# Implementation of Interactive Multimedia Edpuzzle in Economics Learning at MAN 1 Majene Regency

**Nurfathiha Ashari [1] , Romansyah Sahabuddin [2] , Najamuddin [3]**
[1,2,3] Management Study Program, State University of Makassar

**A R T I C L E   I N F O**

**A B S T R A C T**

This study aims to determine: 1) Describe the implementation process of Edpuzzle interactive multimedia in economics learning at MAN 1 Majene Regency. 2) Identify the obstacles faced by teachers in implementing Edpuzzle in economics learning at MAN 1 Majene Regency. 3) Analyze the effect of using Edpuzzle interactive multimedia on student engagement in economics learning at MAN 1 Majene Regency. The research method used is a descriptive quantitative approach method. The research variables consist of Edpuzzle Media (Variable X) and Economics Learning (Variable Y). Data collection techniques use observation, questionnaires and documentation. The data analysis techniques used are descriptive statistics and inferential analysis. Based on the results of the study that: 1) The use of Edpuzzle interactive multimedia in economics learning at MAN 1 Majene Regency has proven to be effective. Students feel the benefits in understanding the material, while teachers find it easier to compile interactive materials. Features such as interactive questions and progress tracking help student engagement. In addition, Edpuzzle's flexibility in distance learning and blended learning improves understanding and learning independence. 2). Constraints in implementing Edpuzzle include limited internet access, inadequate devices, and students' understanding of the platform. Teachers also have difficulty in adjusting appropriate materials and limited features of the free version. In addition, the lack of direct interaction makes some students tend to be passive or less focused on completing assignments. 3) The influence of Edpuzzle as a learning medium on economic learning is in the moderate category with a correlation of 0.397. The significance test shows that R count (0.397) > R table (0.284) and the Sig. value. (2-tailed) = 0.005 <0.05, so that the relationship between the two is positive and significant. This means that the higher the use of Edpuzzle, the better the students' understanding of economic subjects at MAN 1 Majene Regency.

## BACKGROUND

Improving the quality of education is a crucial element in efforts to enhance the quality of human resources. The main activity that determines the success of the educational process is the learning activity. The Law No. 20 on the National Education System, Article 40, states that "Teachers and educational staff are obligated to create a meaningful, enjoyable, creative, dynamic, and dialogic learning environment." Therefore, the learning process, which involves interactions between students and learning resources, must be designed to encourage students' active participation and independence during the learning process, so that various potentials within students can develop optimally.

The learning process is complex. In the learning process, students undergo stages of learning, development, and education. Skinner, as cited in Dewi, T.A. (2015), states that learning is a behavior and deliberate effort. Meanwhile, Shaleh, as mentioned by Suhendri, H. (2011), defines learning as a form of growth or change within a person that is expressed in new ways of

behavior due to experience and training. Hilgard, cited in Basiroh, U. (2015), defines learning as "the process by which an activity originates or is changed through training procedures (whether in the laboratory or in the natural environment) as distinguished from change by factors not attributable to training." Thus, from the definitions above, it can be concluded that: (1) Learning brings change, (2) change will result in new skills, (3) change occurs due to a deliberate effort.

In the learning process, students often face obstacles both internally and externally. One of the external factors that often becomes a challenge is the role of educators and the limitations of learning facilities and infrastructure. Therefore, teachers as facilitators and guides are required to develop innovative and effective teaching materials to help students understand the learning concepts. The use of interactive multimedia such as Edpuzzle is one of the alternatives to improve the quality of Economics learning at MAN 1 Majene Regency.

Economics learning is one of the subjects that aims to train students to understand their surrounding social environment. By studying economics, it is hoped that students will be able to adapt to every situation and condition that occurs around them. One of the alternatives to facilitate the teaching process is the utilization of information and communication technology, one of which is interactive multimedia. Arsyad (2016) states that multimedia, as commonly known today, is a combination of graphics, text, sound, video, and animation.

The use of interactive multimedia in learning is an integration of various elements that simultaneously present information, messages, or learning materials in a more engaging and effective way. Multimedia-based learning materials can accommodate different learning styles of students, whether visual, auditory, or kinesthetic, making learning more optimal. In interactive multimedia like Edpuzzle, students can actively choose the material they wish to study, interact through simulations, educational games, and complete available exercises. The role of the teacher as a learning facilitator becomes increasingly crucial in applying and developing innovative and effective teaching strategies. The use of Edpuzzle as one of the media sources is expected to enhance the teacher's creativity in managing Economics learning and increase active student involvement.

At the research site, the learning process faces significant challenges in adapting to the needs and learning preferences of students, most of whom come from Generation Z and Generation Alpha. The traditional Economics learning method at MAN 1 Majene, which is mainly based on lectures and textbook use, is often considered unappealing and fails to stimulate active student participation. Today's students are more interested in interactive and visual methods that can enhance their motivation and involvement in the learning process. Furthermore, the diverse learning styles among students demand a more flexible and personalized approach.

The development of information and communication technology offers a solution to overcome the learning challenges faced by students. The application of interactive multimedia in learning is increasingly important to improve the effectiveness of delivering material. Edpuzzle, as a form of interactive multimedia, integrates various elements such as text, images, audio, video, and animation, creating a richer and more in-depth learning experience. The use of Edpuzzle not only makes Economics material more engaging but also helps students understand complex concepts through visualization and interactive simulations. Moreover, features such as quizzes, educational games, and exercises in Edpuzzle can increase student involvement and allow them to learn through hands-on practice.

Therefore, to address the limitations of conventional teaching methods and meet the learning needs of the digital generation, especially in Economics learning, the application of interactive multimedia in the learning process is essential. This will help create a more engaging, adaptive, and effective learning environment and improve the overall quality of education.

One interactive multimedia tool that can be used by educators to support Economics learning is Edpuzzle. (Vivianingsih et al., 2023) Edpuzzle is an interactive learning platform that allows educators to create engaging video lessons for students. It enables teachers to customize

existing videos by adding voiceovers, audio notes, and embedded questions to assess students' understanding. Edpuzzle offers tools to cut videos, add comments, and incorporate quizzes to enhance the learning experience.

both teachers and students can access Edpuzzle for free. By using Edpuzzle, students become active learners, take control, set goals, reflect on the learning process, and seek help when needed. However, the success of Edpuzzle depends on monitoring to identify students who are struggling with the learning method and provide support. Teachers expect the use of Edpuzzle to increase student activity and learning outcomes.

In practice, many teachers still face difficulties in fully utilizing the potential of Edpuzzle. Some teachers may lack understanding of how to effectively integrate this technology into their curriculum, while others may feel insecure about the technical skills required. This challenge is exacerbated by the lack of adequate training and support for teachers in mastering the use of interactive multimedia like Edpuzzle. As a result, the great potential of this tool is often not fully exploited, and the learning process remains less interactive and engaging for students.

Based on initial observations of students at MAN 1 Majene, the use of Edpuzzle in Economics learning has started to be implemented. However, its utilization has not been optimal because students have not fully experienced the benefits of the interactive features available. Most students only access the material without actively engaging in interactive elements such as quizzes, simulations, or discussions, which could enhance their understanding and involvement in the learning process. Furthermore, limited internet access and supporting devices are the main obstacles to fully utilizing Edpuzzle. Not all students have stable internet access or adequate devices to access the material optimally. This condition highlights the need for further research to evaluate the effectiveness of Edpuzzle and develop strategies to optimize its implementation in Economics learning.

There are not many interactive media that help with learning Economics. In Economics teaching, teachers are less innovative in developing media and utilizing technology. This affects students' learning outcomes, which remain suboptimal. Based on the background above, the next section will discuss how interactive media can be used to teach Economics in schools and the factors to consider when designing effective interactive media.

To compile a scientific paper, researchers need theoretical support from various sources or references relevant to the research plan. Some studies related to this research are: (Djoko Sri Bimo, 2022) with the title *Implementation of Interactive Multimedia in Learning Simple Present Tense*. This study aims to apply interactive multimedia to learn Simple Present Tense and assess the success level of eighth-grade students. The research used a quantitative approach with a quasi-experimental design, specifically a random pre-test-post-test comparison group design. The study compared the effectiveness of interactive multimedia (experiment group 1) with handouts (experiment group 2) in teaching Simple Present Tense. The results showed no significant difference between the two experimental groups based on pre-test scores, indicating similar starting points for both groups. The similarity of this study is researching interactive multimedia, while the difference lies in the research object, as this study focuses on implementing interactive multimedia in middle school students.

(Ramasany et al., 2022) A study to assess the impact of using the interactive video application Edpuzzle on student interest, involvement, and achievement in science subjects revealed significant results. It was observed that there were significant differences in student interest, engagement, and achievement when the Edpuzzle application was used in elementary school. Students reported that their motivation to learn was significantly influenced by their desire to enhance attention, focus, interest, and engagement in science, showing a positive correlation between the use of interactive video and an enhanced learning experience. The findings support the idea that integrating interactive video in the classroom setting can improve the quality of the teaching and learning process, showing a promising path to improve educational

practices among science teachers. The similarity with this research lies in the implementation of interactive learning using Edpuzzle, while the difference lies in this research focusing on Economics learning.

(Vivianingsih et al., 2023) The research shows that students learning mathematics significantly improve when combining interactive video media with Edpuzzle. This study collected data through interviews, documentation, and tests, using a quasi-experimental approach with a quantitative focus. The hypothesis testing results showed a positive correlation between using Edpuzzle media and improved student learning outcomes. This study provides valuable insights by demonstrating that interactive video media supported by Edpuzzle is highly effective as a viable alternative to improve mathematics learning. The similarity with this research lies in interactive learning through various Edpuzzle media, while the difference lies in the use of Edpuzzle media and student learning outcomes.

## RESEARCH METHOD

A quantitative descriptive method is used in this study to systematically, factually, and accurately describe how Edpuzzle, an interactive media, is used in Economics learning at MAN 1 Majene. This research focuses on collecting in-depth data about how Edpuzzle is utilized, how students use it, and how teachers perceive the use of Edpuzzle.

To achieve the desired results, a quantitative approach is used to collect numerical data. This data will be analyzed using descriptive statistics to provide an overview of how effective Edpuzzle Multimedia Puzzle is in Economics learning.

Since this study does not aim to test causal relationships or make generalizations, this research is descriptive in nature. Instead, it aims to provide detailed information about the real situation on the ground. It is hoped that this research will serve as a foundation for further development in using interactive media as a learning tool.

This study will take place over one month and will be conducted at MAN 1 Majene, located on Jalan Sultan Hasanuddin Lutang, Banggae Timur, Majene Regency, West Sulawesi Province. The choice of MAN 1 Majene as the research location is based on the fact that several teachers at the school are using Edpuzzle, an interactive media, to teach Economics. Additionally, the research location is a regency where the researcher resides.

This study involves all students from several classes at MAN 1 Majene as the research subjects. Class X Sports consists of 25 students, Class Multimedia 1 has 25 students, Class XI Sports includes 26 students, and Class XII Digital has 16 students, totaling 92 students. The proportional stratified sampling method, which means random and proportional selection from each population stratum, is used. According to Sujarweni (2014:66), the Slovin formula can be used to determine the sample size for this study. Therefore, the sample size in this study is 48 students, which is proportionally representative of the entire population.

## RESULTS AND DISCUSSION
### 1. Inferential Statistical Analysis
### Normality Test of Data

In this study, the normality test was conducted to determine whether the data from the implementation of Edpuzzle Interactive Multimedia (X) in Economics Learning (Y) at MAN 1 Majene is normally distributed. If the data is normally distributed, parametric statistical analysis can be continued.

In this study, the Kolmogorov-Smirnov (K-S) test was used for the normality test. The criteria for this test are as follows:

1. If the significance value > 0.05, the residual data is considered normally distributed.

2. If the significance value < 0.05, the residual data is considered not normally distributed.

The results of the normality test in this study can be seen in the table below:

**Table 1. Kolmogorov-Smirnov Data Analysis**
*One-Sample Kolmogorov-Smirnov Test*

| Unstandardized Residual | Value |
|---|---|
| N | 48 |
| Normal Parameters | |
| Mean | 0.000 |
| Std. Deviation | 4.902 |
| Most Extreme Differences | |
| Absolute | 0.119 |
| Positive | 0.108 |
| Negative | -0.119 |
| Test Statistic | 0.119 |
| Asymp. Sig. (2-tailed) | 0.085 |

*Source: Data processed using SPSS 25*

The Kolmogorov-Smirnov One-Sample test results indicate that the residuals from the data analyzed are normally distributed. With a sample size of 48, the results show that the average residual is 0.0000000 with a standard deviation of 4.902. The highest extreme difference indicates that the largest difference between the data distribution and the normal distribution is 0.119 in absolute terms, with a test statistic value of 0.119 and positive and negative values of 0.108 and -0.119, respectively. After applying the Lilliefors Significance Correction, the two-tailed significance level is 0.085. Since the significance value is greater than 0.05, it can be concluded that there is no significant difference between the data distribution and a normal distribution.

Therefore, this result indicates that the residual data in the study on the implementation of Edpuzzle Interactive Multimedia in Economics Learning at MAN 1 Majene is normally distributed, and parametric statistical analysis assuming normality can be used validly in this study.

**Simple Linear Regression Test**

To determine the effect between one independent variable (X) and one dependent variable (Y), a simple linear regression test was used. In this study, a simple linear regression test was conducted to evaluate how the implementation of Edpuzzle Interactive Multimedia (X) affects Economics Learning (Y) at MAN 1 Majene.

The purpose of simple linear regression is to create a regression equation that shows how the two variables interact. In addition to showing significant relationships, a good regression model has regression coefficients that can be interpreted effectively.

**Model Summary**

In regression analysis, the model summary table is used to provide information about the quality and feasibility of the regression model. In this study, the Model Summary table shows the

relationship between the use of Edpuzzle Interactive Multimedia (X) and Economics Learning (Y) at MAN 1 Majene.

**Table 2. Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.397 | 0.157 | 0.139 | 4.95527 |

*Source: Data processed using SPSS 25*

The table above shows the relationship size (R) or the correlation coefficient between the use of Edpuzzle Media (X) and Economics Learning (Y). The correlation coefficient (R) is 0.397, which indicates a moderate relationship between the two variables.

The use of Edpuzzle Media (X) influences Economics Learning (Y) by 15.7%, as indicated by the R Square ($R^2$) value of 0.157. This shows how well the regression model formed by these two variables fits the data. The value of R Square ($R^2$) of 0.157 indicates that other factors outside the variable of Edpuzzle Media usage (X) influence 84.3%. This result suggests that, even though Edpuzzle Media usage has an impact, further analysis is needed to explore additional factors that may improve the efficiency of Economics learning.

**ANOVA**

**Table 3. ANOVA**

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 211.151 | 1 | 211.151 | 8.599 | 0.005 |
| Residual | 1129.515 | 46 | 24.555 | | |
| Total | 1340.667 | 47 | | | |

*Source: Data processed using SPSS 25*

Economics learning at MAN 1 Majene is significantly influenced by Edpuzzle Interactive Multimedia, according to regression analysis. Additionally, the ANOVA test shows that the regression model used is statistically significant, with an F value of 8.599 and a significance level of 0.005, which is less than 0.05, thus confirming the significance of the model.

**Coefficients**

Based on the regression calculation in the Coefficients table, the regression equation is as follows:

Y = a + bX

The equation can be seen in the table below:

**Table 4. Coefficients**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 41.013 | 7.306 | | | 5.614 |

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|
| Edpuzzle Media Usage | 0.514 | 0.175 | 0.397 | 2.932 |

*Source: Data processed using SPSS 25*

- (Constant) = 41.013, which is the value of Economics Learning if the use of Edpuzzle Interactive Multimedia (X) = 0.
- b = 0.514, which means that for every increase of 1 unit in Edpuzzle Media usage (X), Economics Learning (Y) will increase by 0.514 units.

Thus, the regression equation obtained is:

$$Y = 41.013 + 0.514X$$

To understand how this model works, let's say the use of Edpuzzle Interactive Multimedia (X) = 60, then:

$$Y = 41.013 + (0.514 \times 60)$$
$$Y = 41.013 + 30.84$$
$$Y = 71.853$$

This means that if the level of Edpuzzle usage is 60, Economics Learning is predicted to have a value of 71.853.

Next, to test the significance of the regression model, a t-test is conducted with the following hypotheses:

- $H_0$: There is no significant effect between the use of Edpuzzle Interactive Multimedia on Economics Learning.
- $H_1$: There is a significant effect between the use of Edpuzzle Interactive Multimedia on Economics Learning.

Testing criteria:

- If Sig. < 0.05, then $H_0$ is rejected, and $H_1$ is accepted (Significant effect).
- If Sig. > 0.05, then $H_0$ is accepted, and $H_1$ is rejected (No significant effect).

From the Coefficients table, the t-value is 2.932 and Sig. = 0.005, which is less than 0.05.

Since Sig. < 0.05, $H_1$ is accepted, and $H_0$ is rejected, which means that the use of Edpuzzle Interactive Multimedia has a significant effect on Economics Learning at MAN 1 Majene. Therefore, the more optimal the use of Edpuzzle in the learning process, the greater the effectiveness of students' understanding of Economics.

**Product Moment Correlation Test**

At MAN 1 Majene, the Product Moment correlation test was conducted to determine whether there is a relationship between the use of Edpuzzle Interactive Multimedia (X) and Economics Learning (Y). A correlation coefficient of 0.397 was obtained based on Pearson correlation calculations in the correlation table. According to the correlation interpretation guide, a correlation of 0.397 indicates a moderate relationship between the use of Edpuzzle and Economics learning.

With a sample size of N = 48 and a significance level of 5% (0.05), the comparison between Rhitung and Rtabel is done to evaluate the significance of the relationship between the two variables. The result is that Rtabel = 0.284.

Based on the correlation test, the result is:

Rhitung = 0.397 > Rtabel = 0.284

$H_0$ is rejected, and $H_1$ is accepted, indicating that there is a positive and significant relationship between the use of Edpuzzle Interactive Multimedia and Economics Learning. Additionally, the Sig. (2-tailed) value is 0.005, which is less than 0.05, indicating that there is a significant relationship between variables X and Y. As a result, students at MAN 1 Majene understand Economics better when they use Edpuzzle more.

**Discussion**

**1. Implementation of Edpuzzle Interactive Multimedia in Economics Learning at MAN 1 Majene**

The descriptive analysis results show that the use of Edpuzzle Interactive Multimedia in Economics learning at MAN 1 Majene has positive results. 66.67% of students rated the use of Edpuzzle as moderate, while 16.67% rated it very high. This indicates that most students feel Edpuzzle helps them understand the Economics material being taught.

A teacher at MAN 1 Majene stated that Edpuzzle works well in class for several reasons, including its ease of use in creating more engaging and interactive video-based learning materials. The interactive features like multiple-choice questions and open-ended questions make it easier to assess students' understanding, as Achmad, Ganiati, and Nur Kur (2021) also noted.

Edpuzzle also helps in distance or blended learning by providing flexibility, as students can watch the lesson videos anytime and anywhere. Furthermore, its tracking feature ensures that students actually watch the videos and understand the material well.

**2. Challenges Faced by Teachers in Implementing Edpuzzle in Economics Learning at MAN 1 Majene**

Despite the positive impacts, there are some challenges, including unstable internet connections that prevent some students from accessing Edpuzzle videos properly. Some students also face issues with limited access to devices or difficulties adapting to Edpuzzle's digital learning platform.

**3. Impact of Using Edpuzzle Interactive Multimedia on Student Engagement in Economics Learning**

The results show that using Edpuzzle significantly impacts student engagement in Economics learning. The correlation test shows a moderate positive relationship between Edpuzzle usage and student engagement. The regression analysis indicates that Edpuzzle affects student engagement by 15.7%. Therefore, more optimal usage of Edpuzzle can significantly improve students' understanding and participation in Economics learning.

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**CONCLUSION AND SUGGESTIONS**

The results indicate that Economics learning at MAN 1 Majene is enhanced by using Edpuzzle, an interactive media. Most students appreciate Edpuzzle as it helps them understand the material better. Teachers also find it easy to use, allowing them to make lessons more engaging and interactive with its features, such as interactive questions and student progress tracking. Additionally, the flexibility of the platform supports both remote learning and blended learning, allowing students to increase their independence and adjust their learning schedules.

However, Edpuzzle faces several challenges. These include limited internet access, inadequate devices, and students' unfamiliarity with how to use the platform correctly. Furthermore, teachers experience difficulties aligning the content with the curriculum, as well as the limitations of features in the free version. The lack of direct interaction also becomes a concern, especially when some students appear passive while working on assignments.

On the other hand, this research shows that the use of Edpuzzle has a significant impact on student engagement in Economics learning. There is a positive correlation between the frequency of using Edpuzzle and the level of student participation. Additionally, interactive features such as video quizzes and collaboration with Google Classroom have contributed to improving students' understanding.

Nevertheless, issues such as access to technology, student adaptation, and managing the workload must be addressed to ensure that the use of Edpuzzle functions effectively.

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