



The Influence of Chemopoly Learning Media on Learning Motivation of Class XII Students on Elemental Chemistry Material

Lusi Miftahul Zanah¹, Tina Endah Sumiati^{2*}, Isriyanti Affifah¹, Edy Santuso^{1,2}, Adline Charfian Kusumawati^{1,2}, Ajeng Hartanti^{1,2}

¹Universitas Sultan Ageng Tirtayasa, 42117, Indonesia

²Sekolah Menengah Atas 8 Kota Serang, 42183, Indonesia

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*Corresponding author:

tinaendahs@gmail.com

Abstract

This study aims to determine the effect of Chemopoly teaching materials on the learning motivation of XII Science class students at SMA Negeri 8 Serang City, specifically on elemental chemistry material. Students often feel bored and dissatisfied with conventional teaching methods and assignments, especially when chemistry is scheduled in the last lesson hours of the day. The introduction of Chemopoly learning media has shown to increase students' motivation towards chemistry subjects. Furthermore, Chemopoly materials also enhance students' understanding of the concepts presented. This research uses a qualitative method with a descriptive qualitative approach. The study was conducted with students of class XII IPA 2, totaling 37 students. Data collection was done through documentation, questionnaires, and observations. Results indicate that Chemopoly learning materials significantly boost students' learning motivation. Students find chemistry learning more engaging and less monotonous, expressing a desire for Chemopoly to be applied to other subjects as well.

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1. INTRODUCTION

Learning media can be utilized in place of traditional textbook materials to aid student understanding. Engaging media can significantly increase motivation by getting students more involved in the classroom. Traditionally, textbooks have been the primary educational resource used by teachers. The lecture style, focusing heavily on the teacher's presentation, often leads to a passive and monotonous learning process, contributing to low student motivation (Kurniawati, 2021).

SMA Negeri 8 Kota Serang is one of the schools located in Kota Serang, Banten Province. Observations during the learning process reveal that the use of learning media by teachers is still rarely carried out. This shows that teachers more often rely on traditional methods such

as lectures and questions and answers without optimal use of technology or visual aids. The lack of use of learning media can be caused by several factors, such as limited facilities, lack of technology training for teachers, or lack of awareness of the importance of interactive media in increasing student understanding (Noviani et al., 2021).

Most elemental chemistry materials require extensive memorization. Teachers often assign these topics for students to study independently at home, if students can understand the material without detailed explanations in class. Additionally, chemistry subjects are scheduled in the last two hours of the school day, leading to low enthusiasm and engagement among students (Mahesti & Koeswanti, 2021).

Given these challenges, it is necessary to improve learning methods to make students more active and to present chemistry material in a more engaging manner. In facing learning challenges where the use of media is still rare, one solution that can be implemented is the use of Chemapolly learning media for chemistry subjects. Chemapolly is a learning media designed to make chemistry learning more interesting, interactive and easy for students to understand.

2. METHOD

This study employed a qualitative methodology to investigate the impact of Chemopoly learning materials on the motivation of XII Science class students at SMA Negeri 8 Kota Serang. According to Denzin and Lincoln, qualitative research is a type of contextual research that uses various techniques such as observation, questionnaires, and recording to understand phenomena as they are (Wahyuningrum, 2021).

This descriptive research method aims to provide a detailed account of how Chemopoly influences student engagement and comprehension in chemistry.

Study Duration and Location

The study was conducted over a two-month period, from October to November 2023, at SMA Negeri 8 Kota Serang, located in Banten Province, Indonesia. The participants were 37 students from class XII IPA 2, who were observed using Chemopoly learning media during their chemistry lessons.

Data Collection Techniques

Three primary data collection techniques were employed in this study: observation, questionnaires, and documentation

1. Observation

Observation is a data collection method in which researchers directly observe behavior, activities or situations in the field. In the context of this study, observation is used to see and record how the learning process takes place, how the teacher interacts with students, and how students respond to the teaching methods used.

2. Questionnaires

A questionnaire is a data collection tool in the form of a series of written questions given to respondents to answer. In this study, questionnaires were used to collect direct information from teachers and students regarding their perceptions of teaching

methods, the learning media used, and the challenges they faced.

3. Documentation

Documentation is a data collection technique that involves collecting and analyzing data from existing written documents, photos or recordings. In this study, documentation can be in the form of academic notes, syllabi, learning materials, reports, or other administrative data relevant to the learning process at school.

Data Analysis Techniques

This research uses Mixed Methods data analysis which combines quantitative and qualitative approaches to gain a deeper and more comprehensive understanding of teachers' use of learning media.

1. Quantitative Analysis:

Researchers used questionnaires given to teachers and students to collect numerical data regarding perceptions and frequency of use of learning media. The results of this questionnaire are then analyzed using descriptive statistics to see general patterns, such as the percentage of teachers who rarely use learning media, or student responses regarding the effectiveness of the media used. This quantitative data provides a comprehensive picture of the situation in the field in the form of numbers and statistics.

2. Qualitative Analysis:

Through observation and documentation, researchers collected descriptive data to further explore interactions in the classroom, teaching methods, and obstacles faced in using learning media. Direct observations in the classroom provide qualitative data regarding how teachers deliver material and how students respond to the learning provided. Documentation, such as teaching notes, learning materials, and school reports, is used to complement observations and provide deeper context.

3. Data Integration:

Data from questionnaires (quantitative) is analyzed to identify general patterns, while data from observation and documentation (qualitative) is used to explain and provide context to the quantitative results. For example, if a questionnaire shows that most teachers

rarely use learning media, observations can help explain the reasons behind this, such as limited facilities or lack of training.

Thus, Mixed Methods analysis allows researchers to combine the power of quantitative statistics that provide broad data and in-depth qualitative data to explain why certain phenomena occur. The results of these two methods complement each other, thus providing a more comprehensive understanding of the problems studied.

3. RESULT AND DISCUSSION Media Learning Chemopoly

The National Education Agency (NEA) defines media as printed or audio-visual communication methods. Learning media is a form of communication used to deliver material in learning activities, both physical and non-physical media (Rusandi & Muhammad Rusli, 2021).

Nasution argues that there are several benefits of using educational media in the learning process, such as: 1) able to arouse students' enthusiasm for learning by providing more interesting learning. 2) Increase students' awareness of learning objectives. 3) it makes students less bored because learning methods become more varied. 4) the more active students are when learning, the more they understand the important information that the teacher conveys (Nurrita, 2018).

Monopoly is a board game, where the game system is competing to collect treasures by entering a plot of questions that must be answered by the player. Monopoly learning media is very suitable to be applied to learner-centered learning, because it can foster student interest in learning (Gumilang, 2019).

Monopoly learning media can also increase student learning motivation. With high learning motivation, students will be more active in learning so that the opportunity to improve. Chemopoly Learning Media is adopted from the monopoly game. Chemopoly is used because it is related to chemistry material (Yuliyanti et al., 2024).

Chemopoly learning media is a medium that can change the atmosphere of learning to be more fun. Because students will feel that they are playing ordinary games, even though they do not realize they are learning (Azizah et al., 2023).

Chemopoly learning media is able to develop students' motor skills and foster the value of honesty, build a competitive spirit, cooperation, hard work, discipline, mutual trust and tolerance (Sakti et al., 2024).

Some research results relevant to Monopoly learning media reveal that Monopoly games can significantly increase student learning motivation, so that the use of learning media makes students better understand the material taught (Rahayu, 2016).

Monopoly learning media is an alternative media that can make the learning process more fun. In addition, Chemopoly learning media also managed to provide better learning achievement (Priatama, 2015).

Application of Chemopoly Learning Media in Improving Students' Learning Motivation

Monotonous learning in Chemistry subjects makes students easily bored and bored, so that student learning motivation decreases. In addition, the use of conventional learning methods causes students' conceptual understanding of the learning material is reduced.

Even though the 2013 Curriculum has been implemented, in reality there are still many teachers who still use conventional learning methods. Conventional teaching methods such as lectures, question and answer sessions, group discussions, and giving homework are still applied at SMA Negeri 8 Serang City. While these methods have some effectiveness, especially in increasing direct student engagement, they often lack support for critical thinking skills or deeper learning. In the face of changing times and technological developments, combining these traditional methods with the use of media and a more interactive approach may provide better and more relevant learning outcomes for students.

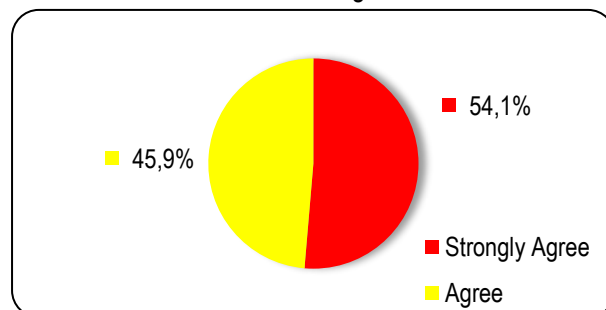


Figure 1. Percentage of students' answers to the first statement.

In connection with the above, educational activities must be improved to help students fully understand the subject matter and make learning more enjoyable. In this study, a questionnaire was filled out by 37 students of class XII IPA 2 SMA Negeri 8 Serang City who became the object of research, when asked whether Chemopoly learning media made them more interested in taking chemistry lessons? In general, 54.1% of students answered strongly agree and 45.9% answered agree with the statement.

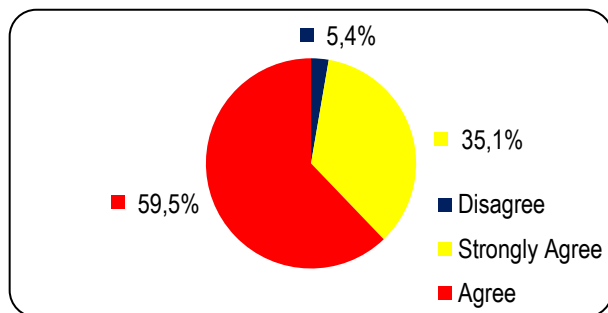


Figure 2. Percentage of students' responses to the second statement.

From the diagram above, it can be seen that the percentage of students who answered "strongly agree" and "agree" was greater than the percentage of students who answered "disagree" to the statement. so it can be concluded that the application of Chemopoly learning media makes the learning atmosphere more fun and not monotonous.

The use of Chemopoly learning media is also able to encourage students to be more active in learning and understanding the material. This statement received a positive response from students as evidenced by the questionnaire results which showed that 59.5% of students answered "agree" and 35.1% of students answered "strongly agree". While 5.4% of students answered "disagree" with the statement.

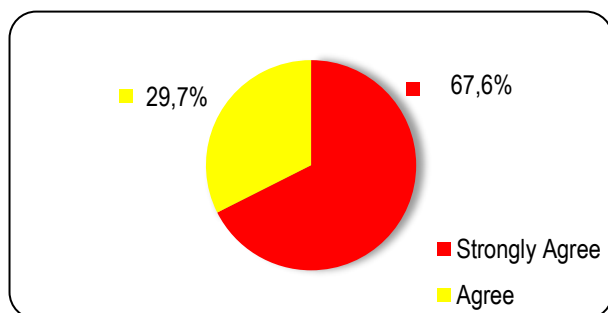


Figure 3. Percentage of students' answers to the third statement.

Based on the diagram above, it can be concluded that Chemopoly learning media makes students more interested in learning chemistry. The use of Chemopoly learning media is also able to change the atmosphere of learning chemistry to be more fun. The questionnaire results show that 67.6% of students answered "strongly agree" and 29.7% answered "agree" with the statement.

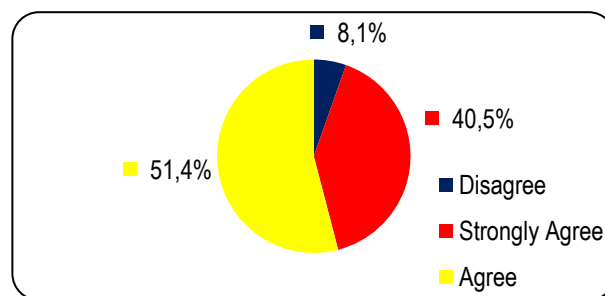


Figure 4. Percentage of students' responses to the fourth statement.

From the diagram above, it can be seen that Chemopoly learning media makes students understand the material better and work harder to answer questions, because Chemopoly learning media uses a timer and score. In understanding Chemistry subjects, students do need more explanation of the material being taught. So that learning support media is needed so that students are more comfortable in understanding chemistry subjects and helping teachers in delivering creative learning. Chemopoly learning media helps students to better understand the material in a more fun way. This statement was responded positively by the students and was proven by the questionnaire results, where 40.5% of students answered "strongly agree" and 51.4% answered "agree". while 8.1% responded "disagree" with the statement.

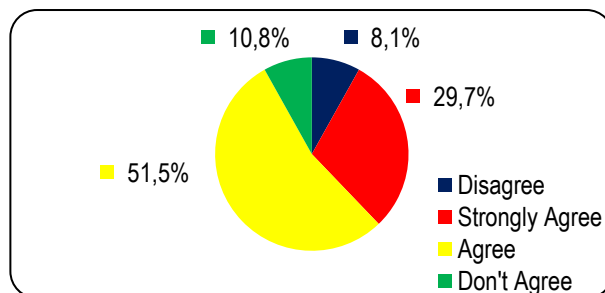


Figure 5. Percentage of students' answers to the fifth statement.

Although 10.8% of 37 students answered disagree with the statement, the questionnaire results show that the percentage of students who answered "strongly agree" and "agree" was greater than the percentage of students who answered "disagree". So it can be concluded that with the Chemopoly learning media students find it easier to understand the material and build student motivation to study harder.

In learning chemistry, Chemopoly learning media is very influential on students' enthusiasm in learning chemistry. This statement was also responded positively by students. This is evidenced by the questionnaire results, where 51.4% of students answered "agree", 29.7% of students answered "strongly agree", 10.8% of students answered "don't agree" and 8.1% of students answered "disagree" with the statement.

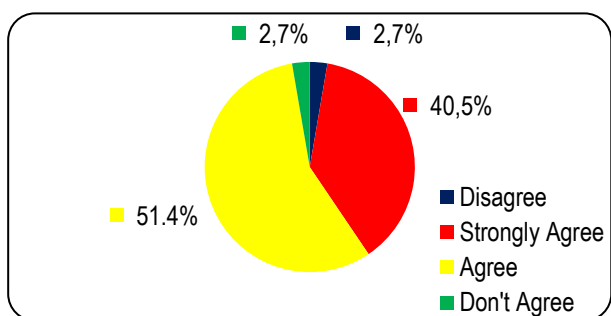


Figure 6. Percentage of students' answers to the sixth statement.

From the diagram above, it can be seen that the share of students who answered "agree" and "strongly agree" was greater than the percentage of students who answered "don't agree" and "disagree" with the statement, so it can be concluded that the Chemopoly learning media is very influential on students' enthusiasm in learning chemistry material, because students will feel bored more quickly when Chemopoly learning media is not used in learning.

The use of Chemopoly learning media can have a big influence in receiving chemistry lessons. The statement received a positive response from students. This can be proven from the acquisition of the questionnaire percentage, where 51.4% of students answered "agree", 40.5% answered "strongly agree", and 8.1% "disagree" with the statement.

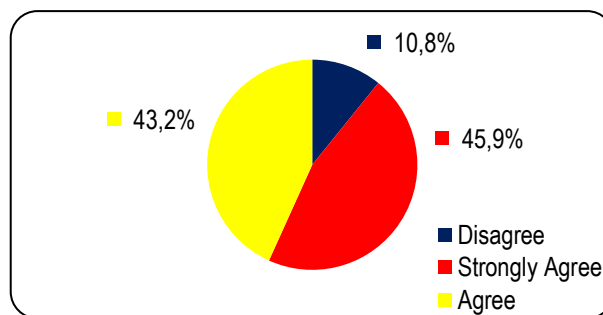


Figure 7. Percentage of students' answers to the seventh statement.

The diagram proves that Chemopoly learning media has a big influence on the way students receive elemental chemistry material. This is because Chemopoly learning media is designed to make it easier for students to receive and understand chemical materials in a fun way.

With the Chemopoly learning media, students feel more excited than not using learning media. The statement also received a positive response from students, this can be proven from the questionnaire results, where 43,2% of students answered "agree", 45,9% of students answered "strongly agree" and 10,8% of students answered "disagree" with the statement.

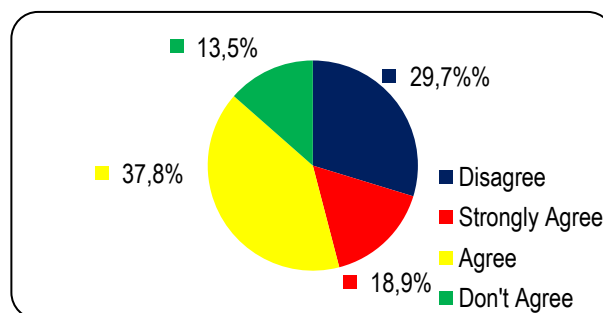


Figure 8. Percentage of students' answers to the eighth statement.

Based on the diagram above, it can be seen that students who answered "disagree" were smaller than the percentage of students who answered "strongly agree" and "agree". So it can be concluded that the use of Chemopoly learning media can increase students' enthusiasm for chemistry learning.

Chemopoly learning media is indeed one of the variations made by teachers for students. The creation of this learning media aims to help the implementation of learning in the classroom more colorful and can increase the motivation of students to learn. But it cannot be denied, the fact is that some students still feel that using

Chemopoly learning media or not, the chemistry material they capture is the same.

This can be seen from the percentage of questionnaires obtained, namely 37.8% of students answered "agree", 29.7% of students "disagree", 18.9% of students strongly agree, and 13.5% of students "don't agree". So it can be concluded that this Chemopoly learning media can indeed be used as a learning tool. Chemopoly media is not suitable for teachers who are just entering the material or explaining the material. Because this Chemopoly learning media is usually used to repeat material by asking questions to students.

Chemistry learning is often considered stressful by students. Therefore, learning media is needed that makes students more relaxed and calm in learning. After using Chemopoly learning media, students were given a statement "I still feel tense following chemistry learning after using Chemipoly learning media". This statement received rejection from student.

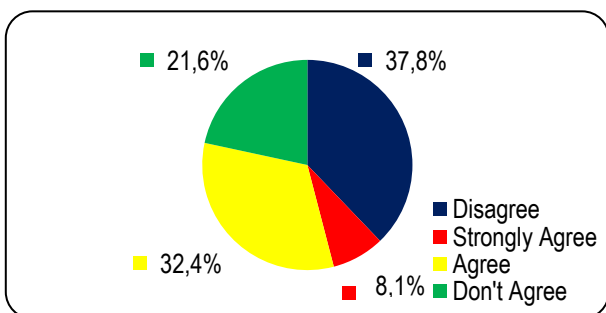


Figure 9. Percentage of student responses to the ninth statement.

From the elevation diagram above, it can be seen that 37.8% of students answered "Disagree", 32.4% of students responded "agree", 21.6% of students replied "don't agree" and 8.1% of students said "Strongly agree". So it can be concluded that most of the students of the 12th grade of IPA 2 do not feel stressed when learning chemistry using the learning media Chemopoly. However, it cannot be denied that there are some students who are still feeling scared and stressed with the learning of chemistry.

The use of learning media must be adapted to the character and character of the student, because not all students can easily accept the learning media used by the teacher. In addition, the use of the learning medium must also pay attention to the time and situation of learning, so that the benefits of learning medium can be felt optimally. However, in this study most students want

teachers to always use learning media when teaching. Learning media can actually boost student learning motivation, because classroom learning media is more colorful and not boring.

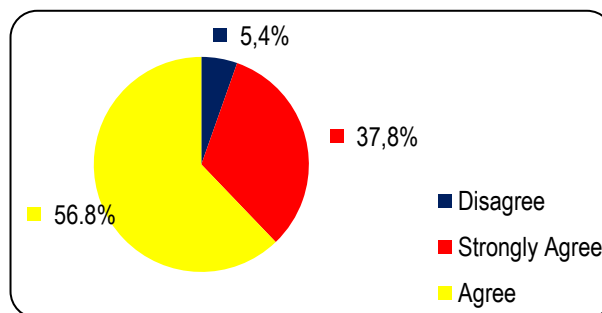


Figure 10. Percentage of student responses to the tenth statement.

From the above elevation diagram, that teachers always use learning media when teaching. Thus, it can be concluded that students become enthusiastic about learning when teachers use learning media on each learning (Hafinah et al., 2019).

The benefits of learning chemopoly media in learning chemistry can be supervised by XII grade students of IPA 2 SMAN 8 City of Serang. This can be demonstrated by the results obtained: 56.8% of students answered "agreed", and 37.8% responded "very agreed".

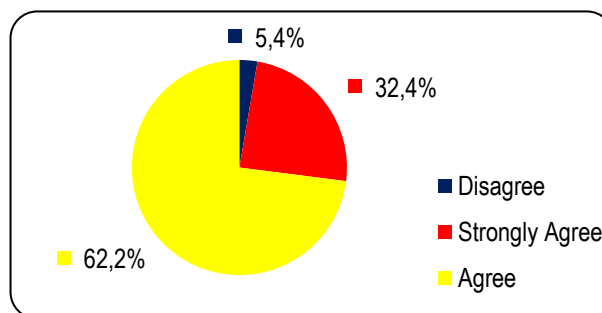


Figure 11. Percentage of student responses to eleventh statement.

Based on the above discussion, it can be concluded that the use of Chemopoly media positively impacts students' learning motivation. The learning media not only engages students but also encourages them to ask questions and express their ideas related to the material taught by the teacher. This is evidenced by the survey results, where 62.2% of students answered "agree" and 32.4% of students replied "strongly agree" regarding the benefits of Chemopoly in enhancing their learning experience (Hastanti, 2020).

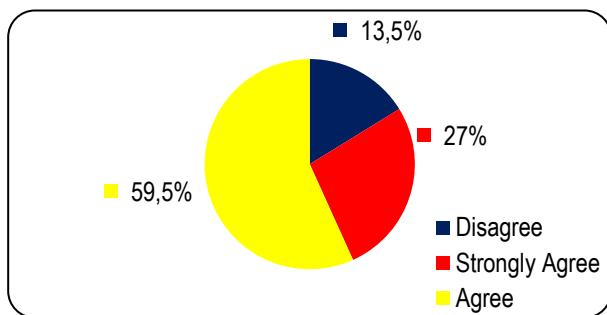


Figure 12. Percentage of student responses to the twelfth statement.

The findings from this study are supported by several related pieces of research that highlight the effectiveness of game-based learning and interactive media in educational settings. Their research in *Educational Technology Research and Development* demonstrated that game-based learning helps students understand difficult concepts in a fun and non-stressful way. This supports our observation that Chemopoly reduces the monotony of traditional lectures and enhances understanding (Sung & Hwang, 2013).

The survey results, alongside supporting evidence from other studies, clearly indicate that Chemopoly learning media can significantly enhance student motivation and engagement in chemistry subjects. This innovative approach not only makes learning more enjoyable but also fosters a more interactive and participative classroom environment. This suggests that adopting similar game-based learning media in other subjects could further improve overall student (Widyasari & Listyaningsih, 2023).

Kurniawan's study highlighted that monopoly learning media can effectively increase students' motivation and serve as an alternative to traditional learning methods. This is in line with the positive responses received from students in our study (Kurniawan, 2020).

Furthermore, research by (Yuliyanti et al., 2024) showed that monopolistic learning media significantly impacts student motivation, with notable differences in motivation between control and experimental groups.

Another study by (Anggraini & Kristin, 2022) indicated that monopoly learning media could improve student learning motivation, as demonstrated by an increase in motivation analysis results from 42.3% to 87.97%. Thus, it can be concluded that Chemopoly

learning media can indeed enhance student learning motivation.

The findings from this study are supported by several related pieces of research that highlight the effectiveness of game-based learning and interactive media in educational settings: In their study published in *Educational Technology & Society*, Huang et al. found that game-based learning significantly increases students' active participation and motivation. This aligns with our finding that Chemopoly makes learning more engaging and encourages student participation (Melida & Affifah, 2022).

4. CONCLUSION

Chemopoly makes chemistry lessons more interesting and enjoyable, improving students' motor skills and promoting various positive values. Its application at SMA Negeri 8 Serang City significantly boosts student motivation and enthusiasm for chemistry. The results suggest that Chemopoly learning media effectively enhances student engagement and understanding, making it a valuable tool in educational settings.

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