

Active and Fun Learning with Edpuzzle Interactive Learning Video in Elementary School

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ARTICLE INFO

Article history:

Received March 26, 2024

Accepted July 06, 2024

Available online July 25, 2024

Kata Kunci:

Video Interaktif, Edpuzzle, ADDIE, Motivasi Belajar

Keywords:

Interactive Videos, Edpuzzle, ADDIE, Learning Motivation



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ABSTRAK

Penelitian ini dilatarbelakangi oleh rendahnya kemauan media pembelajaran yang dapat menunjang pembelajaran di sekolah dasar. Penelitian ini bertujuan untuk mengetahui desain, kelayakan dan efektivitas media video pembelajaran interaktif menggunakan edpuzzle untuk kelas III sekolah dasar. Penelitian ini merupakan penelitian pengembangan dengan model pengembangan ADDIE. Subjek uji coba penelitian ini adalah ahli konten materi pembelajaran, ahli media pembelajaran, ahli desain, dan siswa kelas tiga sekolah dasar. Metode pengumpulan data menggunakan metode kuesioner dan tes. Teknik analisis yang digunakan adalah deskriptif-kuantitatif-kualitatif. Berdasarkan hasil penelitian, didapatkan desain dan pengembangan video pembelajaran menggunakan edpuzzle yaitu tahapan analisis, desain, pengembangan, implementasi, evaluasi, kemudian hasil uji coba produk oleh ahli konten materi, ahli desain pembelajaran, ahli media pembelajaran, tes penilaian individu dan kelompok kecil diperoleh kualifikasi yang baik dan sangat baik. Sehingga produk dinyatakan valid dan layak digunakan. Efektivitas produk dihitung berdasarkan hasil uji berpasangan sampel uji-t, menunjukkan bahwa terdapat perbedaan motivasi belajar siswa yang signifikan sebelum dan sesudah menggunakan media video pembelajaran interaktif. Sehingga dapat disimpulkan bahwa media video pembelajaran interaktif menggunakan edpuzzle efektif dalam meningkatkan motivasi dan hasil belajar siswa kelas III sekolah dasar.

ABSTRACT

This research is motivated by the low availability of learning media that can support learning in elementary schools. This study aims to determine the design, feasibility and effectiveness of interactive learning video media using edpuzzle for grade III elementary school. This research is a development research with ADDIE development model. The subjects of this research trial were learning material content experts, learning media experts, design experts, third grade elementary school students. The data collection method used questionnaires and tests. The analysis technique used was descriptive quantitative-qualitative. Based on the results of the study, it was obtained that the learning video development design using edpuzzle, namely the stages of analysis, design, development, implementation, evaluation, then the results of product trials by material content experts, learning design experts, learning media experts, individual and small group assessment tests obtained good and very good qualifications. So that the product is declared valid and feasible to use. The effectiveness of the product is calculated based on the results of the paired sample t-test calculation, which shows that there is a significant difference in student learning motivation before using and after using interactive learning video media. So it can be concluded that interactive learning video media using edpuzzle effectively increases student motivation and learning outcomes in grade III elementary school.

1. INTRODUCTION

Education is a process in learning that plays a role in preparing the young generation as competent human resources and able to compete in the future (Mischel, 2018; Silverajah & Govindaraj, 2018). Learning is said to be a form of effort by a teacher who is deliberately done to direct his students to learn, which is supported by the existence of learning resources. Primary school education is an important foundation in children's intellectual, emotional and social development (Eryani & R, 2021; Jerry Radita

Ponza et al., 2018). In addition, primary school education also plays a role in shaping children's character and morals through teaching values such as discipline, responsibility, cooperation and tolerance. Through a structured curriculum and fun learning, primary schools help children develop curiosity and a love of learning, which will motivate them to continue pursuing knowledge and skills throughout their lives. Therefore, quality primary education is key to creating a generation that is knowledgeable, ethical and ready to face the challenges of the future. With this learning process, there will be a K13 curriculum (Achmad et al., 2021b; Siti Rohmah Kurniasih et al., 2023).

Indonesia's 2013 national curriculum is the current curriculum in the Indonesian education system. K13 has the goal of preparing the Indonesian nation to become competent individuals and able to contribute to the country and the world. In the K13 curriculum, learning activities use thematic learning. The characteristic of thematic learning is a student-centered learning activity, so teachers only serve as facilitators (Achmad et al., 2021a; Andriani & Sunismi, 2019). The next characteristic is that the teacher provides direct experience to students, direct experience is that students experience and delve into the material directly so that students are faced with concrete learning, not only understanding the subject matter through explanations from the teacher or from textbooks. Thus, learning activities will be more meaningful. Another characteristic is to use the principle of learning by playing so that it will create a fun atmosphere for students and of course will attract students' enthusiasm to learn (Eryani & R, 2021; Purmintasari & Lesmana, 2023).

Creating meaningful learning for students is essential to increase their motivation and enthusiasm for learning (Lestari et al., 2018; Mayang et al., 2021). When students feel that the material they are learning is relevant to their lives and can be applied in real-life situations, they will be more motivated to learn and understand concepts in depth. Meaningful learning helps students see the connection between what they learn in the classroom and the outside world, thus fostering curiosity and a desire to explore further. With this approach, students not only memorize information, but also develop critical thinking skills and problem-solving abilities, which will ultimately significantly improve their learning outcomes (Jerry Radita Ponza et al., 2018; Lestari et al., 2018).

Based on the results of observations that have been made at *SD Negeri 1 Panji Anom* in grade III, information was obtained that student learning outcomes still tend to be low. One of the causes of this problem is the low enthusiasm of students and the lack of learning media that can support the learning process optimally. There are still many learning media that have not been fully used properly in schools. The provision of teaching materials assisted by learning media should make it easier for teachers and students (Izzaturahma et al., 2021; Purmintasari & Lesmana, 2023).. The use of monotonous media, such as teacher and student books. The teacher also stated that students did not pay attention to the material conveyed, and it was not uncommon for students not to collect the assignments given by the teacher. In the learning process, they also still use book media that still use the K13 curriculum. Therefore, this research is expected to make a new contribution in the development of innovative and interesting learning methods for students (Giyanto et al., 2020; Jerry Radita Ponza et al., 2018).

Based on these problems, the solution offered is to develop innovative learning media. Media is a tool or means used to convey messages or learning information that the source of the message wants to channel to the target, target or recipient of the message. The use of learning media is very helpful to achieve success in learning (Parlindungan et al., 2020; Sulistiani & dkk, 2021). Learning media that can be developed is interactive learning videos using *edpuzzle*. In today's era of rapid development of information and communication technology, the use of media in the learning process is very important to increase the effectiveness and efficiency of education (Suseno et al., 2020; Wardani & Syofyan, 2018). One of the popular forms of media used is learning videos. Videos have the advantage of conveying material visually and audiovisually so that it can make it easier for students to understand. In addition, the use of interactive technology is also growing with the existence of the *Edpuzzle* platform. *Edpuzzle* is a digital tool that allows teachers to create interactive learning videos by adding questions or activities directly to the video. That way, students can actively interact with their learning content through their answers or responses while watching videos (Silverajah & Govindaraj, 2018; Sulistiani & dkk, 2021).

This research is supported by previous research that shows that the use of interactive learning videos can improve student learning outcomes and their engagement in the learning process (Heistyka & Malasari, 2022). In addition, other research also supports that interactive multimedia can enrich the learning experience and make complex concepts easier to understand. Therefore, this research is expected to make a new contribution in the development of innovative and interesting learning methods for students (Parlindungan et al., 2020; Sirri & Lestari, 2020). The novelty value of this research lies in the integration of interactive video technology in the learning process in low grades. The use of *Edpuzzle* allows the delivery of more interesting and engaging material for students, increasing their active involvement in learning.

Based on the above explanation to overcome the low learning motivation of grade III students of SD Negeri 1 Panji Anom, teachers need to provide innovations so that learning can provoke student motivation. The novelty of this study lie on the innovation is the use of interactive learning media that can generate interaction between students. This research was carried out with the aim of finding out the design, feasibility and effectiveness of interactive learning video media using edpuzzle on theme 3 subtheme 1 various objects around me in grade III Elementary School. Through this research, it is expected to be able to provide a more interesting and interactive learning experience, so that it can significantly improve student learning outcomes, and provide teachers with an effective tool in delivering learning materials.

2. METHOD

This research is a research and development of the development used in the development of interactive learning videos using edpuzzles on theme 3 subtheme 1 "various objects around me" grade III SD Negeri 1 Panji Anom refers to the ADDIE development model (analysis, design, development, implementation, evaluation) (Purmintasari & Lesmana, 2023; Sugiono et al., 2020). The steps of ADDIE's development can be seen in Figure 1.

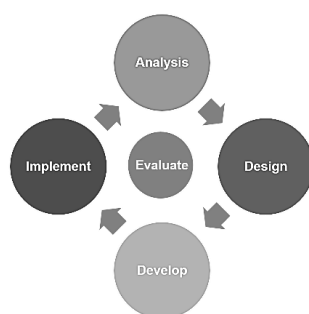


Figure 1. The Steps of ADDIE Development Model

The subjects involved in the research on the development of learning videos using edpuzzle include 3 experts and 6-9 students to take part in the small group trial stage. The data collection method used is non-test with an instrument in the form of a questionnaire. The questionnaire grid is presented on Table 1.

Table 1. Grid Grid of Media Expert Validation Sheets

No.	Aspects	Indicators	Item No.	Number of Grains
1	Technical	Ease of use of the product	1,2	2
		Media products can help students understand the material	3,4	2
		Video can be played back	5,6	2
		Video duration	7,8	2
2	Display	Consistency of the theme used	11	1
		Harmonious and precise composition and color combinations	16, 17	2
		Attractiveness of the image display	12	1
		Image quality and animations used	13	1
		Corresponding accompaniment music support	18	1
		Use of appropriate and appropriate narratives	19	1
		Use of typeface, font size, and spacing used	14, 15	2
Readability of text on videos	9, 10	2		
Total				19

Table 2. Grid of Material Expert Validation Sheets

No.	Aspects	Indicators	Item No.	Number of Grains
1	Learning aspects	Material compatibility with KD	1	1
		Suitability of the material to the learning objectives	2	1
2	Material	Truth of the material	3, 4	2

No.	Aspects	Indicators	Item No.	Number of Grains
	aspects	Depth of matter	5, 6	2
		Coverage of the material	7, 8	2
		The importance of the material discussed	9, 10	2
		Interesting material	11	1
		Suitability of the material to the characteristics of the student	12	1
		Accuracy of supporting media	13	1
		The material is easy to understand	14, 15	2
		Materials show real life	16, 17	2
		Logical material	18, 19	2
		The level of difficulty of the questions	20	1
3	Grammar	Appropriate and consistent use of language	21, 22	2
		The language used is according to the characteristics of the student	23, 24	2
Total				24

Table 3. Design Expert Validation Sheet Grid Grid

No.	Aspects	Indicators	Item No.	Number of Grains
1	Purpose	Alignment with learning objectives	1,2	2
		Consistency between objectives, materials, and evaluations	3, 4	2
2	Strategy	Helps recall previous knowledge and abilities	5,6	2
		Presentation of material that is interesting and in accordance with the character of the student	7	1
		Giving examples in its presentation	8, 9	2
3	Evaluation	Presentation of questions in accordance with learning objectives	10	1
		Clarity of instructions for working on questions	11	1
Total				11

Table 4. Individual Test Grid

No.	Aspects	Indicators	Item No.	Number of Grains
1	Display	Interesting video opening	1, 2	2
		Readability of text in videos	3, 4	2
		Picture clarity in video	5, 6	2
		Clarity of the narrator's voice	7,8	2
		Video color appeal	9, 10	2
2	Material	Clarity of the description of the material	11, 12	2
		The material is easy to understand	13, 14	2
3	Motivation	Media is able to provide and increase the spirit of learning	15, 16	2
4	Operation	Ease of use of media	17, 18	2
Total				18

Table 5. Group Test Grid Grid

No.	Aspects	Indicators	Item No.	Number of Grains
1	Display	Clarity of audio and visual related media components	1, 2, 3	3
		Attractiveness of media appearance	4, 5, 6	3
2	Material	Clarity of the description of the material	7, 8	2
		Ease of understanding the material	9, 10	2
		Suitability of the level of practice questions	11, 12	2
3	Practicality and effectiveness	Ease of use of media	13, 14	2
		Suitability of media to student characteristics	15, 16	2
		The motivation provided can increase students' enthusiasm for learning	17,18	2
Total				18

Table 6. Learning Motivation Instrument Grid Grid

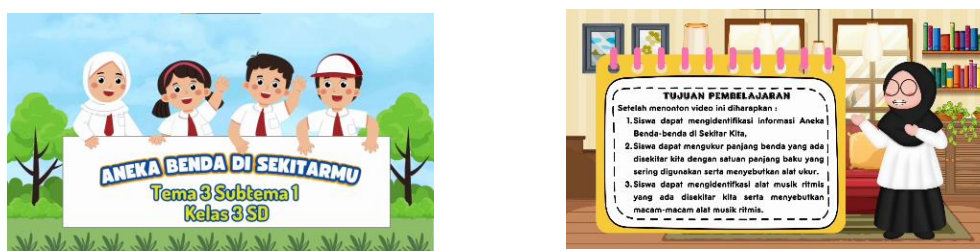
No.	Aspects	Indicators	Item No.
1	Intrinsic	The existence of desire and desire to succeed	1, 2, 4
		There is an encouragement and need in learning	4, 5, 6, 7, 8, 9, 10
		The existence of hopes and aspirations for the future	11
2	Extrinsic	There is an award in learning	12, 13
		There are interesting activities in learning	14, 15, 16, 17, 18, 19, 20, 21
		The existence of a conducive learning environment	22, 23, 24, 25

The data analysis technique in this study uses quantitative descriptive analysis (Andriani & Sunismi, 2019; Dhin et al., 2023). Descriptive analysis is data in the form of numbers or percentages of an object being studied. Hypothesis tests are carried out through inferential static tests through prerequisite tests, namely normality tests and homogeneity tests. Then continued with the test *paired T-test* to determine whether the difference between the mean groups was statistically significant or just a coincidence.

3. RESULT AND DISCUSSION

Result

This research was carried out in grade III at SD Negeri 1 Panji Anom for the 2023/2024 Academic Year. The development of interactive learning videos using edpuzzle on theme 3 subtheme 1 various objects around me uses the ADDIE development model, which consists of five stages of development, namely: (1) analysis stage, (2) design stage, (3) development stage, (4) implementation stage, and (5) evaluation stage. The products produced in this study are presented in figure 2.

**Figure 2.** Learning Video Products

The product was developed through several tests to be applied in the learning process. First, a product validity test is carried out. The results of the validity test of the development of interactive learning videos using edpuzzle through the test of learning content experts, learning design experts, learning media experts, individual trials, and small group trials are presented in more detail in Table 7.

Table 7. Percentage of Learning Video Development Results

No.	Test Subject	Validity Results	Information
1	Expert Test of Learning Content	86.66%	Good
2	Learning Design Expert Test	89.09%	Good
3	Learning Media Expert Test	93.68%	Excellent
4	Individual Trial	89%	Good
5	Small Group Trial	97.2%	Excellent

Base on Table 7 it can be concluded that the results of the validity test of the development of interactive learning videos using edpuzzle as a whole have a good percentage. Furthermore, related to the effectiveness test, it was carried out through a prerequisite test and then continued with a hypothesis test. The prerequisite tests include a normality test of data distribution and a homogeneity test. The data normality test was carried out to observe that the sample was really from a normally distributed population, so that the difference that occurred was indeed due to the treatment, not the difference in the sample. The data normality test was carried out on student data from the results of the learning motivation of grade III students who used interactive learning videos. The technique used to test the normality of the data is the Kolmogorof Smirnof technique. The results of the calculation of the normality test can be seen in Table 8.

Table 8. Normality Test Results

	Group	Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistics	Df	Sig.	Statistics	Df	Sig.
Motivational results	before	0.122	28	0.200*	0.969	28	0.557
	after	0.126	28	0.200*	0.967	28	0.495

*. This is a lower bound of the true significance; a. Lilliefors Significance Correction; Information 0.200 \geq 0.05 (normal)

Base on [Table 8](#), it can be concluded that the samples from the population are normally distributed. The results of the normality test were obtained $0.200 \geq 0.05$, then H_0 was accepted, so it can be concluded that the sample came from a normally distributed population. Then continued with the variance homogeneity test. Variant homogeneity tests were conducted to show that two or more groups of sample data had the same variant. Decision-making is carried out by comparing if the significance value on the Based on Mean is greater than 0.05, then the data has a homogeneous variance. The results of the homogeneity test can be seen in [Table 9](#).

Table 9. Homogeneity Test Results

Test of Homogeneity of Variance					
		Levene Statistic	df1	DF2	Sig.
Motivational results	Based on Mean	0.003	1	54	0.954
	Based on Median	0.000	1	54	1.000
	Based on Median and with adjusted df	0.000	1	53.935	1.000
	Based on trimmed mean	0.000	1	54	0.998

Based on [Table 9](#) of analysis results, it can be seen that the significant value of Based on Mean obtained a value of $0.952 \geq 0.05$. Thus, it can be concluded that the learning motivation of grade III students has a homogeneous variance. After the prerequisite test is carried out, then a hypothesis test is carried out. The hypothesis test aims to find out the extent to which the effectiveness of interactive learning videos using edpuzzles can affect learning motivation in theme 3 subtheme 1 various objects around me in grade III SD Negeri 1 Panji Anom. The results of the Paired Sample Test analysis calculation using the SPSS 20 for windows program. The results of the Paired Sample Test analysis can be seen in [Table 10](#).

Table 10. Hypothesis Test Results

		Paired Samples Test							
		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Before - After	-4.64286	3.64351	68856	-6.05566	-3.23005	-6.743	27	0.000

Based on [Table 10](#), the results of the hypothesis test. Significant values were obtained (sig. (2-tailed) by 0.000. Furthermore, the significant value is compared to 0.05. which means $0.000 < 0.05$ until H_0 is rejected and H_1 is accepted. It can be concluded that there is an effect of effectiveness on interactive learning videos using edpuzzle on theme 3 subtheme 1 various objects around me grade III SD Negeri 1 Panji Anom for the 2023/2024 school year.

Discussion

This research has produced a product in the form of interactive learning videos using edpuzzle, and has passed several tests. Based on reviews from learning content experts, a percentage of 86.66% was obtained, which was at a good percentage. Based on the results of the expert test of learning content, interactive learning videos using edpuzzles in theme 3 subtheme 1 various objects around you are suitable for use as learning media to support the thematic learning process in theme 3 subtheme 1 various objects around you in grade III elementary school ([Hayati et al., 2022](#); [Purwati & Erawati, 2021](#)). To achieve good qualifications is influenced by several aspects, namely (1) the material aspect in accordance

with the basic competencies and learning objectives, (2) the aspect of ease of understanding the material presented, (3) the aspect of images and texts presented in accordance with the material, (4) the aspect of the language used is clear. This is supported by the results of individual and small group trials that state that the delivery of material on this interactive learning video product is interesting and easy to understand. Based on the input, comments and suggestions of this expert, the learning material contains inputs, comments and suggestions that are revised in the question section only and have been completed so that the interactive learning video product on theme 3 subtheme 1 various objects around me has been feasible and passed the expert test of the content of the learning material (Jerry Radita Ponza et al., 2018; Sirri & Lestari, 2020).

Based on the results of the review of learning media experts, a percentage of 89.09% was obtained which was in good qualifications. This achievement is due to the fact that in developing interactive learning videos, attention is paid to the principles of message design. Based on the results of the review that has been carried out, there can be several inputs and comments that are revised and have been completed so that this interactive learning video product using edpuzzle has been feasible or passed the learning media expert test (Heistyka & Malasari, 2022; Siti Rohmah Kurniasih et al., 2023). Based on the results of the review of learning design experts, a percentage of 93.68% was obtained which was very qualified. To achieve this, it is influenced by several things, namely (1) the material presented is in accordance with the basic competencies and learning objectives, (2) the material presented is easy for students to understand, (3) the appropriateness of the use of images and language used in the delivery of the material, (4) the learning method that makes it easier for students to understand the lesson. The acquisition of very good criteria related to the quality of learning design is because the interactive learning video media developed is able to motivate students in learning. Based on the reviews that have been carried out, there are several suggestions and comments that are revisions and have been completed so that this interactive learning video product using edpuzzle has been feasible or passed the learning media design expert test (Hermawan et al., 2020; Julinar & Yusuf, 2019).

Based on the results of individual trial reviews and small group trials, this product received good and very good qualifications. This is because in interactive learning videos using edpuzzles on theme 3 subtheme 1 various objects around me for grade 3 students, the material is easy to understand and interactive learning videos can motivate students in learning. Where the higher the student's motivation to learn in learning, it will increase students' interest in learning on theme 3 subtheme 1 various objects around me. In addition, this interactive learning video also uses appropriate images and language that is easy for students to understand according to the characteristics of 3rd grade elementary school students, this can minimize misunderstandings in the explanation of the material (Sugestiana & Soebagyo, 2022; Utami et al., 2020).

The effectiveness of this interactive learning video is carried out by a non-test method which is carried out in 2 stages before watching the interactive learning video and after watching the interactive learning video. This test was measured to 28 grade III students of SD Negeri 1 Panji Anom. The results of the pre-non test and post-non test showed significant differences between before and after using interactive learning videos using edpuzzle on theme 3 subtheme 1 various objects around me grade III SD Negeri 1 Panji Anom for the 2023/2024 school year. There are many things that cause this interactive learning video media to be effectively applied in the thematic learning process. This learning video is developed according to the view in terms of design, content, and quality of media. Then the use of language in this interactive learning video is adjusted to the characteristics of elementary school students which makes it easier for students to understand the material presented in the interactive learning video (Dewi & Putri, 2021; Kasriyati et al., 2023). The results of the interactive learning video research using edpuzzle were developed which were valid and suitable for use in the learning process and could increase students' learning motivation on theme 3 subtheme 1 various objects around me. Based on this assessment, it can be concluded that the assessment entitled "Development of Interactive Learning Videos Using Edpuzzle on Theme 3 Subtheme 1 Various Objects Around Me Grade III SD Negeri 1 Panji Anom Academic Year 2023/2024" is feasible and effective to be used as a learning resource for theme 3 subtheme 1 Various Objects Around Me (Parlindungan et al., 2020; Utami et al., 2020).

This research has implications for student activity in learning. Students become more active in learning because their interest and motivation in learning increase with interactive learning videos using edpuzzle in theme 3 subtheme 1 which is used in the learning process (Purwati & Erawati, 2021; Wulandari et al., 2021). And the use of interactive learning videos in theme 3 subtheme 1 has an influence on both teachers and learning infrastructure facilities in schools and adds learning media that can be applied in the learning process, especially in theme 3 subtheme 1 various objects around me. But of course this research still has limitations. This study has shortcomings, such as the limited research sample and the dependence on stable internet access and teachers' skills in using technology platforms. For future research, it is recommended to expand the research sample, incorporate various learning subjects, and

explore ways to overcome technical barriers to make Edpuzzle implementation more effective and inclusive in various school conditions.

4. CONCLUSION

Based on the results of the study, the results were obtained that through the validity test of interactive learning videos using edpuzzle that has been developed measured by learning material content experts, learning design experts, learning media experts, individual trials, and small group trials, results with good and excellent qualifications were obtained. So it can be stated that interactive learning video media using edpuzzle is valid and suitable for use in the learning process. Regarding the effectiveness test of the development of interactive learning videos using edpuzzle, it was calculated based on the results of the paired test of the t-test sample. Based on calculations, it can be concluded that the development of interactive learning videos using edpuzzles is effective in learning theme 3 subtheme 1 various objects around me in grade III SD Negeri 1 Panji Anom for the 2023/2024 school year.

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