



# The Application Jigsaw With Aid of Audiovisual Media to Improve Learning Outcomes of Class X3 Students of SMA Muhammadiyah 1 Surakarta

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## Article Info

### Article History

Received: June 2024  
Revised: July 2024  
Published: August 2024

### Keywords:

*Jigsaw, Audiovisual Media,  
Learning Outcomes*

### Doi:

<http://dx.doi.org/10.23960/E3J/v7i1.78-82>

## Abstract

This research was carried out with the aim of improving the learning outcomes of class X3 Muhammadiyah 1 Surakarta High School through the applications of Jigsaw method with the aid of audiovisual learning media in the economic subjects of class X3 of Muhammadiyah 1 High School Surakarta. This research uses the Classroom Action Research (CAR) carried out at the Muhammadiyah High School 1 Surakarta class X 3 with a total of 22 students. The study uses data collection techniques such as interviews, observations, test, and documentation using data triangulation analysis techniques. The learning outcomes of students before implementing Jigsaw assisted by audiovisual media were 18.18% of students who were able to achieve the specified KKTP with an average value of 67. Student learning outcomes increased significantly after the first cycle of action was carried out to 77.27% of students who had exceeded the predetermined KKTP with an average value of 85,6. The increase in learning outcomes continued to occur in the implementation of cycle II, amounting to 95.45% of students exceeding the KKTP with an average value of 90,2. Based on the results of the research conducted, it can be concluded that the application of the Jigsaw learning method with the help of audiovisual media can improve student learning outcomes.

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## INTRODUCTION

The efficacy of an educational programme can be gauged by the extent to which students achieve positive learning outcomes. This can be evidenced by students attaining scores that exceed the criteria for achieving learning objectives (KKTP). Ismawati & Hindarto (2011) define learning outcomes as the development of character and attitudes by students subsequent to the completion of learning activities. Learning outcomes become a benchmark for the success or failure of the learning process (Yulianto et al., 2022). They posit that learning outcomes play a pivotal role in the assessment of student progress in learning activities. As posited by Kpolovie et al. (2014), learning outcomes serve as a benchmark for gauging the efficacy of an instructional unit. Additionally, learning outcomes reflect the learning process, demonstrating the extent to which educational objectives have been defined by various stakeholders, including educational institutions, teachers, students, and the educational process itself.

Hapnita et al. (2018) identified two internal aspects that influence learning outcomes: physical factors (student health) and psychological factors (student mentality). The latter encompasses student interest in learning, student motivation to learn, focus, and student readiness. In contrast, the external aspect is not a result of the learners themselves. It encompasses several elements, including family-related factors such as parental educational practices, family environment, family economic status, and school-related factors such as teaching methods, teacher-student relationships, school discipline, facilities and infrastructure, and community-related factors such as community environment and peer influence.

Nevertheless, the quality of Indonesian education is arguably inferior to that of neighbouring countries. This is evidenced by the results of the Programme for International Student Assessment (PISA) conducted in 2018, which placed Indonesia 72nd out of 77 participating countries, ranking sixth from the bottom. In light of these findings, it can be concluded that the level of education in Indonesia remains

relatively low. Ulya (2016) identifies several factors that contribute to less effective learning outcomes, one of which is the utilization of inadequate learning designs and methodologies.

This phenomenon is consistent with that observed at SMA Muhammadiyah 1 Surakarta. Based on observations conducted by researchers on Wednesday, August 9, 2023, it can be concluded that the learning outcomes of class X 3 students are unsatisfactory. This is evidenced by the results of daily tests, which indicate that a significant number of students have not met the KKTP value. It should be noted that the KKTP value applied by SMA Muhammadiyah 1 Surakarta is 78. The data from the observations indicate that the learning outcomes of Class X 3 are suboptimal. The average value for the class is 67, with a success rate of 18.18% in learning, or only four students who can meet the KKTP value.

In light of the challenges encountered, it is imperative to implement effective learning strategies, as proposed by Islami and Yondri (2016), who argue that educators should utilize a range of techniques to enhance student learning outcomes. One potential approach is the integration of cooperative learning designs. The research conducted by Lubis and Harahap (2016) indicated that educators are responsible for facilitating, motivating, and moderating learning activities in cooperative learning environments. As defined by Mustamiin et al. (2013), cooperative learning is a pedagogical approach that involves students in small groups, comprising individuals from diverse backgrounds and with varying learning outcomes. The Jigsaw learning method, on the other hand, is a discussion-based technique that randomly assigns students to represent their respective groups. This strategy is designed to enhance overall student engagement and accountability in the learning process.

An alternative approach to cooperative learning is the Jigsaw method, which is particularly suited to fostering active learning and engaging students in a more diverse range of roles. As Zaini (2008) notes, the Jigsaw method is an intriguing approach to be employed when a subject can be divided into multiple subchapters and presented in a random order. Rusman (2008) posits that the Jigsaw model is an effective approach to facilitate learning and enhance communication skills. It enables students to articulate their perspectives on the material they have independently acquired and processed. The utilization of the Jigsaw method to enhance student engagement is also articulated by Ritonga (2018) This author posits that the Jigsaw approach entails students learning in groups with materials that have been provided. The Jigsaw learning method comprises a more complex sequence of steps. The Jigsaw method encourages students to become more active participants in learning activities, from initial planning stages to comprehension of the material, within the context of a pre-established group. The Jigsaw method is particularly well-suited to students, as it facilitates the acquisition of concepts and enables the acceptance of diversity, encompassing social class, culture, religion, race, and other differences. Additionally, it fosters collaborative learning. The implementation of the Jigsaw method in social studies lessons has been demonstrated to enhance learning outcomes and promote student engagement (Marleni, 2022). The study by Sulhan (2020) demonstrated that the implementation of the Jigsaw method resulted in enhanced learning outcomes. The pre-test, the results of the initial cycle, and the outcomes of the subsequent cycle, as evidenced by the students' performance on the post-test, consistently exhibited a notable improvement.

Furthermore, the incorporation of diverse learning methodologies and student engagement strategies is likely to enhance learning outcomes. The utilisation of appropriate learning media, such as audio-visual resources, may also prove beneficial. In addition to the assertion by Haryoko (2009) that audiovisual media represents a means of conveying information in the form of sound and images. Audiovisual media can be classified into two categories: motion audiovisual media and silent audiovisual media. In accordance with Haryoko's assertion, Jupriyanto & Ganis (2011) also indicated that audiovisual media is a pedagogical tool utilized during learning, wherein the medium is both visual and auditory. This facilitates a reciprocal relationship between teachers and students, enhancing the efficacy of communication. As posited by Andika et al. (2019), the utilization of audiovisual learning media is more conducive to enhancing students' learning outcomes than the deployment of animation-based media. A similar study was conducted by Nisa et al. (2018), who observed that learning through audio-visual media facilitates student engagement with the subject matter. When combined with the Jigsaw learning method, which assigns greater responsibility to students, this approach has been shown to enhance learning outcomes. Additionally, Arsyad (2005) indicates that the utilization of audiovisual media facilitates students' comprehension of the subject matter under investigation. Sanjaya (2006)

posited that the use of audiovisual media in the learning process can enhance students' motivation to learn, thereby facilitating their engagement with the learning material. In a study published in 2021, Kahfi et al (2021) demonstrated that the use of audiovisual media in learning can enhance learning outcomes. This is because audiovisual media provides a concrete illustration, which enables educators to convey topics to students in a more practical manner.

**METHODS**

This research is a Classroom Action Research (CAR) conducted at SMA Muhammadiyah 1 Surakarta in the second semester of the 2023/2024 academic year in collaboration with the X3 class Economics teacher. The subject of this action research is the class X3 students of SMA Muhammadiyah 1 Surakarta, with a total of 22 students. The object of this assessment is the improvement of economic learning outcomes through the application of the jigsaw method with the help of audiovisual media in class X3 students of SMA Muhammadiyah 1 Surakarta. The procedure in this study is comprised of four stages: planning, implementation, observation, and reflection (Evedi & Verawati, 2021). These stages are conducted in each cycle, I and II, employing data collection techniques, including observation, testing, interviewing, and document analysis.

**RESULTS AND DISCUSSION**

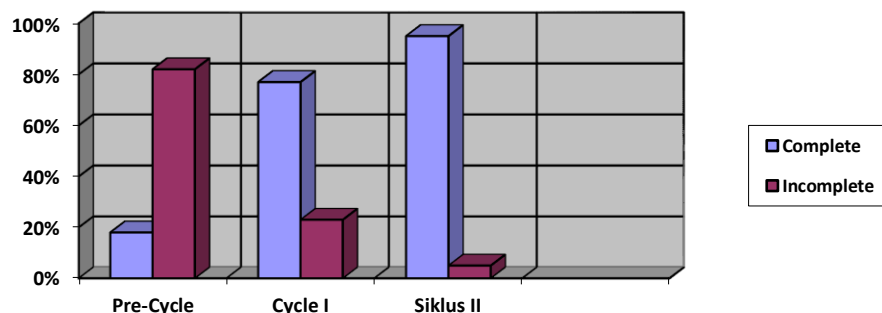
**A. Result**

The research was conducted from January 25 to February 20, 2024, in class X3 of SMA Muhammadiyah 1 Surakarta, which had a total of 22 students. The objective of this study is to enhance the academic performance of students in class X3 of SMA Muhammadiyah 1 Surakarta through the implementation of the jigsaw learning approach, complemented by the use of audiovisual resources. The findings of this study indicate that there was a notable improvement in the learning outcomes of students from the pre-cycle to cycle I, with a continued upward trajectory in cycle II. The observed enhancement in the academic achievement of students in class X3 of SMA Muhammadiyah 1 Surakarta is illustrated in the following table:

**Table 1** Research Result Data

Cycle	Complete	Incomplete	Average	Percentage of Completeness
Pre-Cycle	4	18	67	18.18%
Cycle I	17	5	85,6	77.27%
Cycle II	21	1	90,2	95.45%

As evidenced in Table 1, the integration of the jigsaw learning approach with the use of audiovisual resources has the potential to enhance learning outcomes. The implementation of Cycle I, in particular, demonstrated a notable improvement in learner outcomes, with the initial average learner outcome of 67 rising to 85.6. This represents a significant increase, with 17 students exceeding the KKTP. Furthermore, an increase was observed in the implementation of Cycle II, with the average learning outcomes of students rising to 90.2 and 21 students exceeding the KKTP. The aforementioned increase in the percentage of complete learners can be illustrated by the following diagram.



**Figure 1.** Inter-cycle Learning Outcomes

As illustrated in Figure 1, the results of the study indicate that the use of the jigsaw learning method in conjunction with audiovisual media can enhance student learning outcomes. The percentage of

increase was observed to be 18.18% in the pre-cycle, which then increased to 77.27% in Cycle I and subsequently increased by 95.45%.

## **B. Discussion**

The application of jigsaw learning assisted by audiovisual media has been demonstrated to enhance the learning outcomes of class X3 students at SMA Muhammadiyah 1 Surakarta. This is substantiated by the observed increase in student learning success rates. The implementation of Cycle I yielded a student success rate of 77.27%, a notable increase from the 18.18% observed in the pre-cycle. Furthermore, the implementation of Cycle II yielded an additional increase in learning outcomes, with a success rate of 95.45%. Additionally, the average value of students demonstrated a notable improvement, rising from 67 to 85.6 after the completion of Cycle I, indicating a 18.6 point increase from pre-cycle. Furthermore, the implementation of Cycle II resulted in an average value of 90.2, indicating a 4.6 point increase from Cycle I.

## **CONCLUSIONS AND SUGGESTIONS**

### **A. Conclusion**

The findings of the research conducted on students in class X 3 of SMA Muhammadiyah 1 Surakarta indicate that the implementation of the Jigsaw learning approach with the use of audiovisual resources can enhance academic performance in economic subjects. The increase in learning outcomes is substantiated by the data obtained, which indicates that 18.18% of students in the pre-cycle group are able to reach KKTP with an average score of 67. The implementation of the initial learning cycle yielded favorable outcomes, with 77.27% (17 students) exceeding the KKTP benchmark and an average score of 85.6. The learning outcomes continued to improve in Cycle II, with 95.45% (21 learners) exceeding KKTP with an average of 90.2.

### **B. Suggestion**

Following this research, it is anticipated that students will demonstrate greater engagement in learning activities, particularly during discussion sessions, both within their initial groups and with experts. Additionally, it is expected that students will exhibit increased confidence in expressing their opinions during discussions. (3) It is anticipated that educators will adopt a more creative approach to learning how to utilise a range of alternative learning methods. (4) Educators are expected to demonstrate proficiency in the use of audiovisual learning media, which should be employed to enhance the learning process and to foster greater student engagement.

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