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THE ROLE OF ANIMATED LEARNING VIDEOS IN IMPROVING PROBLEM-SOLVING SKILLS STUDENTS IN SCIENCE LEARNING

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Abstract

This research is motivated by the low problem-solving ability of students in abstract science materials, so a learning medium is needed to visualize abstract concepts. Therefore, this study aims to determine the effect of the use of animated learning videos on improving students' problem-solving abilities in the Human Circulatory System material. The scope of the research is focused on science learning at the junior high school level, especially grade VIII, by comparing learning outcomes between experimental classes that use animated learning videos and control classes that use conventional media. The research method used was a pseudo-experiment with *a Pretest-Posttest Control Group design*. The instrument was a multiple-choice test, and the data were analyzed using *the Independent Samples T-test*, *N-Gain Score*, and *Cohen's d tests* to determine the effectiveness of the *treatment*. The results showed that the experimental class experienced a significant increase compared to the control class. The *N-Gain* value is in the category of quite effective, while *Cohen's value d* shows that there is a large influence of the use of animated learning videos. This means that animated learning video media is able to improve students' problem-solving skills.

Keywords: *Animated Learning Videos; Problem-Solving Skills; Human Circulatory System.*

INTRODUCTION

In the modern era of education, students are not only required to master factual knowledge, but also have high-level thinking skills, including problem-solving skills (Wadi et al., 2025). In the context of science learning, problem-solving skills become very important because students are exposed to natural phenomena and complex biological concepts, one of which is the human circulatory system (Aini et al., 2021). In the material on the human circulatory system, students are required to understand the structure, functions, mechanisms, disorders, and efforts to prevent circulatory disorders and relate them to real contexts, such as life habits, cardiovascular diseases, and daily physical activity as depicted in the grid and question items that lead to the ability to analyze (C4) solving circulatory health problems. Students who have a good understanding of concepts are able to identify problems, plan solution strategies, and apply scientific concepts appropriately (Hepi et al., 2022). Based on research by Darsiyana et al. (2022), it was found that understanding concepts is the main foundation in solving problems. Where understanding concepts is used as the basis of logical thinking so that students can explain and strengthen problem-solving strategies. However, learning practices in the classroom are still dominated by conventional methods and the use of learning media is only in the form of text and images, so the opportunity to develop authentic case-based problem-solving skills is limited. This can be seen in the control class learning design that is still centered on teacher explanations, image observation, and exercises, while the context of daily life problems is only touched at the level of discussion without the support of learning media that facilitates strong visualization of cognitive processes and conflicts.

The development of digital technology has allowed the development of animated learning videos that combine moving visuals, narrative, and real-world problem contexts so that they can help bridge conceptual understanding with problem-solving situations. In the midst of the flow of digitalization, humans depend on technology and make it a basic need (Suryani et al. 2023). Technology is also needed in the learning process, where teachers are required to integrate technology in learning, while students need to have digital literacy to be able to learn independently and adaptively (Rohmah et al., 2025). In this digital era, a technology-assisted learning media is needed that not only presents content, but also helps the pedagogical process (Kurniawan et al., 2025). One of the learning media that can be used is animated learning videos.

Previous research has shown that technology-based learning media, especially animated learning videos, are able to improve students' understanding of concepts and problem-solving skills. This is supported by research by Biassari et al. (2021) confirming that animated learning videos are effective in improving learning outcomes, while in other studies it is explained that the role of animated learning videos in visualizing abstract concepts more clearly (Kusumahwardani et al. 2022). Animated learning videos also contribute significantly to improving students' science learning outcomes (Adiati et al. 2023). This means that animated learning videos are one of the learning media that can be used as an integration of technology in learning. Not only that, animated learning videos can also improve students' understanding and learning outcomes in science learning.

Animated learning videos are closely related to improving students' problem-

solving skills. Animation media is able to present abstract concepts to be more concrete and easy to understand, so that students can identify problems more clearly. With the use of animated learning videos, students can easily understand the material because they see it directly during the learning process (Fridayanti et al., 2022). Supported by research (Febriani & Tarmuji, 2023) which states that animated learning videos have a very close and positive relationship with students' problem-solving abilities.

Based on the literature review, the scientific novelty of the study in this study lies in the use of animated learning videos in human circulatory system materials with a problem- based learning (PBL) learning design that explicitly targets the problem-solving abilities of junior high school students in the realm of analysis (C4), with indicators formulated in a grid of instruments that target solving real problems related to circulatory disorders, risk factors, and their prevention efforts. With dynamic visualization, dynamic animated learning videos are able to arouse students' curiosity, facilitate observation, and stimulate students to ask questions and analyze key aspects of data in scientific problem solving (Karninsy et al., 2025). In addition, another novelty lies in the use of animated learning videos that not only visualize the structure and flow of blood circulation, but are also arranged in harmony with the PBL stages in the experimental class, starting from problem orientation, self-investigation assisted by animated learning videos, to solution presentations and reflections, and integrated with the Google Sites platform so that students can access videos and materials independently outside of face-to-face hours.

The research problems raised in this study are based on the gap between the demands of the curriculum so that students are able to analyze and solve real problems related to the human circulatory system and the reality in the classroom that learning still relies on conventional lectures and exercises, so that problem-solving skills have not developed optimally. The key question to be answered is whether there is a difference in the use of animated learning videos in the Human Circulatory System material on the problem-solving ability of junior high school students compared to science learning that uses conventional media without the support of animated learning videos. Operationally, the hypothesis tested in the research underlying this study is that the average problem-solving ability of students who learn using animated learning videos of Human Circulatory System material is significantly higher than that of students who learn to use science learning with a face-to-face approach in the control class, as reflected through learning outcomes in the pretest–posttest. In line with these problems and scientific novelties, the purpose of this article study is to find out the differences in student problem-solving in the use of animated learning videos in the learning process of Human Circulatory System material, as well as to contribute to the development of science and science learning practices in junior high schools. Not only that, this research also focuses on the development of media design and science learning strategies that are oriented towards strengthening students' problem-solving skills.

METHODS

This study uses a quasi-experiment design with the Pretest-Posttest Control Group Design model. This design was chosen because it allowed researchers to compare learning outcomes between the experimental group that was given a treatment in the

form of the use of animated learning videos and a control group that used conventional media, without having to do full randomization of the study subjects. Thus, this design is appropriate for the context of real classrooms in schools that have limitations in sample settings.

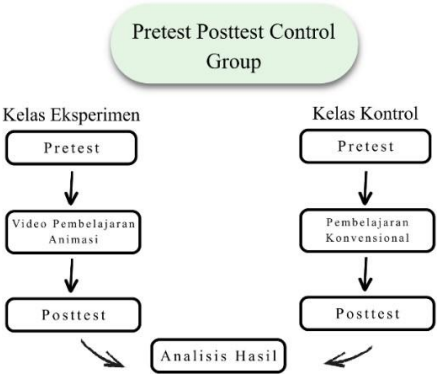

Figure 1. Pretest Posttest Control Group Research Design

The subject of the study is grade VIII students of SMP Negeri 13 Malang for the 2025/2026 school year with a total of 61 students divided into 2 classes. Class VIII B with a total of 31 students was designated as an experimental group, while class VIII A with a total of 30 students was designated as a control group. The selection of classes is carried out based on considerations of homogeneity of academic ability and suitability of the learning schedule. The number of students in each class is representative enough to provide an overview of the significant differences in learning outcomes.

The research instrument is in the form of a multiple-choice test developed based on indicators of problem-solving ability. There are two types of tests, namely *pretest* and *posttest*, where *the pretest* is given before learning begins and *the posttest* is given after the learning is completed to measure the improvement of problem-solving skills. Before being used for research, the test instrument is first tested on other classes that are not experimental or control classes to determine the validity and reliability of the results of the question items. After being tested, a test was carried out with the help of *IBM SPSS Statistics 20 Software* to find out how many valid questions were used in the study and whether the questions were reliable to use.

The data collection procedure is carried out through several stages. First, students are given a *pretest* to find out their initial problem-solving skills. Second, the experimental group followed the learning using animated learning videos that showed the processes of the circulatory system dynamically, while the control group used conventional media in the form of static images and teacher explanations. Third, after the treatment was completed, both

groups were given a *posttest* with the same instrument to measure the improvement of problem-solving ability. The entire learning process was carried out in eight meetings in accordance with the Learning Implementation Plan that had been prepared.

Data analysis is carried out using several techniques. However, before the hypothesis test is carried out, a prerequisite test for data analysis, namely a normality test and a homogeneity test to ensure that the data meets the basic assumptions required so that the results of the analysis can be interpreted appropriately and validly. The hypothesis test was carried out using *the Independent Samples T-test* technique used to determine the significant differences between the experimental and control groups. In addition, *N-Gain Score* analysis was applied to measure the effectiveness of improving problem-solving ability in each group. Not only that, *Cohen's Effect Size test was also carried out* to find out the magnitude of the influence of treatment on students' problem-solving abilities. This combination of analysis provides a comprehensive picture of the effectiveness of animated videos in science learning.

With a systematic research design, subjects, instruments, procedures, and data analysis, this research is expected to be able to provide empirical evidence on the influence of animated learning videos in improving students' problem-solving skills, as well as strengthening the basis for the development of technology-based learning media in secondary schools.

RESULTS

The results of this study analysis showed a significant difference between the experimental class that used animated learning videos and the control class that used conventional media. This can be seen from the research instruments used. However, before the instrument is used in the research, validity and reliability tests are carried out. The results of the validity test showed that all the question items used had a correlation value greater than the r-table, so it was declared valid. Furthermore, the reliability test using Cronbach's Alpha yielded values above 0.70, which means the instrument has good internal consistency. Thus, the problem-solving ability test instrument is suitable to be used to measure research variables.

After that, a prerequisite test for data analysis is carried out to ensure that the data meets the basic assumptions required so that the results of the analysis can be interpreted appropriately and validly. Data analysis began with a normality test using Kolmogorov- Smirnov. The results show that the data *Pretest* and *Posttest* in both classes has a Sig. value of > 0.05, so it can be concluded that the data is normally distributed. In addition, the homogeneity test using Levene's Test yielded a Sig. value of > 0.05, which means that the variance of data between the experimental and control classes was homogeneous. These two prerequisite tests ensure that the data are eligible for hypothesis testing with parametric techniques.

Hypothesis tests were carried out using *Independent Samples T-test* to find out the difference in problem-solving ability between the experimental and control classes.

Table 1. Independent Samples T-test Test Results

		Levene's Test for Equality of Variances		T-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Learning Outcomes	Equal Variances Assumed	.116	.735	8.471	59	.000	14.849	1.753
	Equal Variances Not Assumed			8.477	58.992	.000	14.849	1.752

Based on the *Independent Samples T-test*, a Sig. (2-tailed) value of 0.000 was obtained which was smaller than α = 0.05. This confirms that the use of animated videos has a real influence on improving students' problem-solving skills. In other words, an alternative hypothesis (H_1) is accepted, so it can be concluded that animation learning video media is effective in improving students' problem-solving skills in human circulatory system material.

In addition to *the Independent Samples T-test*, an N-Gain Score analysis was carried out to see the effectiveness of the *treatment*. The results of the N-Gain Score analysis showed that the average increase in problem-solving ability in the experimental class reached 74.7%, which is included in the category of quite effective. Meanwhile, the control class showed only a relatively low increase. This research was strengthened by *the Effect Size* test to find out how much influence there is in science learning using animated learning videos.

$$Effect\ Size = \frac{\text{Mean Treatment} - \text{Mean Control}}{\text{Standard Deviation}}$$

$$Effect\ Size = \frac{89{,}5 - 74}{\sqrt{6{,}994^2 + 6{,}686^2}}$$

$$Effect\ Size = \frac{14{,}9}{\sqrt{46{,}809}} = \frac{14{,}9}{6{,}842} = 2{,}178$$

Based on the *Effect Size test*, Cohen's d value was obtained as 2.178, which is included in the category of very large effects. This means that treatment in the form of the use of animated videos has a strong impact on students' ability to identify problems, analyze situations, and formulate solutions. Thus, technology-based media has proven to be able to bridge the limitations of conventional methods that tend to be abstract and less interesting.

Overall, the results of this research analysis confirm that the use of animated learning videos is an effective strategy to improve students' problem-solving skills in science learning. This media is able to present complex material visually and dynamically, making it easier for students to understand abstract concepts, reduce cognitive burden, and increase active involvement in the learning process. Thus,

animated videos can be seen as learning innovations that are relevant to the demands of the 21st century, as well as a solution to the low learning outcomes of students in the material of the human circulatory system.

DISCUSSION

The results of this study show that the use of animated learning videos has a significant effect on students' problem-solving ability in the human circulatory system material. These findings are in line with the Cognitive Theory of Multimedia Learning theory put forward by Mayer (2009), which states that the combination of visual and audio can reduce cognitive load and improve understanding of abstract concepts. In the context of this study, students who studied with animated learning videos were able to understand circulatory flow more clearly compared to students who only used conventional media. This is evident from the N-Gain value of the experimental class which reached 74.7% with the category of quite effective, as well as the effect size value of 2.178 which is included in the very large category.

Not only that, the results of this study can also be attributed to the revised Bloom Taxonomy theory (Anderson & Krathwohl, 2001), especially in the realm of high-level cognitive (HOTS) which includes the ability to analyze, evaluate, and create. Animated learning videos have proven to be able to facilitate students to reach this level of thinking. Students not only remember and understand concepts, but are also able to apply them in new contexts, analyze real cases, and evaluate the solutions they create. This suggests that the use of animated videos can help students move beyond low-level thinking skills towards more complex high-level thinking skills.

The higher average score of the experimental class than the control class showed that the treatment in the form of animated learning videos given had a positive effect. Animated learning videos are one of the efforts to achieve learning activities that are interesting for students and make it easier to understand abstract concepts from the subject matter. The material of the human circulatory system is a concept that cannot be directly observed by the naked eye because the process occurs in the body. With animated learning videos, dynamic processes such as blood circulation and heart valve work that are abstract can be visualized into a more concrete form and easy for students to understand. Science learning using animated learning videos can also give a new atmosphere to students because of the differences in learning received previously. In addition, with animated learning videos, students are also trained to improve problem-solving skills in science learning.

When compared to previous research, these results are consistent with the findings of Nafingah et al. (2024) who stated that animated learning videos are able to improve students' critical and analytical thinking skills when faced with real problems, such as impaired heart function or high blood pressure. Research by Adiati et al. (2023) also supports these findings by showing that students who use visual-based media are better able to identify symptoms, analyze causes, and formulate solutions based on scientific concepts. Thus, this study strengthens the evidence that technology-based media, especially animated videos, can be an effective learning strategy to improve problem-solving skills in science learning.

In addition, the results of the research can also be reviewed from the perspective

of digital technology-based learning that emphasizes the integration of interactive media in the learning process. Animated learning videos have been proven to be able to reduce the cognitive burden on students by presenting visually and systematically complex material. This is in line with the findings of Malau et al. (2025) who stated that dynamic visualization in animated learning videos can help students to understand abstract concepts more easily, so that they can focus on the analysis and problem-solving process. Thus, animated learning videos serve not only as an aid, but also as a pedagogical strategy that supports critical thinking skills.

In terms of effectiveness, this study also supports the results of a study by Subhan et al. (2025) who emphasized that animated videos are able to simplify complex material into visual sequences that are easy to follow. In the context of the human circulatory system, students can see simulations of blood flow, heart function, and interactions between organs in a more realistic way. This helps them connect scientific concepts with real cases, such as hypertension or blockage of blood vessels. Thus, students' problem-solving abilities are improved because they can identify symptoms, analyze causes, and formulate solutions based on the concepts they have learned.

When compared to the research of Biassari et al. (2021) which emphasized the effectiveness of video media in improving cognitive learning outcomes, this study makes a new contribution by focusing on problem-solving abilities as an indicator of high-level thinking. Thus, this study not only strengthens the previous findings, but also fills a research gap that has not been widely studied, namely the direct relationship between the use of animated videos and students' problem-solving skills. This is important because problem- solving is an essential skill that students need to meet the challenges of the 21st century.

This research also makes a new contribution by emphasizing that animation learning video media can be a solution to the low learning outcomes of students who still tend to memorize information without understanding concepts in depth. As stated by Gulo & Siregar (2025), one of the main obstacles in science learning is the tendency of students to memorize facts without being able to relate them to real phenomena. The animation video in this study succeeded in overcoming these obstacles by presenting the concept of the circulatory system in a sequential and dynamic manner, so that students can see the relationship between concepts more clearly.

Furthermore, this discussion also emphasizes that animated videos have the advantage of presenting visually and dynamically complex material. As stated by Kotimah (2024), animated videos are able to arouse interest in learning, strengthen memory, and encourage active student engagement. In this study, students in the experimental class were seen to be more enthusiastic and active in the learning process, which shows that animated videos not only improve cognitive learning outcomes, but also student motivation and engagement. This is in line with the theory of learning motivation which states that interesting media can increase students' curiosity and enthusiasm for learning.

However, this study also highlights the limitations in the use of animated learning videos. In the study, Dewayanti et al. (2023) stated that the development of animated learning videos requires special competencies and adequate supporting devices. Schools with limited resources may have difficulty making optimal use of this medium. In

addition, Sugiantoro et al. (2020) reminded that animated videos are one-way so there is a risk of making students passive if they are not integrated with supporting activities such as discussions or exercises. Therefore, teachers need to combine the use of animated videos with active learning strategies so that they are maximized.

Thus, the discussion of this study emphasizes that the use of animated learning videos is an effective strategy to improve students' problem-solving skills in the material of the human circulatory system. The results of this study are consistent with previous theories and research, as well as making a new contribution to the educational literature by showing that technology-based media can be a solution to students' low problem-solving skills in science learning.

CONCLUSION

This study proves that the use of animated learning videos has a significant effect on improving students' problem-solving skills in human circulatory system materials. This finding answers the hypothesis proposed, namely that there is a difference in problem-solving skills between students who study with animated videos and students who learn with conventional media. The purpose of the study to analyze the effectiveness of animated videos in supporting high-level thinking skills was achieved, with results showing an increase that was in the category of moderately effective and a very large effect size. This confirms that animated videos are able to bridge students' difficulties in understanding abstract concepts and encourage them to be more skilled in identifying problems, analyzing situations, and formulating solutions. The implication of this study is the need to integrate technology-based media in science learning in secondary school, especially in complex biology materials, so that learning is not only oriented to mastering concepts but also to developing critical thinking skills. As a suggestion, further research can examine the application of animated videos to other materials or combine them with innovative learning models such as problem-based learning or project-based learning to strengthen 21st century skills development.

REFERENCE

Adiati, C. C., Firdaus, R., & Nurwahidin, M. (2023). Efektivitas video animasi terhadap hasil belajar siswa. *Akademika*, *12*(01), 69-81. https://doi.org/10.34005/akademika.v12i01.2663

Aini, N., Zuliani, R., & Rini, C. P. (2021). Pengaruh media video animasi terhadap hasil belajar IPA siswa kelas IV SDN 20 Pagi Jakarta Timur. *Nusantara*, *3*(3), 417-426. https://doi.org/10.36088/nusantara.v3i3.1505

Anderson, L. W., & Krathwohl, D. R. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.* New York: Addison Wesley Longman, Inc.

Biassari, I., Putri, K. E., & Kholifah, S. (2021). Peningkatan hasil belajar matematika pada materi kecepatan menggunakan media video pembelajaran interaktif di sekolah dasar. *Jurnal basicedu*, *5*(4), 2322-2329. https://doi.org/10.31004/basicedu.v5i4.1139

Darsiyana, R., Azizahwati., Ernidawati. (2022). Penerapan Simulasi Phet Dengan Model Problem-Solving Untuk Meningkatkan Pemahaman Konsep Siswa Kelas Viii Smp

Materi Cahaya. *Jurnal PAJAR (Pendidikan Dan Pengajaran)*, *6*(6), 1807-1815. https://doi.org/10.33578/pjr.v6i6.8893

Dewayanti, A., Suryanti, H. H. S., & Wicaksono, A. G. (2021). Analisis video animasi inovatif dalam pembelajaran IPA pada masa pandemi COVID-19 di MIM Girimargo Miri Sragen Tahun Pelajaran 2020/2021. *Jurnal Sinektik*, *4*(2), 187-195. https://doi.org/10.33061/js.v4i2.6658

Febriani, E. A., Tarmuji. (2023). Peningkatan Hasil Belajar IPA Melalui Penerapan Problem Based Learning Berbantuan Media Audio Visual. *DEWANTECH Jurnal Teknologi Pendidikan*, *1*(1), 94-100.

Fridayanti, Y., Irhasyuarna, Y., & Putri, R. F. (2022). Pengembangan media pembelajaran audio-visual pada materi hidrosfer untuk mengukur hasil belajar peserta didik SMP/MTS. *Jupeis: Jurnal Pendidikan Dan Ilmu Sosial*, *1*(3), 49-63. https://doi.org/10.55784/jupeis.Vol1.Iss3.75

Gulo, P. K. L., & Siregar, N. (2025). Pengaruh Model Pembelajaran Problem Based Learning Berbantuan Media Video Animasi terhadap Hasil Belajar Siswa pada Materi Bumi dan Tata Surya Kelas VII. *BIO-CONS: Jurnal Biologi dan Konservasi*, *7*(1), 104-111. https://doi.org/10.31537/biocons.v7i1.2199

Hepi, H., Karyanto, P., & Sukarmin, S. Hubungan Antara Kemampuan Pemahaman Konsep Materi Gerak Dan Gaya Dengan Kemampuan Berpikir Kreatif Siswa Smp Kelas Viii Smp Negeri 1 Kebakkramat. *INKUIRI: Jurnal Pendidikan IPA*, *11*(1), 22-28. https://doi.org/10.20961/inkuiri.v11i1.54919

Karninsy, L., Shamdas, G. B. N., Alibasyah, L., Lilies, L., Febriani, V. I., & Buntu, A. (2025). Pemanfaatan Media Animasi Dalam Meningkatkan Hasil Belajar IPA Pada Peserta Didik Kelas VIII A di SMP Negeri 4 Sindue. *Bioscientist: Jurnal Ilmiah Biologi*, *13*(2), 1380-1391. https://doi.org/10.33394/bioscientist.v13i2.16588

Kotimah, E. K. (2024). Efektivitas Media Pembelajaran Audiovisual Berupa Video Animasi Berbasis Powtoon Dalam Pembelajaran Ipa. *Katera: Jurnal Sains dan Teknologi*, *1*(1), 5-12. https://doi.org/10.69688/katera.v1i1.26

Kurniawan, C., Surahman, E., Utami, D. D., & Nordin, R. M. (2025). Attempts to Harness AI Model in Online Differentiated Learning on Students' Understanding Levels. *JTP-Jurnal Teknologi Pendidikan*, *27*(2), 587-597. https://doi.org/10.21009/jtp.v27i2.54400

Kusumahwardani, D., Pramadi, A., & Maspupah, M. (2022). Peningkatan hasil belajar siswa menggunakan video animasi audiovisual berbasis animaker pada materi sistem gerak manusia. *Jurnal Educatio Fkip Unma*, *8*(1), 110-115. https://doi.org/10.31949/educatio.v8i1.1665

Malau, G. S. J., Rangkuty, S. M., Silitonga, I. P. J., Tindaon, J. O. G., & Sitepu, M. O. B. (2025). Review Literatur: Efektivitas Penggunaan Media Pembelajaran Video Animasi dalam Meningkatkan Hasil Belajar Siswa pada Materi Biologi. *J-CEKI : Jurnal Cendekia Ilmiah*, *4*(4), 1481–1490. https://doi.org/10.56799/jceki.v4i4.8818

Nafingah, H., Ekawati, R., & Faizah, S. (2025). Problem-Based Learning (Pbl) Assisted By Animated Video Media To Enhance Students' Critical Thinking And Scientific Literacy Skills: A Systematic Literature Review. *ELSE (Elementary School Education Journal): Jurnal Pendidikan Dan Pembelajaran Sekolah Dasar*, *8*(3).

https://doi.org/10.30651/else.v8i3.24322

Rohmah, A. D. N., Purwati, P. D., Cahyani, D. R., Salsabilah, N. M., Ramadhani, N., & Rasib, S. A. (2025). Analisis Bergerak Bersama Bab III Ekspresi Diri Melalui Hobi Buku Ajar Bahasa Indonesia Kelas V SD Sesuai Standar BSNP. *Jurnal Pendidikan*, *34*(2), 135-144. https://doi.org/10.32585/jp.v34i2.6685

Subhan, M., Tasya, C. A., Rahmadia, K. M., Artha, M. A., & Lestari, N. T. P. (2025). Pengaruh Penggunaan Video Pembelajaran Berbasis Animasi terhadap Hasil Belajar Siswa: Studi Literatur. *Jurnal Teknologi Pendidikan Dan Pembelajaran| E-ISSN: 3026-6629*, *2*(4), 974-980.

Sugiantoro, S., Widodo, J., Masrukhi, M., & Priyanto, A. S. (2020). Efektivitas Pembelajaran IPS Berbasis Media Animasi di Era Pandemi Covid-19. In *Prosiding Seminar Nasional Pascasarjana* (Vol. 3, No. 1, pp. 1002-1008).

Suryani, I. D., Juniarso, T., & Hanindita, A. W. (2024). Pengaruh Media Video Animasi Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Ipa. *PENDASI Jurnal Pendidikan Dasar Indonesia*, *8*(2), 252-260. https://doi.org/10.23887/jurnal_pendas.v8i2.3894

Wadi, H., Suharta, G. P., Widiana, I. W., Lasmawan, I. W., & Junaidi, E. (2025). Kurikulum Merdeka Sosiologi: Analisis Penerapan Keterampilan Berpikir Tingkat Tinggi Siswa. *Jurnal Ilmiah Profesi Pendidikan*, *10*(2), 1713-1720. https://doi.org/10.29303/jipp.v10i2.3452