



Improving Students' Learning Understanding of Free Socialization Materials through the Use of Visual Media in Class VIII G SMP Negeri 8 Banjarbaru

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Abstract

This study was conducted in response to the limited understanding of students in Class VIII G at SMP Negeri 8 Banjarbaru regarding free association material, which was influenced by learning activities that were still dominated by the teacher and the limited use of engaging instructional media. The purpose of this research was to improve students' learning comprehension through the application of visual media in the learning process. The study employed a Classroom Action Research (CAR) design implemented in two cycles, with each cycle consisting of planning, action, observation, and reflection stages. The subjects of the study were all 26 students of Class VIII G at SMP Negeri 8 Banjarbaru, consisting of 13 boys and 13 girls. Data collection instruments included observation sheets for student and teacher activities, learning outcome tests, and documentation. The test instruments were validated through expert judgment involving one PJOK teacher and one university lecturer, who assessed the instruments based on content relevance, clarity, and suitability with the learning objectives. Observation reliability was maintained through collaborative observation and discussion between the researcher and the observer to ensure consistency in recording classroom activities. Data analysis used descriptive comparative techniques by comparing students' learning outcomes in the pre-cycle, cycle I, and cycle II stages. The findings showed a continuous improvement in student achievement, with the average score increasing from 72 in the pre-cycle to 82 in cycle I and 94 in cycle II. In addition, the number of students who achieved learning mastery also increased, where 24 students achieved mastery and 2 students had not yet reached the minimum mastery criterion in cycle II. These findings indicate that the implementation of visual media was effective in improving students' understanding of free association material.

Keywords: Visual Media; Learning Comprehension; Free Association.

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INTRODUCTION

Education in the current curriculum emphasizes active, interactive, contextual, and student-centered learning. Students are no longer expected to function merely as passive recipients of information; instead, they are encouraged to understand concepts, analyze problems, evaluate information, and relate learning materials to real-life situations. This orientation requires teachers to design learning experiences that are meaningful, participatory, and relevant to students' developmental needs. In this context, the use of appropriate instructional media becomes an essential component of effective learning because media can help transform abstract concepts into more concrete and accessible forms. Learning media that are visually attractive and contextually relevant can increase students' attention, motivation, and involvement during classroom activities (Hidayat et al., 2024). This is also consistent with multimedia learning theory, which explains that students learn more effectively when verbal information is supported by relevant visual representations because words and images can work together to support cognitive processing and understanding (Mayer, 2021).

In Physical Education, Sports, and Health (PJOK) learning, instructional strategies should not only focus on physical skills but also on health knowledge, attitudes, values, and decision-making abilities. One important topic in PJOK at the junior high school level is free association material, which is closely related to adolescent social behavior, peer relationships, personal responsibility, and health risk prevention. This material requires students to

understand not only definitions and theoretical concepts but also the causes, impacts, and preventive strategies related to risky adolescent behavior. Free association material discusses sensitive issues such as peer pressure, unhealthy social interaction, reproductive health risks, emotional vulnerability, and decision-making in social environments. Therefore, the learning process should provide students with concrete, contextual, and age-appropriate experiences that enable them to connect classroom knowledge with real situations in adolescent life (Butarbutar et al., 2023). From the perspective of adolescent health education, this topic is highly relevant because adolescence is a critical developmental stage in which young people experience rapid physical, cognitive, emotional, and psychosocial changes that influence how they think, interact, and make decisions (World Health Organization, 2026).

However, preliminary observations conducted during Field Experience Practice activities in Class VIII G of SMP Negeri 8 Banjarbaru showed that learning activities related to free association material were still dominated by lecture-based instruction. The learning process had not optimally used engaging instructional media that could help students visualize social situations, identify risks, and understand preventive actions. As a result, several learning problems were identified. Students experienced difficulty in understanding the meaning of free association, identifying the causes and impacts of risky social behavior, explaining prevention strategies, and making appropriate decisions in social situations. Among these indicators, the greatest difficulty appeared in students' ability to explain the impacts of free association and determine appropriate preventive actions in daily-life contexts. Most students tended to memorize concepts theoretically, but they had difficulty connecting the material to concrete examples of adolescent social life.

The classroom learning atmosphere also indicated low student participation and engagement. During instruction, several students talked to their classmates, paid limited attention to the teacher's explanation, and showed low involvement in discussions and question-answer activities. Only a small number of students actively expressed opinions, while most students remained passive throughout the lesson. This condition suggests that the learning process had not fully created opportunities for students to observe, discuss, question, and reflect on the material. In addition, students' learning outcomes were still relatively low. The pre-cycle data showed that the average student score was 72. Of the 26 students in Class VIII G, only 16 students achieved the Minimum Completeness Criteria (KKM), while 10 students had not yet achieved mastery learning. These findings indicate that the initial level of students' understanding of free association material was not yet satisfactory.

These classroom conditions reveal a gap between the expected curriculum orientation and the actual instructional practice. Ideally, PJOK learning should encourage students to be active, reflective, and capable of applying health-related knowledge in daily life. In reality, the learning process remained largely teacher-centered, with limited use of media and limited opportunities for students to construct understanding through visual observation and discussion. If this condition continues, students may develop only superficial knowledge of free association without adequate understanding of its risks, consequences, and prevention. Such limited understanding may affect adolescents' ability to respond wisely to peer influence and social pressure. Sri and Yanni (2024) emphasized that adolescents with limited knowledge of risky social behavior are more vulnerable to negative peer influence and unhealthy social environments. Therefore, classroom learning should not only deliver information but also strengthen students' awareness, judgment, and preventive decision-making skills.

One alternative solution to address these problems is the implementation of visual media in the learning process. Visual media include pictures, posters, PowerPoint slides, diagrams, infographics, and educational videos that present information through visual representation. Compared with lecture-based instruction, visual media are more suitable for free association material because this topic contains abstract, sensitive, and contextual issues that are easier to understand when presented through concrete examples. Through images, illustrations, and videos, students can observe forms of adolescent social interaction, identify risky situations, understand possible consequences, and discuss appropriate preventive strategies. Visual media can also help students maintain attention, strengthen memory, stimulate curiosity, and encourage classroom discussion. In health education, instructional activities that build communication, refusal, decision-making, self-management, and risk-prevention skills are

important because these skills help students deal with social pressure and avoid risky behavior (Centers for Disease Control and Prevention, 2024).

The use of contextual visual media is particularly important because students at the junior high school level often understand social and health-related issues more effectively when the material is connected to situations they recognize. Visual representations can reduce the distance between abstract concepts and students' daily experiences. For example, posters can help students identify warning signs of unhealthy social relationships, PowerPoint slides can organize key concepts systematically, and educational videos can present realistic scenarios that encourage students to discuss causes, impacts, and prevention strategies. In addition, visual media can support a more student-centered learning environment because students are not only listening to explanations but also observing, interpreting, questioning, and communicating their ideas. This approach is consistent with the principle that adolescent health education should provide accurate, age-appropriate, culturally relevant, and meaningful information that helps young people make informed and responsible decisions (UNESCO et al., 2018; World Health Organization, 2026).

Previous studies have demonstrated that visual media can improve students' learning outcomes and participation. Butar-butur et al. (2023) reported that the use of visual learning media increased students' comprehension and classroom engagement. Similarly, Sihite et al. (2023) found that PowerPoint-based visual media improved students' learning achievement and mastery learning. These findings indicate that visual media have the potential to support students' understanding by presenting information in a more concrete, structured, and interesting way. However, previous studies generally focused on general classroom learning outcomes and did not specifically examine free association material as a socially sensitive adolescent health topic (Butar-butur et al., 2023; Sihite et al., 2023). In addition, limited studies have explored the use of contextual visual media in PJOK learning to support students' understanding of decision-making, prevention strategies, and the real-life consequences of risky adolescent behavior.

Therefore, this study focuses on improving students' understanding of free association material through the use of contextual visual media in Class VIII G of SMP Negeri 8 Banjarbaru. The novelty of this study lies in the use of contextual visual media, including pictures, posters, PowerPoint slides, and educational videos, to support students' comprehension of free association material as a sensitive and socially relevant adolescent health topic. This study does not only measure improvement in learning outcomes but also emphasizes student participation, classroom interaction, and the ability to understand social risks and prevention strategies in real-life adolescent contexts. Practically, this Classroom Action Research provides a relevant contribution for PJOK teachers by offering an applicable instructional strategy for teaching sensitive health materials more interactively and meaningfully. The findings are expected to help teachers create learning environments that are more contextual, participatory, and student-centered through the effective use of visual media.

METHOD

Research Design

This study employed a collaborative Classroom Action Research (CAR) design aimed at improving students' understanding of free socialization material through the use of visual media. Classroom Action Research is a reflective inquiry conducted by teachers in their own classrooms through systematic and planned actions to improve the quality of learning, student participation, and learning outcomes. According to Widayanti (2008), Classroom Action Research is implemented through four cyclical stages: planning, action, observation, and reflection. In this study, the CAR design was conducted collaboratively between the researcher and the PJOK teacher. The collaboration was intended to ensure that the learning actions were implemented properly, classroom activities were observed objectively, and students' improvement in learning comprehension could be evaluated systematically.

Research Setting and Participants

The study was conducted at SMP Negeri 8 Banjarbaru, located on Jalan Guntung Manggis, Landasan Ulin District, Banjarbaru City, South Kalimantan. The research was

carried out during the even semester of the 2025/2026 academic year, from April to May 2026. The participants of this study were all students of Class VIII G, consisting of 26 students. The class included 13 male students and 13 female students. This class was selected because preliminary observations showed that students' understanding of free socialization material was still relatively low, and classroom participation during PJOK learning activities needed to be improved.

Research Procedure

The research was conducted in two cycles. Each cycle consisted of two meetings, with each meeting lasting 2×40 minutes. Every cycle followed four stages, namely planning, action, observation, and reflection. In the planning stage, the researcher prepared teaching modules, learning materials, observation sheets, learning achievement tests, and visual media. The visual media used in this study included PowerPoint slides, contextual images, posters, and educational videos related to adolescent social behavior and the prevention of free socialization (Oktariani, 2022).

In the action stage, the researcher implemented the planned learning activities by using visual media to support students' understanding of the material. During the observation stage, the researcher and collaborating PJOK teacher observed student participation, teacher performance, classroom interaction, and the implementation of visual media in the learning process. In the reflection stage, the researcher and the collaborating teacher discussed the results of each cycle to identify learning progress, weaknesses, and necessary improvements for the next cycle.

Implementation of Cycle I and Cycle II

Cycle I focused on students' understanding of the definition, causes, and impacts of free socialization. The learning process primarily used PowerPoint slides as the main visual medium. Students observed the visual materials, participated in simple discussions, answered questions, and presented discussion results related to risky adolescent social behavior. The purpose of Cycle I was to help students understand the basic concepts of free socialization and identify its possible negative consequences in adolescent life.

Based on the reflection results from Cycle I, several improvements were implemented in Cycle II. The learning process in Cycle II applied the Problem-Based Learning (PBL) model supported by more contextual visual media, including PowerPoint slides, posters, images, educational videos, and case-study-based student worksheets (LKPD). In this cycle, students were encouraged to analyze real-life social problems, discuss prevention strategies, and present solutions collaboratively. The improvements in Cycle II were intended to increase student participation, strengthen contextual understanding, and help students connect the material with real situations in their daily lives.

Research Instruments

The research instruments consisted of student activity observation sheets, teacher activity observation sheets, learning achievement tests, and documentation. The student activity observation sheet was used to assess students' participation during the learning process, including attention to the lesson, activeness in discussions, asking questions, answering questions, and presenting opinions. The teacher activity observation sheet was used to evaluate the implementation of learning activities using visual media, including the teacher's ability to present material, guide discussions, use media effectively, and manage classroom interaction.

The learning achievement test was used to measure students' understanding of free socialization material at the end of each cycle. The test consisted of 15 multiple-choice questions. The test indicators included students' understanding of the definition of free socialization, causative factors, negative impacts, prevention strategies, and appropriate decision-making in social situations. Each correct answer was given a score of 1, while each incorrect answer was given a score of 0. The Minimum Completeness Criteria (KKM) established by the school was 75. Classical learning mastery was achieved if at least 80% of students obtained scores equal to or higher than the KKM.

Instrument Validity and Observation Reliability

The validity of the research instruments was examined through expert judgment involving one PJOK teacher and one university academic supervisor. The validators assessed the suitability of the test items, learning indicators, clarity of language, and relevance of the instruments to the research objectives (Abubakar, 2021). Based on the validation results, the instruments were declared feasible for use with minor revisions.

To ensure the reliability of classroom observation, the observation process was conducted collaboratively by the researcher and the collaborating teacher using the same observation guidelines in each cycle. After each meeting, the researcher and the collaborating teacher discussed the observation results to ensure consistency in interpreting student participation, teacher activities, and classroom interactions.

Data Collection Techniques

Data collection techniques in this study included observation, tests, and documentation. Observation was used to identify students' participation, classroom interaction, and the implementation of visual media during the learning process. Tests were administered at the end of each cycle to measure students' learning comprehension after the implementation of the action. Documentation was used to support and strengthen the research findings through photographs of classroom activities, observation records, lesson plans, students' worksheets, and students' test scores.

Data Analysis and Success Indicators

The data were analyzed using descriptive comparative analysis. Students' learning outcomes were analyzed by comparing the average scores and classical learning mastery percentages in the pre-cycle, Cycle I, and Cycle II stages. Observation data were analyzed descriptively to identify improvements in students' attention, participation, discussion involvement, confidence in expressing opinions, and classroom engagement.

The research was considered successful if at least 80% of students achieved scores of ≥ 75 according to the Minimum Completeness Criteria established by the school. Improvement was also indicated by increased student participation, more active classroom interaction, and better student engagement during learning activities using visual media.

RESULTS AND DISCUSSION

Results

This Classroom Action Research was conducted in Class VIII G of SMP Negeri 8 Banjarbaru to improve students' understanding of free association material through the use of visual media. The research was implemented in two cycles, and each cycle consisted of planning, action, observation, and reflection stages. Before the implementation of the action, a pre-cycle assessment was conducted to identify students' initial level of understanding.

The pre-cycle results showed that students' learning comprehension was still relatively low. The average score obtained by students was 72, which was below the expected level of mastery. Of the 26 students, 16 students achieved the Minimum Completeness Criteria (KKM), while 10 students had not yet achieved mastery learning. The classical learning mastery percentage in the pre-cycle stage was 61.5%. These findings indicate that many students still experienced difficulty understanding the concept of free association, its causes, impacts, and prevention strategies.

Table 1. Students' Learning Outcomes in the Pre-Cycle Stage

No	Indicator	Result
1	Number of students who achieved mastery	16 students
2	Number of students who did not achieve mastery	10 students
3	Average score	72
4	Classical mastery percentage	61.5%

Based on the problems identified in the pre-cycle stage, Cycle I was implemented by using visual media in the form of PowerPoint slides, images, and simple visual illustrations. The learning activities focused on helping students understand the definition, causes, and impacts of free association. During the learning process, students observed the visual

materials, participated in classroom discussions, answered questions, and presented their discussion results.

The results of Cycle I showed an improvement in students' learning outcomes. The average score increased from 72 in the pre-cycle stage to 82 in Cycle I. The number of students who achieved mastery also increased from 16 to 19 students, while 7 students had not yet achieved the KKM. The classical learning mastery percentage reached 73.1%. This improvement indicates that the use of visual media helped students understand the material more clearly. However, the results of Cycle I had not yet met the success indicator of the study, which required at least 80% of students to achieve scores of ≥ 75 .

Table 2. Students' Learning Outcomes in Cycle I

No	Indicator	Result
1	Number of students who achieved mastery	19 students
2	Number of students who did not achieve mastery	7 students
3	Average score	82
4	Classical mastery percentage	73.1%

Observation results in Cycle I showed that students began to pay more attention to the teacher's explanation and visual materials. Some students were more active in answering questions and participating in discussions. Nevertheless, several students were still passive, hesitant to express opinions, and had difficulty connecting the material to real-life adolescent situations. Therefore, improvements were made in Cycle II by using more contextual visual media and strengthening student-centered learning activities.

In Cycle II, the learning process was improved by integrating contextual visual media with problem-based learning activities. The visual media used in this cycle included PowerPoint slides, posters, images, educational videos, and case-study-based student worksheets. Students were encouraged to analyze real-life social situations, identify the risks of free association, discuss prevention strategies, and present solutions collaboratively. These improvements were intended to make the learning process more interactive, contextual, and relevant to students' daily lives.

The results of Cycle II showed a substantial improvement in students' learning outcomes. The average score increased from 82 in Cycle I to 94 in Cycle II. The number of students who achieved mastery increased to 24 students, while only 2 students had not yet achieved the KKM. The classical learning mastery percentage reached 92.3%, meaning that the success indicator of the study was achieved.

Table 3. Students' Learning Outcomes in Cycle II

No	Indicator	Result
1	Number of students who achieved mastery	24 students
2	Number of students who did not achieve mastery	2 students
3	Average score	94
4	Classical mastery percentage	92.3%

The overall comparison of students' learning outcomes from the pre-cycle stage to Cycle II shows a consistent increase in both average scores and classical mastery percentages.

Table 4. Comparison of Students' Learning Outcomes Across Stages

Stage	Average Score	Students Achieving Mastery	Students Not Achieving Mastery	Classical Mastery
Pre-cycle	72	16	10	61.5%
Cycle I	82	19	7	73.1%
Cycle II	94	24	2	92.3%

These results indicate that the implementation of visual media contributed positively to students' learning comprehension. The improvement was not only reflected in students' test scores but also in their classroom participation. In Cycle II, students appeared more confident in asking questions, expressing opinions, participating in group discussions, and explaining prevention strategies related to risky adolescent social behavior.

Discussion

This study was conducted in two cycles to improve students' understanding of free association material through the use of visual media in Class VIII G of SMP Negeri 8 Banjarbaru. The findings show a consistent improvement in students' learning comprehension from the pre-cycle stage to Cycle I and Cycle II. The average score increased from 72 in the pre-cycle stage to 82 in Cycle I and reached 94 in Cycle II. Similarly, the number of students who achieved the Minimum Completeness Criteria increased from 16 students in the pre-cycle stage to 19 students in Cycle I and 24 students in Cycle II. These results indicate that the use of visual media contributed positively to students' learning outcomes and classroom participation.

The low achievement in the pre-cycle stage can be understood as a consequence of a learning process that was still dominated by lecture-based instruction. In this condition, students mainly received verbal explanations from the teacher without sufficient visual support, contextual examples, or interactive learning activities. As a result, many students appeared less focused, less active, and less confident in responding to questions or expressing opinions. Free association material is not only conceptual but also socially sensitive because it relates to adolescent behavior, peer influence, decision-making, and prevention of risky social interactions. Therefore, when the material is delivered only through verbal explanation, students may understand the definition theoretically but still have difficulty relating it to real-life situations.

The pre-cycle results showed that the average score was 72, with only 16 out of 26 students achieving mastery learning. This indicates that students' initial understanding of free association material was not yet optimal. The difficulty was especially visible in students' limited ability to explain the impacts of free association and determine appropriate preventive actions in everyday social contexts. This finding suggests that students needed a more concrete learning experience that could help them visualize the causes, risks, consequences, and prevention strategies related to adolescent social behavior. In this regard, visual media became relevant because it could bridge abstract concepts and students' lived experiences.

After the implementation of visual media in Cycle I, students' learning outcomes and classroom engagement began to improve. The use of images, PowerPoint slides, and educational videos made the material clearer, more attractive, and easier to understand. Students became more attentive to the teacher's explanations and more willing to participate in discussions. The average score increased to 82, and the number of students who achieved mastery increased to 19 students. This improvement supports the view that visual media can help students process information more effectively by presenting concepts through concrete and organized representations. Mayer (2021, 2024) explains that multimedia learning supports understanding because students process information through verbal and visual channels, allowing them to organize and integrate knowledge more meaningfully.

The findings in Cycle I are also consistent with Guo et al. (2020), who reported that visual displays can support learning when they are integrated with appropriate instructional guidance. In this study, visual media helped students observe examples of adolescent social behavior, identify possible risks, and understand the impacts of free association more clearly. This is in line with Butar-butur et al. (2023), who found that visual learning media increased students' attention and comprehension because learning materials were presented in a more concrete and accessible way. Similarly, Sihite et al. (2023) reported that PowerPoint-based visual media improved students' learning outcomes and mastery learning.

However, the results of Cycle I had not yet met the success indicator of the study because the classical mastery percentage was still below the expected criterion. Although students' average score improved, 7 students had not yet achieved the Minimum Completeness Criteria. Observation results also showed that some students were still passive during discussions and had not yet shown sufficient courage to express their ideas. This condition indicates that the use of visual media alone is not always enough to ensure active and meaningful learning. Visual media must be supported by teacher guidance, structured discussion, and learning activities that encourage students to analyze and communicate their understanding. Guo et al. (2020) also emphasized that the simple inclusion of visual displays does not automatically produce positive learning effects unless students are guided to interact meaningfully with the visual information.

Based on the reflection in Cycle I, several improvements were implemented in Cycle II. The learning process was made more contextual and interactive by using richer visual media, including posters, images, PowerPoint slides, educational videos, and case-study-based student worksheets. Students were also given more opportunities to work in groups, discuss real-life social problems, identify prevention strategies, and present their solutions. These improvements made the learning process more student-centered because students were not only listening to explanations but also observing, discussing, questioning, and solving problems collaboratively.

The results of Cycle II showed a substantial improvement. The average score increased to 94, and 24 out of 26 students achieved mastery learning. The classical mastery percentage reached 92.3%, indicating that the success indicator of the study was achieved. Students appeared more enthusiastic, more confident in asking questions, and more active in group discussions. They were also better able to explain the material and relate it to real situations in adolescent life. This improvement suggests that contextual visual media became more effective when combined with interactive learning activities and problem-solving tasks.

The success of Cycle II can also be explained from the perspective of health education. Free association material requires students to develop awareness, judgment, refusal skills, and decision-making abilities. Effective school health education should not only provide information but also build communication, decision-making, self-management, and risk-prevention skills (Centers for Disease Control and Prevention, 2024; National Consensus for School Health Education, 2024). In this study, visual media and case-based discussions helped students understand not only what free association is, but also why it is risky and how it can be prevented. This is important because adolescents need age-appropriate information, life skills, and supportive learning environments to make responsible decisions (World Health Organization, 2024).

The findings also support the importance of digital and interactive approaches in adolescent health literacy. Mancone et al. (2024) explain that interactive and digital learning approaches can help adolescents access health information, understand risks, and make informed decisions. In the present study, educational videos and visual scenarios allowed students to observe social situations that were close to their daily experiences. This helped them discuss sensitive topics in a more concrete and less abstract way. In addition, visual media stimulated curiosity and encouraged students to participate more actively in the learning process.

The improvement in students' participation also aligns with research on educational technology and student engagement. Bond et al. (2020) found that educational technology is closely related to behavioral, emotional, and cognitive engagement. Budiarto et al. (2025) also reported that ICT-based learning media can contribute to better learning outcomes when used to support access to materials, interaction, and understanding. In this study, visual media increased behavioral engagement through active discussion, emotional engagement through interest and motivation, and cognitive engagement through analysis of social problems. Educational videos also supported understanding because video-based learning can present information dynamically and help students observe processes or situations that are difficult to explain verbally (Noetel et al., 2021).

Overall, the increase in learning outcomes from the pre-cycle stage to Cycle II demonstrates that visual media can effectively improve students' understanding of free association material. The improvement occurred because visual media made abstract and sensitive material more concrete, memorable, and relevant to students' lives. The implementation of visual media also created a more interactive and enjoyable classroom atmosphere. Nevertheless, the fact that 2 students had not yet achieved mastery in Cycle II indicates that teachers still need to provide additional support, remedial activities, or individualized guidance. Thus, visual media can be considered an effective instructional strategy for PJOK teachers, particularly in teaching adolescent health topics that require contextual understanding, active participation, and responsible decision-making.

CONCLUSION

Based on the results of class action research that has been carried out in class VIII G SMP Negeri 8 Banjarbaru, the use of visual media has been proven to be able to increase

students' learning understanding of free association materials. The use of visual media makes the learning process more interesting, interactive, and easy to understand so that students are more active in learning, dare to ask questions, and are able to understand the material more concretely. The application of visual media also has a positive impact on improving student learning outcomes is evident from the attainment of complete mastery learning by all students at the end of the research cycle. Therefore, the use of visual media can serve as an effective solution for enhancing students' understanding of free association material while also fostering a more active and enjoyable learning environment.

RECOMMENDATIONS

Future researchers are encouraged to conduct similar studies with a wider scope by involving more participants, different grade levels, and various school contexts to examine the consistency of visual media effectiveness in PJOK learning. Since this study was limited to Class VIII G of SMP Negeri 8 Banjarbaru, further research in other settings would provide broader empirical evidence. Future studies may also compare different forms of visual media, such as posters, infographics, animation videos, interactive PowerPoint slides, and digital learning platforms, to identify which type of media is most effective in improving students' understanding of free association material.

In addition, future research should examine not only cognitive learning outcomes but also students' attitudes, awareness, decision-making skills, and preventive behavior related to risky adolescent social interactions. This is important because free association material is closely related to students' real-life behavior and social responsibility. Researchers are also advised to combine visual media with student-centered learning models, such as Problem-Based Learning, Project-Based Learning, or cooperative learning, to strengthen classroom interaction and critical thinking. Long-term studies are also needed to determine whether students' improved understanding can be maintained after the intervention.

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