JIPE Jurnal Inovasi Pendidikan Ekonomi
Available at http://:ejournal.unp.ac.id/index.php/jipe
Published by *Economics Education Study Program*
FE Universitas Negeri Padang, Indonesia
ISSN 2302-898X (Print)
ISSN 2621-5624 (Electronic)

Jurnal Inovasi Pendidikan Ekonomi, Vol. 15 No.1 page 01-15

Innovative Learning Media in the Era of Society 5.0: The Use of Wordwall Based on Local Wisdom of Batik Trusmi

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DOI: https://doi.org/10.24036/011334110

Accepted: 11-04-2025
Revision: 26-05-2025
Available Online: 29-06-2025

KEYWORD

Innovative Learning Media, Wordwall, Local Wisdom of Batik Trusmi.

A B S T R A C T

This study was designed to measure the level of learning outcomes of students at MAN 1 Cirebon in economics subjects using Wordwall based on local wisdom Batik Trusmi, using the research and development (R&D) method with the ADDIE model quantitative approach. The research sample was the control class (X.10) of 33 students and the experiment class (X.12) of 29 students, taken using a purposive sampling technique. Data were obtained from observations, interviews, and questionnaires. Data analysis includes product validity testing by media experts, material experts, and practitioners, as well as calculation of N-Gain scores through pretests and posttests, practicality tests, and the Mann-Whitney U Test. The validity test results showed that the average score of the three experts was 91%. The N-Gain score of the control class is 0.62 (moderate improvement) and the experiment class is 0.75 (high improvement), p-value 0.046 (<0.05) there is a significant difference between the two classes, and the results of the practicality test of the control class are 71% (practical) and the experiment class is 85% (efficient). Based on the study results, it is concluded that Wordwall teaching media is more effective for improving student learning outcomes than conventional teaching media.

INTRODUCTION

The rapid advancement of technology requires the world of education to adapt and innovate, recognizing that technology is not just a tool, but also part of the culture created by humans. Technology is a product of culture, and humans are the center of civilization. Therefore, it is not humans who are the object of technology, but humans who are the subject in controlling technology, known as a human-centered society (Malida, 2020). Society 5.0, or society 5.0, is a technological idea in which humans work with technological systems such as artificial intelligence and the Internet of Things to solve integrated social problems in both the virtual and real worlds (Das et al., 2024). In the Era of Society 5.0, education significantly determines how qualified human resources are (Muninggar et al., 2023). The role of professional and qualified educators will also significantly

affect how the world faces the 5.0 revolution era. Educators must have skills in education and the ability to think creatively.

In line with this, learning media is needed to attract students' attention and desire to learn to create quality human resources (Ediyani et al., 2020). One of which is the use of technology that is considered innovative in learning activities (Xie et al., 2020). Educators can utilize website media to design innovative learning media (Ariama & Burhendi, 2022). However, in reality, not a few schools have maximized the use of technology. Few educators have maximally utilized technology as a learning medium (Lestari et al., 2023; Susilawati & Rusdinal, 2022). This is similar to the findings obtained by researchers when conducting initial observations to determine what problems are faced in schools.

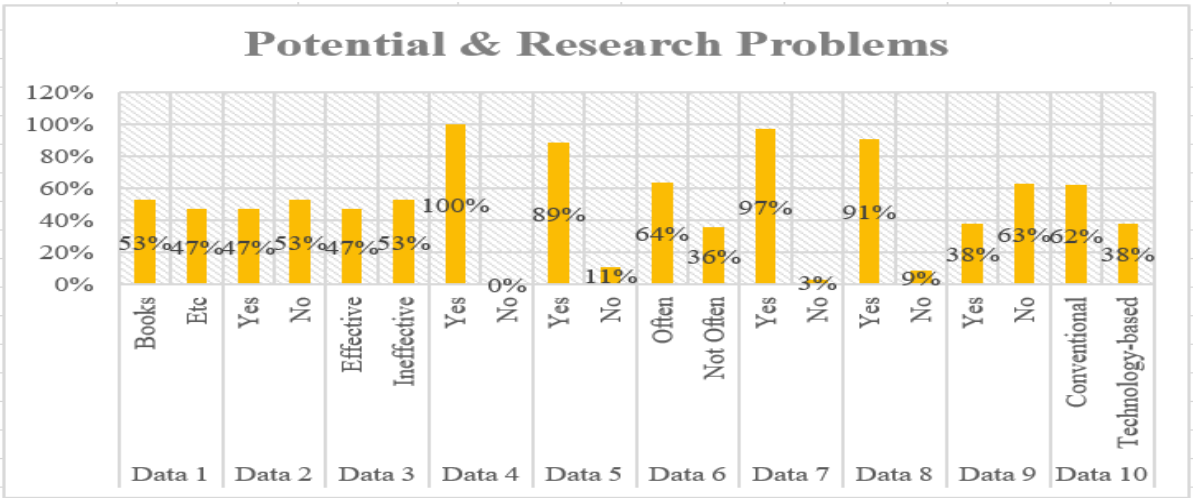

Figure 1: Potential and Problem Analysis
Source: Microsoft Excel In 2024

Based on the preliminary observations conducted at MAN 1 Cirebon, the observation results are that the learning media used are still conventional, one of which uses reading books. Schools that rely only on books as learning media cannot produce students who think critically, due to the rapid development of the era (Julaeha et al., 2023). In connection with this, many types of technology can be used as learning media. However, the use of technology in schools relies only on Google Forms. Thus, the use of technology can be said to be less effective in the current Era Society 5.0. This is reinforced by the data that researchers obtained during the initial observation. This observation was conducted in 2 classes with a total of 64 respondents.

Data obtained by researchers from observations stated that 53% of students answered that the learning media used was ineffective. Meanwhile, the use of technology applied in the learning process at MAN 1 Cirebon is 64% of students who answered that educators often use technology during learning. However, the technology used is limited to using Google Forms and Google Search to help find additional information related to learning materials. Regarding the game-based learning media used in the learning process, 91% of students said they felt happy, and it helped them more easily understand the material being taught. In addition, formative tests were conducted at MAN 1 Cirebon, and 62% of students answered that they were still conventional.

Learning models require innovation to keep pace with technological developments. Many strategies can be used to achieve innovative learning, including using Wordwall on educational websites. Researchers raise the issue because of the lack of technology applications in MAN 1 Cirebon. As a first step in applying technology at MAN 1 Cirebon, we will use the Wordwall website-based learning media. The Wordwall website is an interesting educational website that can be easily applied. This can be used as an innovation by the school to keep up with the development of the Era Society 5.0.

Wordwall is an educational website that can make teaching and learning activities very interesting. For educators, Wordwall is one of the innovative technology-based teaching media (Arsini et al., 2022; Muzaini et al., 2023). This application is a fun learning resource, media, and assessment tool for students (Ma'rifah &

Mawardi, 2022). Wordwall is a website that can design fun game-based quizzes (Muzaini et al., 2023). This application has the advantage of offering a wide variety of quiz game-based templates, which can increase student engagement and make learning more lively and engaging (Marhaeni et al., 2023).

Along with the advancement of educational technology in the Society 5.0 era, innovative teaching models are needed to facilitate learning activities to reduce student disengagement and provide more interesting teaching (Lioni & Friyatmi, 2024). Using digital learning media such as Wordwall can be an innovation that increases student participation and contributes to local cultural values. One of the potentials that can be integrated into the Wordwall media is the local wisdom of Batik Trusmi Cirebon, a high-based cultural heritage with philosophical and artistic qualities. Local wisdom characterizes an area that needs to be preserved to maintain its identity (Jumriani et al., 2021). Local wisdom is a legacy from ancestors that contains its meaning (Wiediharto et al., 2020), such as the local wisdom in the Cirebon area, namely the local wisdom of Batik Trusmi. Batik is a cultural heritage with high aesthetic value for the people of Indonesia and its symbolic meaning (Alya & Wibowo, 2023; Girsang, 2021). Thus, researchers can conclude that the local wisdom of batik is a culture that has existed since ancient times and is a legacy of ancestors with high aesthetic value and a deep philosophy.

Therefore, it is imperative to create innovative learning materials that are digitized and grounded in the area's rich cultural heritage to answer the challenges of education in the Society 5.0 era, which demands a blend of technology and cultural values. The creation of this instructional product is based on Batik Trusmi, one of Cirebon's unique cultural heritages. The aesthetic and philosophical principles of Batik Trusmi are raised and incorporated into learning materials through interactive technologies such as Wordwall that aim to instill a love and appreciation for local wisdom, which is the nation's identity, in addition to providing information using attractive and contemporary technology. As a result, in addition to being a learning instrument, the learning materials created become a means of cultural inheritance and preservation.

Previous studies have shown that Wordwall media can be used in various subjects, its operation is easy, and it can be used regularly. The study's results also showed increased student achievement and motivation after using the media. This has been proven by many researchers who use Wordwall with various subjects, as conducted by (Elhefni et al., 2023) who used Wordwall in Indonesian language subjects (Zakiuddin et al., 2025), in PAI subjects (Azis & Ahmad, 2022), in Civics subjects, and (Marensi et al., 2023) in economic subjects. However, using Wordwall media in the context of local wisdom is still rare. One of the efforts to preserve local wisdom is through the education sector. As the next generation, we must maintain and preserve the local wisdom in our area, for example, by optimizing education centered on local cultural wisdom (Nur, 2022). The preservation of local wisdom must start early. Thus, the educators' role is vital in preserving local wisdom.

This research is motivated by using technology as a learning media in society 5.0. However, from preliminary data, it was found that the learning media used at MAN 1 Cirebon is still conventional, and it needs to be analyzed for effectiveness and will be compared to the level of effectiveness after using technology, one of which is Wordwall. This media is combined with the local wisdom of Batik Trusmi Cirebon to preserve local wisdom and measure the effectiveness of using Wordwall on increasing student motivation and learning outcomes. This study is distinguished from other studies integrating Wordwall with local wisdom, such as Batik Trusmi, in interactive learning. Not many studies have tested the effectiveness of this method, both in terms of academic achievement, increased interest in learning, and preservation of local culture in digital education. Thus, the purpose of this study is to analyze the effectiveness of Wordwall based on the local wisdom of Batik Trusmi Cirebon in improving students' motivation and learning outcomes, as well as one way to contribute to the preservation of local culture through digital learning innovation.

RESEARCH METHODS

R&D research is a method of producing a new product or developing and improving existing products to test the effectiveness of these products, so that they can be accounted for (Dwitiyanti et al., 2020). The development model in this study is the ADDIE model, which consists of five development stages: analysis, design, development, implementation, and evaluation (Anugrahini, 2017).

This research was conducted at MAN 1 Cirebon by taking a sample of students in class X-10 as the control class and X-12 as the experimental class using a purposive sampling technique. The data collection techniques used in this study were a questionnaire, interviews, and observation techniques. The subject of the interview was

the owner of the batik showroom in the Trusmi area. The interview was conducted to obtain information that could be used as material for items about the batik production process. Observation is done as a comprehensive data collection tool. The instruments of this study include test instruments (in the form of multiple-choice questionnaires on production, distribution, and consumption related to the local wisdom of Batik Trusmi) and non-test instruments in the form of validation questionnaires and educators' practicality questionnaires. The data analysis technique used is quantitative data analysis, a research method that uses numerical data (Dhewy, 2022). Data analysis was performed with non-parametric statistics using the Mann-Whitney U Test. The score calculation is obtained from the post-test and pre-test scores (Hapsari et al., 2017). The questionnaire distribution used a Likert scale consisting of four or more different questions combined to create a score or value that describes a person's characteristics, such as knowledge, attitudes, and behavior (Geoloni & Dewi, 2023; Setyawan & Atapukan, 2018). The score given in this study is a minimum of 1 and a maximum of 5 with the following statements; Very Good (SB) with a score of 5, Good (B) with a score of 4, Fair (C) with a score of 3, Less (K) with a score of 2, and Very Less (SK) with a score of 1. The validity test data, acquisition value, and practicality questionnaire were processed using the Microsoft Excel 2019 application and data analysis using SPSS for MS Windows version 26.

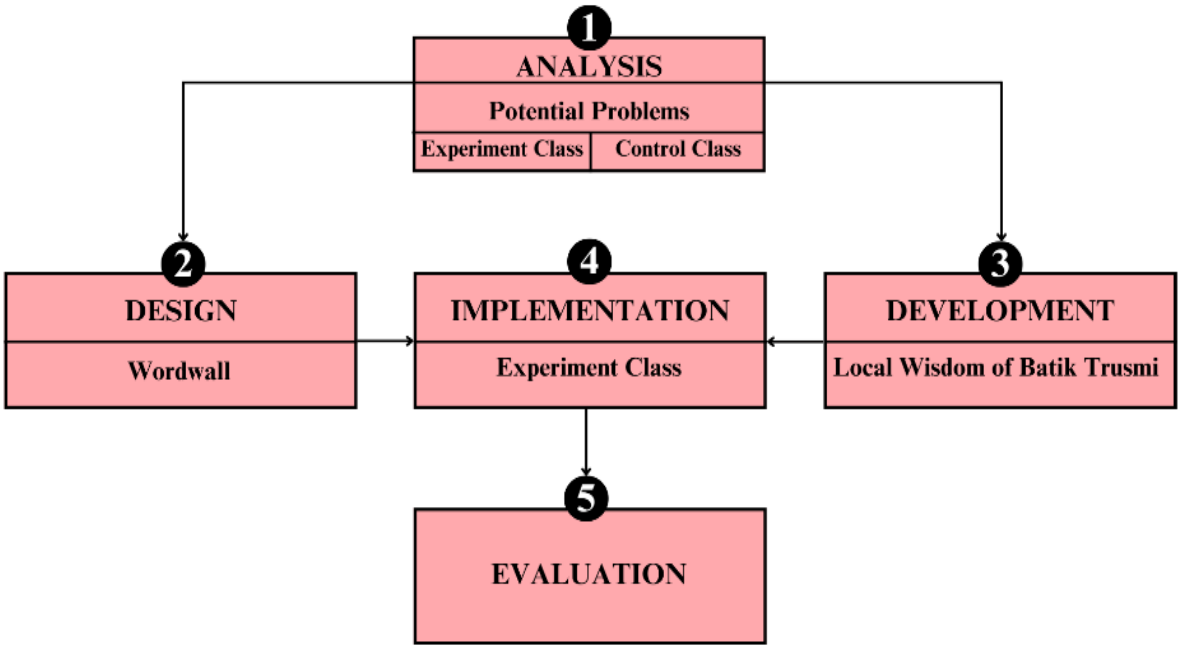

Figure 2. Five-stage ADDIE development model
Source: (Anugrahini, 2017)

The first stage is problem analysis. This problem analysis is carried out to find potential problems in the research object by distributing questionnaires and conducting interviews. The second stage is product design. Product design is done using game templates already available on the platform. The third stage is the development of Wordwall learning media. In this study, researchers focused on developing local wisdom-based learning media. In this stage, the product was tested for validity by material experts, media experts, and practitioners, and supported based on the statistical parameters below:

Table 1. Criteria for Assessment of Product Validation Percentage Data

Presentation	Qualifications	Description
80% – 100%	Feasible	Good, no revision needed
60% – 79%	Decent Enough	Good, needs partial revision
50% – 59%	Less Feasible	Not good, partial revision and reassessment of content or materials
< 50%	Not Feasible	Not good, total revision

Source: (Hake n.d on Yana et al., 2019)

After the product is deemed feasible, it is implemented in the experiment class while the control class uses conventional media. The focus in this study is to see the improvement of student learning outcomes calculated

through the pre- and post-test results. The criteria are supported based on the qualification of the acquisition value below:

Table 2. Classification of Achievement Score

Acquisition Value	Classification
-1,00 – 1,00 ≤ g 0,00	Decrease in Value
g = 0,00	No Improvement
0,00 < g < 0,30	Low-Scale Improvement
0,30 ≤ g < 0,70	Medium Scale Improvement
0,70 ≤ g ≤ 1,00	Improvement with High Scale

Source: (Hake n.d on Yana et al., 2019)

The last stage is evaluation, the goal is to determine which learning media is effective to be applied in schools in the Era Society 5.0. Practicality criteria are supported based on the average value, with the categories below:

Table 3. Practicality Criteria

Average Score	Category
76% – 100%	Very Practical
51% – 75%	Practical
26% – 50%	Less Practical
0% – 25%	Not Practical

Source: (Andini et al., 2024)

RESULTS AND DISCUSSION

Results

The initial stage of the research was carried out by analyzing potential problems by conducting observations and distributing questionnaires to X-10 as the control class and X-12 as the experiment class. From the analysis of possible issues, it was found that students and economics teachers said that the learning methods used were still conventional and considered less effective. The learning media used is also considered less interactive and minimal, with local wisdom, so it becomes the basis for making Wordwall-based teaching media based on the local wisdom of Batik Trusmi.

After knowing what is needed, the design is continued using the Wordwall website. The learning media created in this research is a quiz on a smartphone as a means. The design stages are as follows:

a. Selecting the type of quiz to be used

Figure 3: Display of Quiz Types

b. Creating questions and answers that students will test.

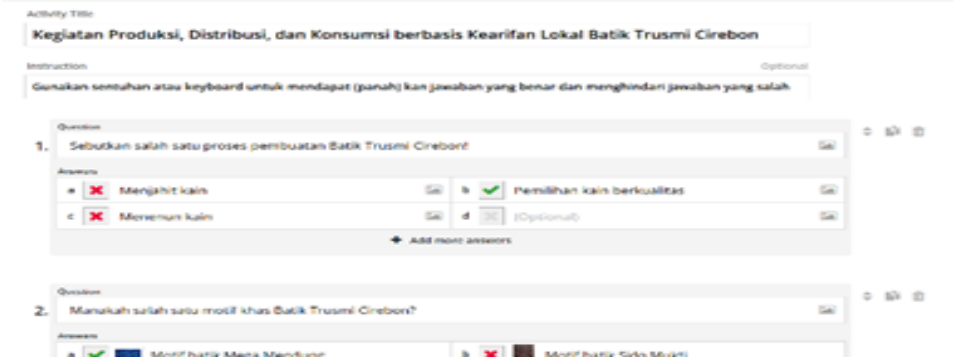

Figure 4. Display of Quiz Question and Answer Filling

c. Select the switch template type after the questions and answers are saved.

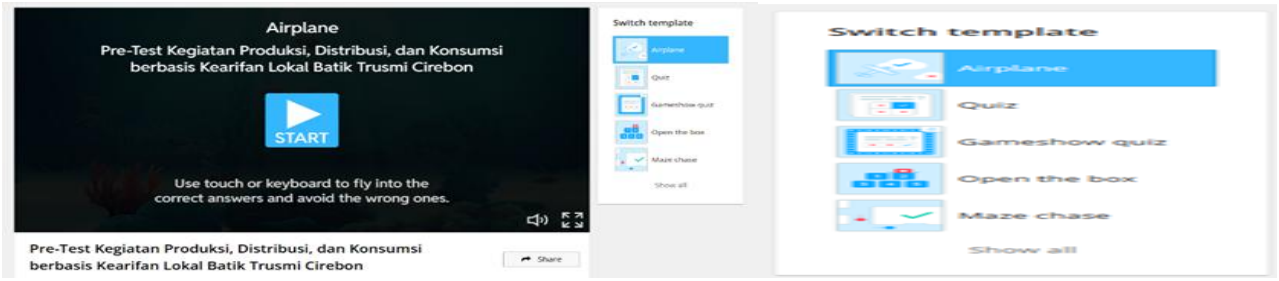

Figure 5. Display of Quiz Template Type Selection

Next, select the visual style to change the background of the quiz game display. After choosing the visual style, click Edit Content. Various editing options are available, such as timers, lives, speed, and random question order. After editing the content, click edit description with a pencil symbol to change the topic and class as needed.

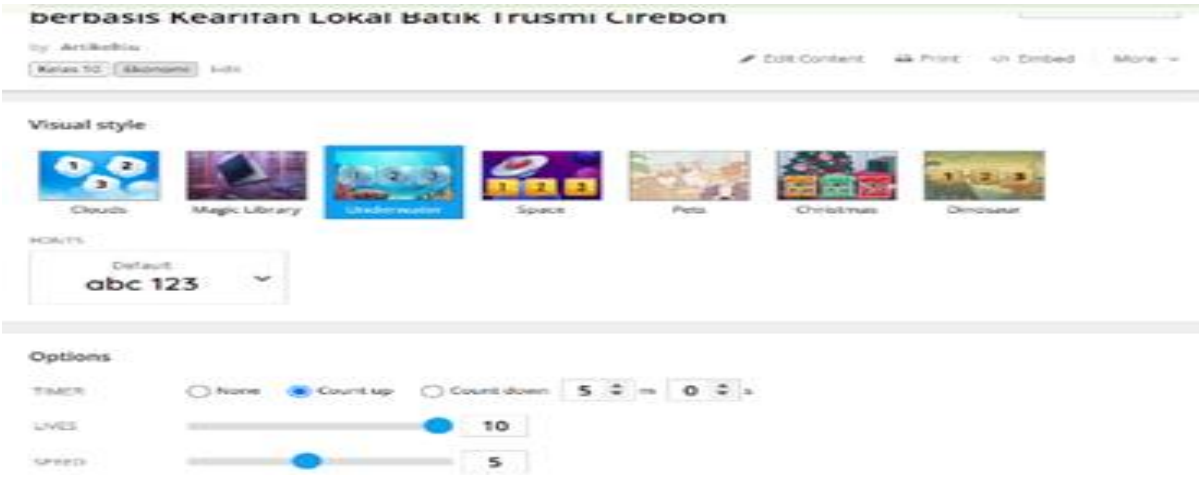

Figure 6. Edit Content Display

If the editing is sufficient, the next step is to share the game quiz link by clicking the share button marked with an arrow on the right.

Figure 7. Share the game quiz link to view

d. Then select the share page to share. Next, click Publish and then click Copy to save the game link.

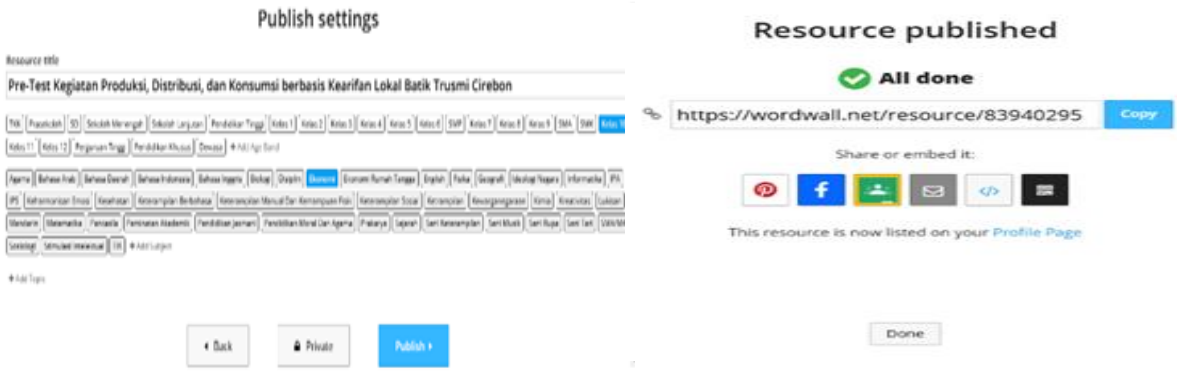

Figure 8. Share and Copy Link Display

Before implementing this research, the validity test was carried out on two experts: material and media experts and practitioners. The material and media experts are lecturers from the Faculty of Education and Science, Swadaya Gunung Jati University, while the practitioners are Economics Subject Teachers. The validity test was carried out using the formula $P = \frac{\Sigma x}{\Sigma xi}$ x 100% (Yana et al., 2019)

Table 4. Percentage Assessment Results of Product Validation

No.	Assessment Stages	Total Score	Average Score	Percentage	Classification	Description
1	Material Expert	97	4,85	97%	Decent	Good, no need to revise
2	Media Expert	86	4,3	86%	Decent	Good, no need to revise
3	Practitioner	91	4,55	91%	Decent	Good, no need to revise

Source: Data Processing using Microsoft Excel, Year 2024

The results of the material expert showed a percentage of 97%, the media expert's percentage of 86%, and the practitioner's rate of 91%. The average rate of the three experts is 91%; thus, the rate of 81 - 100% is considered good, and there is no need to revise. Although the three experts have good qualifications, no need to revise, but still give suggestions for improvement, such as including learning objectives at the beginning of the screen display and the use of precise punctuation. Based on comments and suggestions from each expert validator, researchers modified or improved the Wordwall-based learning media. The improvements made can be seen in Figure 9.

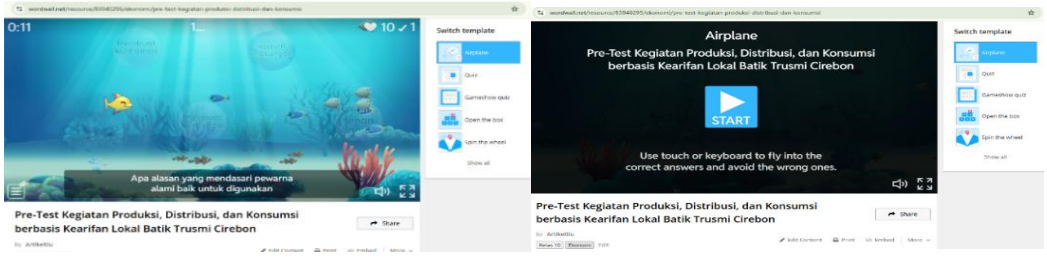

Figure 9. Display Before Revision

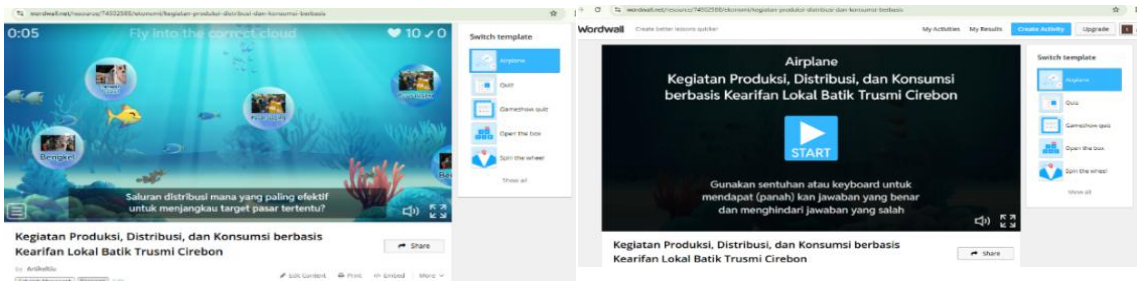

Figure 10. Display After Revision

After the product was made, improvements suggested by the three experts were continued by implementing Wordwall teaching media in classes X-10 as the control class and X-12 as the experiment class. The increase in student learning outcomes was calculated using the formula N(G) = $\frac{post\ test\ score - pre\ test\ score}{ideal\ score - pre\ test\ score}$ (Hake n.d on Yana et al., 2019).

Table 5. Learner Learning Outcomes

Class	Subject	Stage	N	Mean
Control	33	Pre Test	2353,33	71,31
		Post Test	3013,33	91,31
		Ideal Score	3300	100
		Post Test – Pre Test	660	20
		Ideal Score – Pre Test	946,67	26,68
		N-Gain Score	20,67	0,62
Experiment	29	Pre Test	1920	66,2
		Post Test	2826,66	97,47
		Ideal Score	2900	100
		Post Test – Pre Test	906,66	31,26
		Ideal Score – Post Test	980	33,79
		N-Gain Score	21,83	0,75

Source: Data Processing using Microsoft Excel version 2019, Year 2024

Table 5 shows that the average result in the pre-test control class is 71.31 and the post-test is 91.31. From these results calculated using the validity test formula and field test results, the N Gain result is 0.62, so the score $0.30 \leq g \leq 0.70$ is considered an increase with a "Moderate" scale. The average results for the experiment class were 66.2 for the pre-test and 97.47 for the post-test. From the above calculations, the N Gain result is 0.75, so the score $0.70 \leq g \leq 1.00$ is considered an increase on a "High" scale.

Table 6. Mann-Whitney U Test Data Analysis

	Learner Learning Outcomes
Z	-1,997
Asymp. Sig. (2-tailed)	0,046

Source: SPSS MS Windows *version* 26

From Table 6, the Z value is -1.997 with a significant value (p-value) of 0.046. Because the p-value <0.05, there is a significant difference between the experimental class that uses Wordwall teaching media and the control class that only uses conventional teaching media.

Table 7. Practicality Test of Wordwall Usage

No.	Claass	Total Score	Average Score	Precentage	Criteria
1	Control Class	1692	49,76	71%	Practical
2	Experiment Class	2126	64,42	85%	Very Practical

Source: Data Processing using Microsoft Excel version 2019, Year 2024

Table 7 shows that the number of control class scores is 1692 with a total of 2380, while the number of control class scores is 2126 with a total of 2475, then the percentage of the control class is 71% with the criteria "Practical".

Discussion

Analysis Stage

Based on the results of the analysis stage, which involved observation and data collection through questionnaires, it is known that most students have difficulty in understanding the material, especially in production, distribution, and consumption. They also showed low levels of engagement and interest in learning. This is due to the use of learning media that is still traditional and less interactive, so it cannot attract students' interest and encourage their active participation in the learning process. Learning media is a means used to convey learning information to increase one's interest in learning (Cerya et al., 2022). Learning media has an important role in education, which functions as a tool that allows educators to maximize learning outcomes and encourage learning through various activities or interactions. This creates an active, effective, efficient, and creative learning environment (Saragih, 2024). Non-renewable learning media can hinder students' understanding of teaching and learning activities. This finding is based on constructivist theory, which emphasizes the importance of active participation of learners in the learning process to build meaningful understanding (Aliep et al., 2024). The following lists the number of students who scored less than the pass mark. The minimum score set in the Economics subject is 77. Meanwhile, 10 learners get scores <50, scores 51-76, and 27 learners with scores >77, 25 learners. Based on this statement, the number of students who scored below the minimum is more than those who scored above the minimum.

The problems faced by students certainly require solutions to motivate student learning, such as innovation in the form of developing learning media that are not only able to convey material effectively, but can also create a learning atmosphere that is fun, interactive, and tailored to the characteristics and needs of students. The solution that researchers take in handling these cases is to develop technology-based learning media to meet the needs of students. This is based on the questionnaire answers given to students who show enthusiasm when using technology-based learning media such as educational games. Therefore, in designing the learning design, researchers used the Wordwall website as a tool combined with the local wisdom of Batik Trusmi Cirebon. It aims to make learning more practical, relevant, and easier for students to understand the material on production, distribution, and consumption. This is also supported by previous researchers, who have noted that the nature of educational games makes learning easier and helps students overcome barriers, such as time and place, because portable devices allow students to learn directly and in real time, and they can quickly receive feedback and results to gain insight (Cheung & Ng, 2021).

Planning Stage

After analyzing the problem, the next step is the planning stage. At this stage, researchers focus on preparing interactive learning media using the Wordwall platform. This process begins with determining learning objectives that refer to the Basic Competencies (KD) in the applicable curriculum, especially on the material of production, distribution, and consumption based on the local wisdom of Batik Trusmi, and is designed systematically and communicatively so that students easily understand it. The next step is to choose the

type of Wordwall template that suits the material's characteristics and the learners' learning style. The selection of templates can be a quiz, flash cards, matching pairs, airplane, anagram, and so on. This template's selection is adjusted to ensure students understand learning concepts through fun and challenging activities. Researchers also designed the material content, ideas, and content of Wordwall media, and compiled pre-test and post-test questions at this stage to assess learning outcomes (Hartutik & Aprilia, 2024).

Researchers also developed guidelines for educators' and learners' media use. These instructions are organized into actionable steps and include barcodes or links that can be accessed directly from devices like laptops or smartphones. Technical preparations were also made to ensure all features function properly, including organizing media use in the classroom, coordinating with subject educators, and conducting initial simulations of Wordwall use. Anticipating potential technology failure during implementation is crucial at this stage. Wordwall learning media, created carefully, will improve learners' understanding of the subject matter and encourage more active engagement in the learning process.

Development Stage

The next stage in this research is the development stage. This stage is carried out to ensure that the learning materials designed are efficient and effective for the learning process. In this stage, researchers review the feasibility and accuracy of Wordwall-based learning media before being implemented for students. To evaluate the effectiveness of learning media, the effectiveness of the media is assessed through a validation process involving material experts, practitioners, and media experts. Validation using a previously developed evaluation rubric includes language and punctuation, accuracy, completeness of supporting material, and relevance (Prameswari & Andriani, 2024). Based on the validation results shown in Table 4, an overall score of 91% was obtained, placing it in the "worth using" category without needing revision. The results of the validation questionnaire also indicate the quality and feasibility of this Wordwall learning resource for use in the classroom. However, to improve the media, researchers still modified it according to the experts' suggestions and comments.

Suggestions given by the validators included the clarity of the material and the alignment of indicators with students' needs and learning objectives. To make instructions more straightforward, media experts emphasized the importance of using proper punctuation and including a sound component. Practitioners gave good feedback, stating that this learning resource aligns with current technological developments and can increase learners' interest in what they learn in class. The development stage is crucial to ensure that this media is efficient, engaging, and in line with the needs of today's learners.

Implementation Stage

As an important step in the development research process, the implementation stage is carried out after the development stage. In this stage, the products that have been designed and assessed are tested directly in learning activities. Product trials were conducted in the experimental class, namely class X.12, using Wordwall, while the control class was conducted in class X.10 using the conventional learning method of written tests. The difference in testing these two products is to measure the practicality and improvement of student learning outcomes.

The implementation of learning media based on the local wisdom of Batik Trusmi is conducted in several meetings with an emphasis on production, distribution, and consumption materials. Quizzes, crossword puzzles, and competition-based games are examples of interactive features used to implement learning with Wordwall media. Learners are given access to the Wordwall platform through links or barcodes that contain pre-customized assessments. Learning activities begin with a brief overview, followed by exploration of Wordwall media, ending with reflection.

During implementation, educators provide technical assistance and facilitate learning activities for learners. Learners were very enthusiastic and eager to participate in the learning. Some of them are even competent in solving problems quickly and precisely. This is motivated by the scoring and ranking system in the Wordwall. Learners' active contribution and improved understanding of the subject matter indicate the success of the implementation stage. The implementation of Wordwall learning media runs smoothly, according to the learning design that has been prepared previously.

Evaluation Stage

After the implementation, the next step is evaluation. The purpose of this evaluation stage is to review how influential the Wordwall learning media, based on the local wisdom of Batik Trusmi, is in improving students' learning outcomes and their responses to the Wordwall media. Based on the evaluation results, using Wordwall learning media can significantly enhance students' learning outcomes and knowledge about the local wisdom of Batik Trusmi. This can be seen from the experimental class's Pre-Test score, with an average of 66.2, significantly increasing in the Post-Test 97.47. The calculation of the gain score produces a value of 0.75, which is included in the high category. However, the control class only experienced an increase of 0.62 in the medium category.

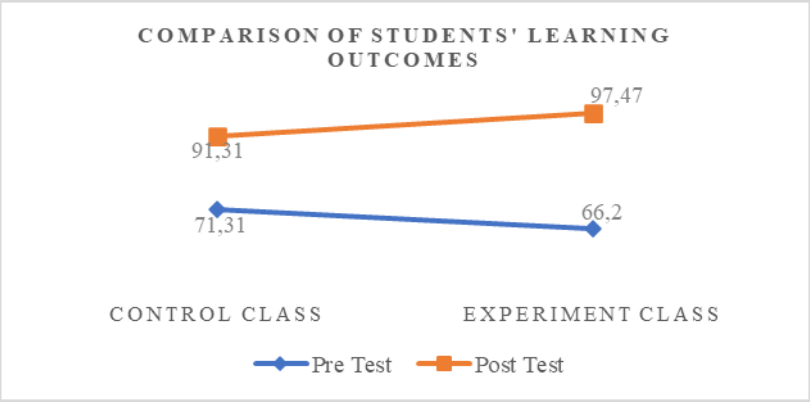

Figure 11: Comparison Of Students' Learning Outcomes
Source: Microsoft Excel In 2024

This indicates that Wordwall can provide a more effective and engaging learning experience than conventional classroom learning. The statement has been proven by several other researchers, such as Widhiatama & Brameswari (2024), who stated that Wordwall media can increase students' intrinsic motivation, confidence, self-control, and potential. In addition, Wordwall has helped students improve their work skills in the classroom and supported them in individual and group activities. Using Wordwall in the classroom can be a powerful tool to create, develop, and enhance fun and engaging learning activities. According to research conducted by Escobar et al. (2023), using Wordwall in the study demonstrated the ability of gamification to increase student interest and build higher levels of engagement in the learning process. Using technology in the teaching and learning process, such as Wordwall, can foster a new enthusiasm among learners, increasing their motivation and active participation.

Not only in terms of learning outcomes, learner responses are an essential metric to evaluate the effectiveness of Wordwall learning media. Based on the data obtained, learners responded positively to the use of Wordwall. During the learning process, they experience increased motivation and interest in learning. This statement can be proven by the practicality test from the questionnaire results, which show that the experimental class gets a higher percentage of 85%, while the control class receives a lower percentage of 71%. This is supported by previous research conducted by Prameswari & Andriani (2024). The percentage of students' responses regarding using Wordwall media is 90%. Research (Ningrum et al., 2024a) measured increased interest and learning motivation. His research produced an average of 85, significantly increasing the category. Research (Widhiatama & Brameswari, 2024) showed increased learning outcomes, where the pre-test average was 89.68 and the post-test average was 95.04. The difference between the two is 5.36, which shows a significant average difference between the two variables. Also, research conducted by Kusumah et al. (2023) resulted in a positive response from students of 80.44% with the category "Very Good".

Thus, this media's advantage is that it can be accessed through various devices, including tablets, laptops, and smartphones, and educators and students can use it easily. Several researchers also feel this advantage, stating that Wodwall has an attractive platform, varied template content, and an easy application at various school levels (Aprilia et al., 2024) (Swari, 2023). Also, several interesting templates do not require payment for

Wordwall media, are easy to use, and clearly explain all stages. In Wordwall media, educators can create online activities that enhance active learning and increase learner engagement through games and direct interaction features. Wordwall features are designed to make learning more interesting and dynamic, emphasizing student learning outcomes (Azma'ul Hadi & Jauhari, 2025).

The most essential thing in the evaluation stage is whether Wordwall learning media suits 21st-century education and the Era Society 5.0. In the Era of Society 5.0, technology is no longer centered on developing performance optimization improvements, but has begun to have an impact on helping human daily life, including in the world of education. With the presence of this technology, educators are helped to use creative learning media and hone students' skills. As said by (Ningrum et al., 2024), Educational websites such as Wordwall are essential in connecting individuals with educational standards worldwide, facilitating collaborative learning, and encouraging the development of lifestyle skills in the era of society 5.0. Thus, the evaluation results show that Wordwall learning media based on the local wisdom of Batik Trusmi not only improve learning outcomes but also foster a learning environment that is fun, relevant, effective, and adaptive to the development of modern educational technology.

CONCLUSIONS

This research produces interactive learning media in the form of a local wisdom-based Wordwall that is useful for improving learning outcomes and student engagement in learning economics on production, distribution, and consumption materials, as well as their knowledge of the local wisdom of Batik Trusmi. Through interactive activities, this media has been proven effective in improving learning outcomes, fostering a fun learning environment, and motivating students to actively participate in learning activities.

The main advantage of Wordwall learning media is the flexibility of the template, which is easily accessible and can be adjusted to the material, as well as its visually appealing appearance for educators and learners. Based on the findings of this study, the use of technology in local wisdom-based education can be an effective strategy to enhance learners' learning experience. Thus, it is recommended that educators use interactive media such as Wordwall as a creative substitute for conventional learning media to promote more meaningful learning.

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