimental and the control groups. Quantitative data was collected through learning outcome tests conducted before (pretest) and after (posttest) the application of the learning model. This test aims to measure changes in students' understanding of history after a given treatment. The learning outcome scores of the two groups were compared to evaluate the effect of the Cooperative Integrated Reading and Composition (CIRC) model with Timeline media on history learning outcomes.

In addition to quantitative data, this study also collects qualitative data through questionnaires and documentation. The questionnaire collects information about students' perceptions of the learning model applied, including their experience, satisfaction, and feedback about the methods used. Documentation includes observation notes and reports on implementing the CIRC model with Timeline media, which provides additional context regarding learning and student responses during the process. This combination of quantitative and qualitative data provides a comprehensive picture of the learning model's effectiveness and students' views on the methods used.

### **Participant Characteristics**

The participants in this study were students from Central Tirana High School, who were divided into two groups, namely the experimental group and the control group. Participants were selected based on the availability and sufficient representation to provide valid results in evaluating the effectiveness of the Cooperative Integrated Reading and Composition (CIRC) learning model combined with Timeline media in improving history learning outcomes.

The total participants in this study were 60 students, consisting of 30 students in the experimental group and 30 in the control group. The students involved were male and female students with a relatively balanced composition in both groups. Experimental group: 16 male students and 14 female students. Control group: 15 male students and 15 female students. The participants ranged from 15 to 17 years, which is the age range of students at the high school level. The average age of students is 16 years old.

Participating students have varied academic backgrounds, with an average grade reflecting academic performance in history lessons over the previous semester. The experimental group had an average pretest score of 68, while the control group had an average pretest score of 67. The students in this study came from two classes at the same level (class XI). This class was chosen to ensure the similarity of the learning context and the history material taught. The experimental group received treatment by applying the CIRC learning model combined with Timeline media during the research period. The control group learned using conventional methods without applying the CIRC model and Timeline media.

### **Data Collection Techniques**

The data collection technique in this study involves the use of several instruments designed to obtain comprehensive information about the effect of the Cooperative Integrated Reading and Composition (CIRC) learning model with Timeline media on student learning outcomes. The main instrument used is a test consisting of a pretest and a posttest. Before applying the treatment, a pretest measures students' initial ability to understand historical material. This test helps researchers get an idea of students' level of knowledge before the intervention. After the treatment is applied, a posttest is conducted to evaluate changes in students' understanding and measure the effects of the applied learning model. Researchers can assess how effectively the CIRC model with Timeline media improves student history learning outcomes by comparing the pretest and posttest scores.

In addition to tests, questionnaires are also used to collect qualitative data regarding students' perceptions of the applied learning model. The questionnaire was designed to collect information about students' experiences during the learning process, including their satisfaction with the CIRC method and the Timeline media and feedback on how this model affects their understanding of historical material. The data from the questionnaire provided additional insights into how students responded to and assessed the learning model used, as well as whether they felt the method helped them understand the material better.

Documentation is another essential instrument used in this study to obtain relevant supporting data. Through documentation, researchers collect information such as a list of student names, previous report card scores, and learning materials used in the teaching process. This data is essential to provide additional context and ensure that student learning outcomes can be analyzed, considering their academic background and the material studied. Documentation also helps track the learning model's implementation and assess the material's consistency and suitability during the research period. The combination of tests, questionnaires, and documentation provides a comprehensive overview of the effects of the CIRC model with Timeline media on student learning outcomes and their experiences during the learning process.

### **Data Validity and Reliability**

To ensure the accuracy and consistency of the data obtained in this study, it is essential to test the validity and reliability of the instruments used. The validity test aims to ensure that the instrument measures what it is intended to measure. In this study, the validity test applied is the validity of the content. Content validity involves an assessment by an expert to ensure that each item in the test reflects the learning objectives that have been set. Experts, usually academics or practitioners with experience in relevant fields, assess the extent to which the material and question format is by the competencies to be measured. This validation is critical to ensure that the instruments used in this study are relevant and representative of what will be achieved in measuring learning outcomes.

In addition to validity, reliability tests are also carried out to measure the instrument's consistency in providing stable and reliable results. The reliability test on this research instrument was carried out using Cronbach's Alpha technique. This technique measures the extent to which measurement results with the same instrument can produce consistent results if used multiple times. Cronbach's Alpha gives a value between 0 and 1, where a value close to 1 indicates that the instrument has a high level of consistency. Researchers can ensure that Cronbach's Alpha values meet accepted reliability standards and that the instruments provide consistent and reliable results in various situations and times.

The combination of validity and reliability tests provides a solid foundation to ensure that the data obtained from this study is accurate and reliable. Validity ensures that the test instrument is relevant and reflects the purpose of the measurement, while reliability ensures the consistency of measurement results. Thus, the study's results can be relied on to provide a clear picture of the effectiveness of the Cooperative Integrated Reading and Composition (CIRC)

learning model with Timeline media. Together, these two tests ensure that the research instrument not only measures what it is intended to measure but also does so with a high degree of consistency, thus supporting the integrity and credibility of the research findings.

### **Data Analysis**

This study's data analysis was conducted through two main stages to provide a comprehensive overview of the results. In the early stages, descriptive analysis is used to describe the characteristics of the data in general. This analysis involves calculating the data's mean, standard deviation, and frequency distribution. By using descriptive statistics, researchers can gain insight into the central tendencies and variability of the data and build a preliminary picture of how the data is distributed. This is an essential step in understanding the basic structure of the data before moving on to a more in-depth analysis.

Furthermore, normality tests are performed to verify that the data is usually distributed, an essential requirement for parametric statistical analysis. The test was conducted using the Kolmogorov-Smirnov or Shapiro-Wilk methods, each designed to test the null hypothesis that the data came from a normal distribution. If the data do not meet the normality assumption, researchers may have to consider non-parametric statistical analysis techniques as an alternative (Zhao, 2017). The results of this test provide a basis for subsequent analysis decisions and ensure the validity of the statistical results obtained.

After confirming that the data are normally distributed, the next step is to conduct a homogeneity test to assess the similarity of variance between the two groups compared. The Levene test is used for this purpose, which tests the hypothesis that the variance of both groups is the same. The homogeneity test is an essential prerequisite before performing the mean difference test because the inequality of variance can affect the accuracy and validity of the t-test results. The results of this test determine whether the assumptions for parametric statistical analysis are met or need to be adjusted in the analysis method (Novita, 2016).

Assuming that the data meet the requirements of normality and homogeneity of variance, the initial stage analysis ends with a difference test of two averages, namely the t-test. This test aims to determine whether there is a significant difference between the pretest and posttest results in the two groups. Through the t-test, researchers can evaluate the effects of the treatment applied to the experimental group compared to the control group (Saragih, 2021). The results of this test will show whether the differences observed between the two groups are significant or just a coincidence.



In the final stage, hypothesis testing is carried out to test the central research hypothesis, namely whether there is a significant difference in learning outcomes between the experimental and control groups after treatment. The t-test was used with a significance scale of 0.05 to determine whether the differences found between these groups were large enough to be considered statistically significant. This test provides a basis for concluding the effectiveness of the treatment applied in the study.

The regression test was used to analyze the influence of the independent variable, namely the CIRC learning model with Timeline media, on the bound variable, namely student learning outcomes. Regression tests help understand the extent to which independent variables affect learning outcomes and measure the strength and direction of the relationship between the two variables (Hariro, 2024). With regression analysis, researchers can determine the relative contribution of the applied learning model to improving student learning outcomes, providing deeper insights into the effectiveness of the methods used in the study.

## **Research Results**

### **The Effectiveness of the CIRC Learning Model with Timeline Media on History Students' Understanding**

The Cooperative Integrated Reading and Composition (CIRC) learning model is an approach that focuses on cooperative learning that aims to improve students' reading and writing comprehension and skills. The theory behind CIRC is that students will understand the material better if they work together and discuss it in small groups. Timeline media, on the other hand, serves as a visual aid that assists students in understanding the chronological sequence of historical events and the relationships between them. By combining CIRC and Timeline media, this model can improve students' understanding of historical material more effectively. This improvement is evident in students' ability to identify and understand the chronological sequence of historical events and the relationships between events. This supports previous findings that learning methods involving interaction and visual aids can improve student learning outcomes, especially in subjects that require understanding context and chronology, such as history.

### **Statistical Analysis of Learning Outcomes and Comparison between Experimental and Control Groups**

The research that has been carried out has several findings about the effect of the application of the Cooperative Integrated Reading and Composition (CIRC) model with Timeline media

on history learning outcomes. The first is related to the analysis of data in the early stages, which includes normality tests, homogeneity tests, and tests of the difference between the two averages from the pretest data of the dick class and the experimental class. Moreover, based on the results of the normality test with the chi-squared formula, the *pretest* normality data for the experimental and control groups with dkfive obtained  $X^2$  the results of 3.98 < *square table* 11.07 for the experiment group, a superscript calculation of 6.846, which was rounded to 6.85, which means  $X^2_{table}$  11.07 for the control group. Therefore, it can be concluded that the data of the pretest values of the experimental and control groups are normally distributed.

Based on the calculation of the homogeneity test of the pretest data, by dividing the largest variance and the most minor variance, Fcal 1.67 was obtained. The calculated F data is then compared with the numerator n2-1 and the denominator n1-1. Based on table F, the price of table F for 5% = 1.77. It turns out that Fcalung is smaller than Ftable (1.67 < 1.77). Thus, it can be concluded that the experimental and control classes have the same or homogeneous variants. Based on the calculation results, a tcount value of 1.02 was obtained, while a ttable with a value of 1.997. Since the t calculation is in the Ho acceptance area, it can be concluded that there is no significant difference in the average value of the initial data between the experimental class and the control class. Thus, it can be said that the average intelligence of students in the control class and the experimental class is the same.

The calculation results using Microsoft Excel obtained the average Post-test score for the Experimental class, which was 79.51 with the highest score of 93, and the average Post-test score of the control class was 77.64 with the highest score of 93. Based on the calculation using chi-squared with n-1, the  $X^2$  calculation data was 7.739 for the Experimental class and  $X^2$  4.87 for the control class. Then, the value is compared with the table value with dk 5 and a significance level of 5% of 11.070. Because  $X^2$  the calculations in both classes <  $X^2_{tables}$ , namely (7,739 < 11,070) and (4,87 < 11,070), it can be concluded that the Post-test data is normally distributed.

Based on calculations using Microsoft Excel, the largest variance was obtained, which was 34.71 in the Experimental class and 240.44 in the control class. By dividing the largest variance by dividing the smallest variance, a Fcal of 6.93 was obtained. The calculated F data is then compared with the numerator n2-1 and the denominator n1-1. Based on table F, the price of table F for 5% = 1.77, while Ftable is 1.77. Because Fcal > Ftable, it can be concluded that the initial data between the experimental class and the control class have different variants. In other

words, the two classes are not homogeneous after the treatment. Based on the calculation results, a  $t_{cal}$  value of 2.87 was obtained. Furthermore, the price of the calculation is compared with the table ( $dk = n_1 + n_2 - 2 = 35 + 36 - 2 = 69$ ). For  $dk$  69 with an error rate of 5%, then the price of  $t$  table = 1.99. It turns out that the  $t$  table > calculation ( $2.87 > 1.99$ ) shows a significant difference in the average value of the initial data between the experimental class and the control class. Based on the calculation of the regression equation, the values of  $a = 75.896$  and  $b = 0.059$  were obtained. So the regression equation of the effect of applying the Cooperative Integrated Reading and Composition (CIRC) learning model with Timeline media on students' history learning outcomes is  $\hat{Y} = 75.896$ .

Based on the calculation presented in the table above, the result of  $F_{cal}$  obtained was 2.074. Then, from the results compared to  $F_{table}$  with the numerator = 1 and the denominator = 33, and a significant level of 5%, the  $F_{table}$  of 1.20 is obtained. So the conclusion is that because  $F_{calculus}$  is greater than  $F_{table}$  ( $2.074 > 1.20$ ),  $H_0$  is rejected and  $H_a$  is accepted, meaning that the coefficient is meaningful. The calculation results are then compared with  $F_{table}$  with the numerator  $dk (k-2) = 7$  and the denominator  $dk (n-k) = 28$  with a significance level of 5%. The result is that  $H_a$  is rejected, and  $H_0$  is accepted. So the conclusion is that the regression is linear. The calculated price was obtained based on the calculation results in the correlation coefficient test, which was 0.612. Then, the result is compared with the table with  $n = 35$  and a significant level of 5%, and then the table price of 0.361 is obtained. So the conclusion is that because the calculation is greater than the table ( $0.612 > 0.361$ ),  $H_0$  is rejected, and  $H_a$  is accepted; with the calculation of the determination test, the result of  $r^2$  is obtained of 0.3745 or if presented to 37.45%. From these results, it can be concluded that there is an influence on the application of the Cooperative Integrated Reading and Composition (CIRC) learning model with Timeline media with a contribution of 37.45% to student history learning outcomes. At the same time, other factors influenced the remaining 62.55%.

Regression analysis in the study revealed that the influence of the CIRC model with Timeline media only contributed 37.45% to student learning outcomes. In contrast, other factors, such as the surrounding environment and learning implementation time influenced the remaining 62.55%. This shows that although the CIRC model with Timeline media has a positive effect, external factors also play an important role in determining learning outcomes. This study underscores the importance of considering contextual factors in assessing the effectiveness of learning methods.

Based on the analysis of the final data, there was a significant difference between the two classes where the experimental class was given learning treatment using the Cooperative

Integrated Reading and Composition (CIRC) model with Timeline media; the results were better than the control class that was given learning treatment using the lecture method. The final stage analysis includes a normality test, a similarity test of two variances, and a mean difference test. After being given treatment, an evaluation test (*post-test*) was carried out; the highest score for the experimental class was 93, with very high criteria. For the control class, the highest score was also obtained, with a score of 93 with very high criteria. However, when viewed from the average learning outcomes, the experimental class is superior to the control class; namely, the average learning outcome of the experimental class students is 79.51 with suitable criteria. It has exceeded the minimum completeness criterion the school sets, 77.

The data presented above illustrates the difference in results between the experimental group and the control group, as well as the statistical analysis conducted to evaluate the effectiveness of the learning model. F counts on the variance test and regression test compared with the F table to determine conclusions about the variance's homogeneity and the regression's significance. The coefficients of correlation and determination provide an overview of the relationship and contribution of the learning model to student learning outcomes.

### **External and Contextual Factors Affecting Student Learning Outcomes**

The learning outcomes obtained by the experimental class may be influenced by several factors, including the learning process and the facilities used in the learning process. The experimental class was treated with the Cooperative Integrated Reading and Composition (CIRC) learning model, emphasizing students' activeness in learning, and with the help of Timeline media, students can remember the material given easily. The average learning outcome of the control class treated with the lecture method varied by 77.64, with the highest score being 93, with very high criteria, and the lowest score being 66. However, when viewed from the average student learning outcomes, namely class XI Science 7, it can be said to be better, with an average of 77.64.

Similar to the experimental class, the learning outcomes of the history of the control class are also influenced by several factors, including the learning process. The lecture method focuses the teacher as the only informer, so students only listen to what the teacher conveys and do not engage in learning like in an experimental class. By only concentrating on the teacher as an informer, students are not given the freedom to develop creativity, think, and explore the potential that exists in them due to the lack of interaction between students. This causes students to be interested in learning history. That the results of the post-test of the application of the Cooperative Integrated Reading and Composition (CIRC) model learning model with

Timeline media in the experimental class showed that 47% of students responded very well to the application of the Cooperative Integrated Reading and Composition (CIRC) model learning model with Timeline media. While the rest, with a total of 53% of students, all responded well to learning. This is evidenced by the increase in students' interest in learning history when participating in the teaching and learning process using the Cooperative Integrated Reading and Composition (CIRC) model with Timeline media. However, based on the study's results, the learning outcomes are not entirely influenced by applying the Cooperative Integrated Reading and Composition (CIRC) model with Timeline media alone.

Several other factors can also affect students' interest in learning, including factors from the surrounding environment, such as from friends. This is evidenced by the results of the calculation in the regression analysis obtained  $R^2 = 0.3745$ , meaning that the application of the Cooperative Integrated Reading and Composition (CIRC) learning model with Timeline media has an effect of 37.45% on student history learning outcomes and the remaining 62.55% is influenced by other factors. The average learning outcome of the experimental class increased by 17.88 from the average before being treated with the Cooperative Integrated Reading and Composition (CIRC) model with Timeline media of 61.63 to 79.51 after being treated with the Cooperative Integrated Reading and Composition (CIRC) learning model with Timeline media. Meanwhile, the control class experienced an increase in the average learning outcome of 18.44 from the average pretest of 59.5 to 77.64.

Based on the study's results, although the CIRC model with Timeline media significantly improved learning outcomes, its influence was not wholly dominant. The increase in learning outcomes in the experimental group was 17.88 points, while the control group showed an increase of 18.44 points, indicating that conventional methods also had a positive impact. Furthermore, the conditions of learning implementation, such as class time that affect student enthusiasm, must also be considered. Therefore, while the CIRC model with Timeline media offers clear benefits, integration with other factors and learning contexts is essential to achieve optimal outcomes.

This study shows that although the application of the Cooperative Integrated Reading and Composition (CIRC) learning model with Timeline media in the experimental class provides a significant improvement in learning outcomes with an average post-test score of 79.51, its effectiveness is not entirely dominant compared to the lecture method in the control class which shows an increase in post-test scores to 77.64. The CIRC model contributed 37.45% to improving learning outcomes, while the remaining 62.55% was influenced by other factors such as the environment and learning process. The increase in average scores in both groups

showed that conventional methods were also practical, and factors such as class time and student interaction needed to be considered to maximize learning outcomes. Integrating the CIRC model with the Timeline media shows benefits, but learning success is also influenced by other contexts and conditions.

In addition, the learning process in the experimental classroom that is carried out during the day affects the learning process, which causes the enthusiasm of students not to be fully good because learning is carried out in the last 1 hour with various possible conditions of students who are already tired and history lesson hours which are also 1 hour. This is in contrast to the learning atmosphere in the control class, which is carried out in the morning when the condition of the students is still very fresh when taking part in the lesson. Even though the lecture methods vary, it is not uncommon for students to show a bored and sleepy attitude during the learning process and distract themselves from other things, such as chatting with friends, going to the bathroom, scribbling their books, and occasionally being seen playing with their mobile phones.

### **Discussion**

Research conducted by Johnson and Smith (2020) at Central Tirana High School explored the influence of the Cooperative Integrated Reading and Composition (CIRC) learning model combined with Timeline media on student history learning outcomes. This study divided students into two groups: an experimental group that used the CIRC model with Timeline media and a control group that used conventional learning methods. The results show that students who follow the CIRC model with Timeline media experience a significant increase in their understanding of historical material. This improvement is especially seen in students' ability to identify and understand the chronological sequence of historical events and the relationships between events, which positively impacts their learning outcomes in historical tests and tests (Dara, 2017).

However, a more in-depth analysis shows that although the CIRC model with Timeline media contributes to improved learning outcomes, other factors also play an essential role. Based on regression analysis, the R square value of 0.3745 was obtained. This means that the CIRC model with Timeline media only has an effect of 37.45% on students' history learning outcomes, while other factors influence the remaining 62.55%. These factors may include the influence of the surrounding environment, such as classmates and the learning atmosphere, which can affect students' interest and motivation in learning (Sukestiyarno, 2017).

Statistical analysis of the learning outcomes showed that, although the experimental group experienced a significant increase in the average post-test score, 79.51, compared to the control group which obtained an average of 77.64, both groups showed the same highest score of 93. Analysis of normality, homogeneity, and mean differences showed that the pretest data between the two groups did not show significant differences, indicating that the initial abilities of students in both groups were similar (Usmadi, 2020). However, after treatment, the calculations showed that the experimental group had a more minor variance than the control group, indicating that the CIRC model with Timeline media gave more consistent results. The average learning outcomes of students in the experimental class showed a significant increase from 61.63 before treatment to 79.51 after applying the CIRC model with Timeline media, with an average increase of 17.88. In contrast, the control class that used conventional methods experienced an increase in the average learning outcome from 59.5 to 77.64, with an average increase of 18.44. Although the two groups experienced improvement, this difference in results showed that the CIRC model with Timeline media contributed positively to learning outcomes. However, the difference was not too large compared to the control group.

Another factor that needs to be considered is the time and conditions required to implement learning. The learning process in the experimental classroom is carried out during the day, especially in the last hour, which can affect student enthusiasm (Novelensia, 2021). This state may make students feel tired and less excited, affecting learning effectiveness. In contrast, control classes carry out learning in the morning when students are still fresh and better prepared to learn, which may provide an advantage in student attention and engagement throughout the learning process.

Conditions in the control class, although conducted with varying lecture methods, also presented some challenges. Students in the control class sometimes show a bored and sleepy attitude and often distract themselves with activities such as talking to friends, getting permission to go to the bathroom, doodling books, or even playing with mobile phones (Anisa, 2023). This suggests that while conventional learning methods can be practical, certain aspects of the learning environment can affect student attention and engagement.

This study shows that the CIRC model with Timeline media can improve students' learning outcomes in history. However, it also highlights the importance of considering additional factors that affect learning outcomes. Environmental factors and learning implementation conditions play a significant role in the effectiveness of learning methods. Further research is needed to explore the influence of these variables more deeply and find ways to optimize the use of learning models such as CIRC with Timeline media in various educational contexts. In

addition, the difference in learning implementation time between the experimental and control groups can also affect the results obtained. The experimental class conducted during the day experienced a decrease in student enthusiasm, which may have been caused by fatigue, while the control class conducted in the morning showed a fresher condition of the students. These findings suggest that implementation time and learning conditions can be necessary in the outcome. Therefore, we should consider these contextual factors when evaluating learning methods to achieve optimal outcomes.

### **Conclusions, Implications, and Limitations**

Based on the research results that have been explained and described above, it can be concluded that. The application of the Cooperative Integrated Reading and Composition (CIRC) learning model with Timeline media affects the learning outcomes of history students of Central Tirana High School, which is evidenced by the increase in learning interest in the experimental class, which is from 61.63 to 79.51 or in the excellent criterion and the control class from 59.5 to 77.64 or still in the same criterion, which is moderate. Meanwhile, from the results of regression analysis, the calculated  $r$ -value is greater than the  $r$  of the table ( $4.90 > 3.29$ ) with the regression equation  $\hat{Y} = 75.896 + 0.059(X)$ .  $H_a$  is accepted, and  $H_o$  is rejected. There was a significant influence on learning using the Cooperative Integrated Reading and Composition (CIRC) model with Timeline media on the learning outcomes of students in the experimental class, namely the value of  $R^2 = 0.3745$ , which means that it had an effect of 37.45% on the learning outcomes of students' history and the rest, which was 62.55% by other factors.

Significant implications in the context of history education. Applying the CIRC model combined with Timeline media has proven effective in increasing students' understanding and interest in learning history. This model can be used as an alternative innovative learning method to increase student engagement and understanding of historical material in more depth. With this method, teachers can create a more interactive and engaging learning environment, improving student motivation and learning outcomes. Therefore, this learning model can be recommended for broader adoption in various schools to improve the quality of history education. One of the main limitations is the existence of external factors that affect student learning outcomes, which are not fully controlled in this study. With 62.55% of student learning outcomes affected by other variables, such as environmental conditions, additional teaching methods, or learning implementation time, it is necessary to admit that these findings do not fully represent the effects of the CIRC model in isolation (Moonti, 2021). These factors can affect the effectiveness of the CIRC model and student learning outcomes, thus providing a



view that may not be entirely accurate about how this model contributes to improved learning outcomes.

More research is needed with a more rigorous design to control external factors. Future research can also explore how the combination of the CIRC model with various other learning media can be more optimal in improving student learning outcomes. Additionally, it is essential to conduct long-term evaluations to assess the sustainability and impact of this learning model in a broader context. With a deeper understanding of the factors that affect learning outcomes, it is hoped that this learning model can be implemented more effectively to achieve better results in history education.

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