

The Use of Audio-Visual Media-Based Problem Based Learning Model in Improving Students' Learning Outcomes in Indonesian Language Subjects SMK Negeri 6 Surabaya in the Year of 2023/2024

Nono Tri Hariyanto¹, Tri Rijanto², I Gusti Asto Buditjahjanto³, Lilik Anifah⁴

^{1,2,3,4}Master of Vocational and Technology Education, State University of Surabaya

ABSTRACTS: The purpose of this study was to improve the learning outcomes of class X Culinary 2 students at SMKN 6 Surabaya through a visual media-based problem based learning model. The subjects of this study were 37 students. Data collection techniques used included observation, learning outcome tests, and documentation. The results of the study showed an increase in student activity and learning outcomes in the subject of concrete bone construction using the PBL method. This is evidenced by the increase in student activity as seen from the percentage of student activity in cycle I of 67.59% (sufficient) increasing by 9.72% in cycle II to 77.31% (good). Of the 9 aspects observed in cycle I, 5 aspects were still below the KKM, namely in the aspect of student readiness to receive lessons, student courage to ask questions, student courage in presenting their findings, student ability to connect material with real life, and problem-solving ability while in cycle II only 1 aspect has not reached the KKM, namely student courage in presenting their findings. The increase in learning achievement can be seen from the increase in the average practical test scores and written test scores. The average practical test score in cycle I was 75.67 (63.33%) increasing to 78.67 (86.67%) in cycle II. Meanwhile, the average written test score in cycle I was 74.3 (56.70%) increasing to 80 (93.33%) in cycle II. Out of 30 students who had not yet reached the KKM in the practical test, there were 4 students (13.33%) while in the written test there were 2 students (6.67%) at the end of the cycle.

KEYWORDS: Problems Based Learning, learning outcomes, SMK.

INTRODUCTION

Learning that is still one-way, such as lectures with blackboard media and modules, makes students less active and has an impact on low learning outcomes. To improve student understanding, a more active, varied, and innovative learning model is needed. The Problem Based Learning (PBL) model based on visual media is a solution to improve the learning outcomes of class X Culinary 2 students at SMKN 6 Surabaya in the Indonesian language subject. This approach encourages students to be more active in understanding concepts through interaction and solving real problems, so that it can increase the absorption of material more effectively.

So far, the learning process of Indonesian language subjects in class X Culinary 2 at SMKN 6 Surabaya which is centered on teachers as providers of knowledge for students, the delivery of lesson materials tends to be one-way, students are less active in the learning process to build and discover for themselves through interaction with their environment. Based on the background of the problem, the researcher is interested in conducting research on "improving student learning outcomes by using a problem-based learning model based on visual media in Indonesian language subjects for class X Culinary 2 at SMK Negeri 6 Surabaya in 2023/2024

Problem Based Learning (PBL) model or Problem Based Learning (PBL) is a teaching model characterized by the presence of real problems as a context for students to learn critically and problem-solving skills and acquire knowledge (Duch, 1995). In their study, Xu et al (2025) and colleagues developed the e-MedLearn system, a PBL platform that supports the development of evidence-based clinical reasoning. This system is designed to enhance the PBL experience by providing a better structure in problem analysis and recording, thus facilitating more efficient and in-depth learning.

Based on the understanding of the concept of the problem based learning (PBL) learning model, it can be concluded that the problem based learning model is a learning model that is directed by an everyday problem that aims to acquire knowledge. The problem-based learning model (PBL) is one of the innovative learning models to provide active learning conditions for students.

Problem-based learning (PBL) is a learning model that can train and develop the ability to solve problems that are oriented towards authentic problems from students' actual lives and can stimulate high-level thinking skills as well as having the skills to solve these problems.

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Characteristics of learning models according to the theory developed by Barrow, Min Liu (2005) explains the characteristics of PBM, namely: (1) Learning is student-centered. The learning process in PBL focuses more on students as learners. Therefore, PBL is also supported by constructivism theory where students are encouraged to be able to develop their own knowledge. (2) Authentic problems form the organizing focus for learning. The problems presented to students are authentic problems so that students are able to easily understand the problems and can apply them in their professional lives later. (3) New information is acquired through self-directed learning. In the problem-solving process, students may not know and understand all the prerequisite knowledge so that students try to find it themselves through sources, either from books or other information. (4) Learning occurs in small groups. In order for scientific interaction and exchange of ideas to occur in an effort to build knowledge collaboratively, PBM is carried out in small groups. The groups created require a clear division of tasks and clear goal setting. (5) Teachers act as facilitators. In the implementation of PBM, teachers only act as facilitators. However, teachers must always monitor the development of student activities and encourage them to achieve the targets they want to achieve.

Based on the above opinion, it can be concluded from the characteristics of the problem based learning (PBL) model is a series of learning activities that focus on problems as teaching materials that will be solved through scientific methods. However, the problem must be in accordance with the teaching materials that are associated with the real world. The implementation of this learning model requires students to always be active in thinking and creative in solving problems. "Media comes from the Latin medium which literally means 'middle', 'intermediary', or messenger". Media can also be interpreted as "an intermediary or messenger from the sender of the message to the recipient of the message" (Fathurrohman, 2009: 65).

Media in the teaching and learning process tends to be interpreted as graphic, photographic, or electronic tools to capture, process, and rearrange visual or verbal information "(Arsyad, 2007: 3). According to Hamdani (2010: 243) "learning media is media that carries messages or information that has instructional purposes or contains teaching purposes". Gagne in Arsyad (2007: 4) implicitly learning media includes tools that are physically used to convey the contents of teaching materials, consisting of books, tape recorders, cassettes, video cameras, video recorders, films, slides (picture frames), photos, pictures, graphics, television and computers.

Based on the opinions above, it can be concluded that learning media is a tool that is physically used in conveying the contents of the material to carry messages that contain teaching purposes.

In general, visual media is a tool or means of communication that can be seen with the sense of sight (eyes). Visual media is also a technical and creative delivery of messages or information which displays images, graphics and their layout and layout are clear, so that the recipient of the message and ideas can be accepted by the target. According to Fathurrohman (2007: 67) visual media is media that only relies on the sense of sight. This visual media displays still images such as film strips, photo slides, pictures or paintings and prints. Based on the definition above, it can be concluded that visual media can facilitate understanding (for example through elaboration of structure and organization) and strengthen memory. Visuals can also foster student interest and can provide a relationship between the content of the lesson material and the real world. In order to be effective, visuals should be placed in a meaningful context and students must interact with the visuals (images) to ensure the information process occurs.

METHOD

Based on the problems raised in this study, which aims to improve learning outcomes, this type of research is classroom action research. Classroom action research is a systematic procedure carried out by teachers (or other individuals in the implementation of education) to collect information to improve the way education is organized, both in terms of learning carried out by students and in terms of learning presented by educators. This study uses the action research model from Kemmis and McTaggart, which is in the form of a spiral from one cycle to the next. The cycle includes planning, action, observation and reflection

Data collection techniques are the most important step in research. According to Sugiono (2011: 137) that instruments that have been tested for validity and reliability may not necessarily produce valid and reliable data, if the instrument is not used properly in data collection. This study uses several research instruments, namely student activity observation sheets and tests..

Data analysis in this action research is included in the qualitative descriptive technique which is carried out through stages, namely data reduction. Data reduction is a simplification process carried out through selection, focusing, and abstracting data into meaningful information.

RESULTS AND DISCUSSION

Implementation of the Problem Based Learning Model

From the entire series of activities that have been carried out in cycle I, it can be said that the results achieved have not met the target achievement that has been set. Based on the problems obtained, among others: (1) student activity is still in the sufficient category, students' ability to connect material with real life and problem-solving ability is still in the lacking category. While student activity in carrying out tasks and students' willingness to learn are already in the good category. (2) student learning outcomes can be reviewed from the results of the written test which are still low as seen from the percentage of learning completion of the test in

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cycle I, which is 56.7%, which has not met the criteria for completion that has been set, namely 75% of students get a score of ≥ 75 , while the results of writing practice are good even though there are still 11 children who have not completed the writing practice.

Based on these problems, researchers and teachers conducted reflections, including: Providing motivation to students to be more active in the learning process with the aim that students are more ready to receive lessons, dare to present their findings and are not afraid of wrong answers. In addition, teachers motivate and act on students to be active in discussing with their group members in discussions in order to create cooperation in the group, teachers also provide tutorials on how to present reinforced concrete construction with the aim that students understand and are able to solve the problems given.

Based on the implementation of the learning process in cycle I, it can be categorized as good, but there are still some things that are still in the less category. From the observation data and test results, the success indicators in this action research have not been achieved in their entirety so that there needs to be an improvement effort in cycle II.

Based on observations obtained in cycle II, the percentage of student activity was 77.31% which is included in the very good category. The assessment of learning outcomes in cycle II showed the lowest score of 70 and the highest score of 87. The percentage of completion of written test learning outcomes in cycle II was 93.33%, which increased from cycle I with a percentage of learning completion of 56.7% or an increase of 36.63%. It can also be seen that the number of students who did not complete their studies decreased by 36.63% in cycle II, namely 2 students or 6.67%, all of which in cycle I amounted to 13 students or 43.30%.

The assessment of student learning outcomes in cycle II showed the lowest score of 70 and the highest score of 87. The percentage of completion of learning outcomes of the practical test in cycle II was 86.67%, which increased from cycle I with the percentage of completion of learning outcomes of the practical test of 63.33% or an increase of 23.34%. It can be seen that the number of students who did not complete the practical test decreased in cycle II, namely 4 students or 13.33%, which was originally 11 students or 23.34% in cycle I.

The value of cycle II practice obtained data from students who got a score of 60-69 of 0 (0%), a score of 70-79 by 22 students (73.33%), and a score of 80-89 by 8 students (26.67%). From the data of cycle II action, it has met the learning completion criteria that have been set, namely with a minimum class average value of more than 75% of students who got a score of ≥ 75 .

Based on the results of the study in cycle II, all students have achieved the indicators of learning success. This can be seen from the activities and learning outcomes of students who have increased and the criteria for learning completeness. Based on data from observation results and test results, the indicators of success in this study have been achieved so that this study was stopped until cycle II.

Based on the results of the research that have been presented previously, students of class X Culinary 2 at SMK Negeri 6 Surabaya have problems in the competence of writing negotiation texts. This is because the learning method used is still not in accordance with the standards of the learning process which results in low student achievement and activity levels. Therefore, researchers and teachers seek solutions to overcome problems in previous learning with classroom action research (PTK) through the problem based learning model and followed by the help of visual media.

After conducting classroom action research (PTK), student learning outcomes in learning increased from cycle I to cycle II, the increase can be described as follows: (1) the increase in student learning outcomes in written exams from cycle I to cycle II increased by 36.63% from 17 students who passed to 28 students with an average score in cycle I of 74.3 to 80 in cycle II. (2) the increase in students' practical exams from cycle I to cycle II increased by 23.34% from 19 students who passed to 26 students with an average score in cycle 3 of 75.67 to 78.67 in cycle II.

The increase in the average of the exam was due to students easily absorbing the material with the problem based learning model assisted by visual media, because this learning model can stimulate open-mindedness and encourage students to carry out more critical and active learning and can provide challenges to students so that they can gain satisfaction by finding new knowledge for themselves.

Empirical Evidence from Previous Research

Several previous studies provide empirical evidence supporting the positive impact of implementing problem-based learning methods on student learning outcomes. The main findings of relevant studies are presented in the following table:

No	Researcher	Findings
1	Izza Sya'adah Sitorus and Irsan Irsan (2024)	The PBL model assisted by animated videos significantly improves the learning outcomes of fifth grade elementary school students.
2	Sinung F. et all (2024)	PBL assisted by audio-visual media effectively improves students' understanding of science concepts.
3	Atika Asfiyana and Joko Siswanto (2024)	The application of PBL with audio-visual media is effective in improving the cognitive learning outcomes of fourth grade elementary school students.

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4	Ulfah Febriani et all (2022)	The use of animated videos in PBL has been shown to increase the interest and learning outcomes of fourth grade elementary school students.
5	Putri V. Kurniawati et all (2023)	PBL with audio-visual media helps to significantly improve the social studies learning outcomes of fifth grade elementary school students.
6	Fahmi Hidayat and Irsan Irsan (2023)	The PBL model assisted by audio-visuals improves the mathematics learning outcomes of fifth grade elementary school students.
7	Heni Purwaningsih (2024)	The application of PBL with audio-visuals improves students' motivation and learning outcomes in science project learning.
8	Ayu A. A. Putri et all (2018)	The use of image media in PBL can improve the science learning outcomes of third grade elementary school students.
9	Fia Nursanti at all (2023)	The implementation of PBL assisted by animated videos significantly improves the mathematics learning outcomes of class VIII students of SMP Negeri 6 Samarinda.
10	Ismaya Rusdin and I Komang Werdhiana (2023)	The PBL model with audio-visual media is effective in improving the understanding of the concept of heat material of class XI students of SMA Negeri 1 Sojol.
11	Annisa Azzahra Hasibuan and Irsan Irsan (2023)	The implementation of PBL assisted by flash card media has a significant effect on the learning outcomes of class IV students of SDN 018453 Siumbut-Umbut.
12	Nanda Galuh Rania et all (2023)	The implementation of PBL with visual media improves the learning outcomes of social studies about human interaction with the environment in class V students of SDN 2 Kalibening.

Empirical Findings Analysis

From 12 studies on the Visual Media-based Problem Based Learning (PBL) Model, it has been proven to consistently improve student learning outcomes at various levels of education, from grade III of elementary school to junior high school. From the results of various studies reviewed, this approach is able to improve students' understanding of the subject matter, both in cognitive, affective, and psychomotor aspects. This is due to the characteristics of PBL which emphasizes solving real problems, which are combined with visual media such as animated videos, images, and audio visuals, so that information becomes easier to understand and interesting for students.

The use of visual media in learning has been proven to strengthen students' absorption of the material, especially abstract material such as in science, social studies, and mathematics subjects. In addition, this approach increases students' learning motivation and active participation. Students become more enthusiastic and involved in the learning process because PBL activities require group work, discussion, and independent exploration that are in accordance with children's visual and collaborative learning styles.

Overall, the patterns that emerge from these studies indicate that visual media-based PBL is an effective, adaptive, and enjoyable method. This approach not only strengthens academic outcomes, but also equips students with critical and creative thinking skills that are essential to face the challenges of 21st century learning. Therefore, the implementation of PBL with the support of visual media is highly recommended in an effort to improve the quality of the process and learning outcomes of students in elementary and secondary schools.

CONCLUSION

The results of the study showed a significant increase in student learning outcomes, both cognitively (written tests), psychomotor (practical tests), and affectively (student activities), after the implementation of the Problem Based Learning (PBL) learning model based on visual media. In cycle I, the results of the students' written tests were at 56.70%, and increased drastically to 93.33% in cycle II—showing a spike of 36.63%. Likewise, in the practical aspect, the increase from 63.33% to 86.67% or 23.34% showed a real impact of this learning model in developing students' skills more comprehensively. When associated with the theory of constructivism learning, especially according to Jean Piaget and Lev Vygotsky, the PBL model is very appropriate because it encourages students to build their own knowledge through direct experience and social interaction. The application of visual media in PBL helps students visualize problems and solutions more concretely, so that the thinking process becomes more structured. This is in line with Allan Paivio's dual coding theory which states that information presented visually and verbally will be easier for the brain to process and remember. Significant improvements in written and practical test results indicate that this approach is effective in stimulating students' long-term working memory.

Furthermore, the increase in student activity from the category of “sufficient” (67.59%) to “good” (77.31%) shows that visual media-based PBL has also succeeded in increasing student engagement and participation in the learning process. This supports the theory

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of learning motivation according to John Keller (ARCS model) which emphasizes the importance of attention and relevance in increasing learning motivation. Visual media plays a major role in attracting students' attention, while the problem-based approach provides them with meaningful and contextual learning experiences. Thus, this study confirms that the implementation of visual media-based PBL is a learning strategy that not only improves academic achievement, but also student engagement and motivation to learn actively and sustainably.

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