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Improving Student Creativity Through the Use of Smart Card-Based Learning Media

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Abstract

This study was motivated by the low level of creativity in the learning process among eighth-grade students at SMP Negeri 9 Sampit. The teaching methods used remain one-sided and rely heavily on textbooks, leaving little room for students to explore and develop their own ideas. The objective of this study is to enhance student creativity through the use of smart card learning media that integrates digital links, contextual case studies, and summaries of course material. A Classroom Action Research (CAR) design, employing a descriptive quantitative approach based on the Kemmis and McTaggart cycle model, was utilized. The study was conducted in two cycles, with three sessions in each cycle. All 27 eighth-grade students participated as research subjects. Based on Munandar's four affective indicators of creativity—curiosity, imagination, willingness to take risks, and respect for others' opinions—observation sheets and creativity questionnaires were used to collect data. The research results show that the average creativity score increased gradually, from 2.2 in the pre-cycle to 2.8 in Cycle I and 3.3 in Cycle II, exceeding the minimum success criterion of 3.0. The "willingness to take risks" indicator received the highest score of 1.5 points, and the "curiosity" indicator received the highest score of 3.7 at the end of Cycle II. This success was found to be influenced by reflective improvements made in each cycle, which included enhancements to the game mechanics, group role assignments, and targeted motivation. This study found that smart cards effectively enhance student creativity. The results indicate that smart cards can serve as an inventive alternative for teaching social studies and other subjects.

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1. INTRODUCTION

Creativity is a fundamental competency that needs to be developed in 21st-century education. Thornhill-Miller (2023) emphasized that creativity is one of four core skills that fundamentally determine an individual's readiness to face the ever-evolving demands of the workplace and life. In an educational context, creativity plays a crucial role in helping students critically analyze problems, design solutions relevant to real-world conditions, and foster an entrepreneurial spirit. Fan & Cai (2022) explained that creativity encompasses the ability to think fluently, be flexible, develop ideas, be original, and demonstrate curiosity and a desire to learn across diverse areas. A well-designed learning process is a way to foster all of these qualities. Kupers, Lehman-Wermser, McPherson, & van Geert (2019) argue that student creativity does not develop solely within themselves; rather, it emerges from the

interaction between the individual, the environment, and culture, as well as from the learning activities that occur throughout the educational process.

However, the learning conditions encountered in the field show a picture far from these expectations. The results of previous research not only support this phenomenon, but also the author's direct experience during learning activities in class VIII SMP Negeri 9 Sampit. In practice, the learning process tends to be monotonous and does not provide enough space for students to develop their creativity. Students play a more passive role as recipients of information, with a high dependence on textbooks as the sole learning resource. This condition results in low active student participation, minimal exploration of ideas, and a lack of ability to connect material to real-world problems. This is in line with the findings (Henriksen, Mishra, & Fisser, 2016), which state that a creative, technology-based learning environment can enhance student creativity. Quantitatively, the results of initial observations indicate that only around 42.5% of class VIII students were able to demonstrate adequate indicators of creativity during the learning process.

Based on these problems, the author feels the need to make improvements by presenting innovations in learning media. One alternative developed is the use of smart cards, namely card-shaped media that not only contain material summaries but are also equipped with contextual case studies and digital link access that students can use to deepen their understanding independently. (Nurrita, 2018) emphasizes that interesting and interactive learning resources have the ability to increase student engagement. The use of smart cards is also in line with the development of the digital era, where technology should not only be a means of entertainment, but can be optimized as a productive learning medium. Through the integration of physical media in the form of cards and digital access through links listed on them, students are encouraged to utilize devices such as smartphones in a more educational and targeted manner. (Rohani, 2021) states that game-based media that considers the social dimension and interaction between students has proven effective in building a collaborative learning atmosphere, increasing self-confidence, and encouraging active engagement that is much higher than conventional learning media. Thus, the author hopes that this smart card approach can create a more interesting and interactive learning atmosphere, and no longer be limited to conventional textbook-based methods alone.

Empirically, the initial implementation of this media has shown differences in student responses compared to previous learning. Initially, some students experienced confusion and surprise with the learning model used, as they were not yet accustomed to an approach that demands active participation and independent exploration. However, this condition actually indicated an early shift in learning patterns from passive to more participatory, a change also noted by Chen, Liu, & Huang (2021) as a normal adaptation stage before student creativity begins to develop consistently. (Qian & Clark, 2016) also showed that game-based media can gradually increase student creativity and engagement, two factors that are key prerequisites for creativity growth in the learning process. Therefore, this study was conducted to more systematically examine how the use of smart cards can enhance the creativity of eighth-grade students in economics learning at SMP Negeri 9 Sampit.

2. METHOD

This research was conducted using the Classroom Action Research (CAR) method combined with a descriptive quantitative approach. This approach was chosen because it was considered most appropriate for systematically processing numerical data while simultaneously being able to describe changes in students' creativity levels measurably and objectively at each stage of the learning cycle. (Sanjaya, 2016) defines CAR as a type of reflective research in which teachers conduct research in their own classrooms with the aim

of identifying learning problems, creating improvement plans, implementing them, and consistently evaluating the results using direct data from the classroom. The research implementation procedure refers to the cycle model developed by Kemmis and McTaggart in (Mertler, 2020), which divides each cycle into four interconnected and repetitive stages: planning, implementation, observation, and reflection. These four stages do not occur sequentially, but rather resemble a cycle that continually rotates and changes. The results of the reflection stage serve as a reference for developing a better action plan for the next meeting. This makes the process dynamic and continuously evolving. This research was conducted in two cycles, with each cycle consisting of three structured learning meetings.

The study was conducted in the eighth grade of SMP Negeri 9 Sampit, located in East Kotawaringin Regency, Central Kalimantan Province. All 27 eighth-grade students were the subjects of the study. In each research session, two researchers collaborated. The first researcher acted as the learning implementer, managing the use of smart cards directly in the classroom, while the second researcher acted as an observer, observing, recording data, and assessing the development of students' creativity during the learning process. This division of roles was carried out to maintain data integrity and ensure that observations were conducted in a focused manner without disrupting the learning process. The selection of eighth-grade students as research subjects was based on the fact that students are in the formal operational stage of development, where their abstract and analytical thinking skills begin to develop, and they are better prepared to participate in activities that require more complex creative thinking (Santrock, 2019).

Data collection was conducted through two complementary main instruments, namely observation sheets and creativity questionnaires. Both instruments were compiled based on the creativity theory proposed by Munandar (2016), which identifies creativity through four affective indicators that can be observed and measured directly in the context of classroom learning, namely: (1) curiosity, (2) imagination, (3) courage to take risks, and (4) respect for the opinions of others. Munandar emphasized that these four indicators are operational and contextual affective dimensions of creativity, so they are appropriate to be used as a reference for developing instruments in classroom-based research.

The observation sheet is designed to directly record student behavior and activities during the learning process, including their level of active participation, initiative in responding to questions, and courage in expressing new and original ideas. Assessments on the observation sheet use a 1 to 4 scale with the following criteria.

Score	Category	Description
4	Very good	Creative behavior is very clear and consistent
3	Good	Behavior appears creative and fairly consistent
2	Enough	Behavior appears creative but not yet consistent
1	Not enough	The perpetrator has not yet appeared creative or is very rarely seen

Table 1. Observation Sheet Assessment

The description of the assessment criteria for each creativity indicator on the observation sheet is presented in the following table.

Creativity Indicators	Score 1	Score 2	Score 3	Score 4
Curiosity	Don't want to know	Rarely ask	Quite active in asking questions	Very active in asking questions

Imaginative	No creative ideas	Lack of ideas	Enough idea	Very creative idea
Dare to Take Risks	Don't dare to try	Still in doubt	Brave enough to try	Very brave to try
Respecting the Opinions of Others	Do not appreciate	Lack of appreciation	Just appreciate	Very much appreciated

Table 2. Creativity Indicator Assessment Criteria

Data collected from the observation sheets and questionnaires were analyzed using simple descriptive statistical techniques. The analysis was conducted in two main stages. First, the average score for each creativity indicator in each cycle was calculated using the following formula:

$\bar{X} = \Sigma x / n$

Information:

$\bar{X}$ = average score of creativity indicators

Σx = total scores of all students on one indicator

n = number of students

Second, the average score obtained is then categorized according to the level of creativity based on the following assessment criteria:

Score Range	Creativity Category
3,5-4,0	Very creative
3,0-3,4	Creative
2,0-2,9	Quite creative
1,0-1,9	Lack of creativity

Table 3. Categories of Student Creativity Levels

The research was declared successful if the average overall student creativity score reached the good category with a minimum score of 3.0 at the end of cycle II. To strengthen the validity of the findings, observational and questionnaire data were combined through data triangulation, namely by comparing and juxtaposing the two data sources to produce a more comprehensive and objective picture according to actual conditions in the field (Sugiyono, 2019).

3. RESULTS AND DISCUSSION

Through the process of observation and data collection, the research results were obtained during the implementation of Classroom Action Research (CAR) at SMP Negeri 9 Sampit for grade VIII. This study involved 27 students as research subjects. Data were collected using two tools, namely an observation sheet and a creativity questionnaire, which focused on four indicators of affective creativity: curiosity, imagination, courage to take risks, and respect for the opinions of others. This research was conducted in three stages: pre-cycle, cycle I, and cycle II. The pre-cycle stage took place before the implementation of the smart card learning media, so the data obtained reflected the initial state of student creativity. In cycle I, the smart card media began to be used in the learning process to observe the changes that occurred. Furthermore, in cycle II, improvements and refinements were made based on the results of reflections from cycle I to more optimally enhance student creativity. The recapitulation of research data obtained in the three stages can be seen in its entirety in the table presented below.

No	Creativity Indicators	Pre-cycle	Cycle 1	Cycle 2

1	Curiosity	2,5	3,4	3,7
2	Imaginative	2,0	2,3	3,1
3	Dare to Take Risks	1,5	2,1	3,0
4	Respecting the Opinions of Others	2,8	3,3	3,5
Rate-rate		2,2	2,8	3,3

Table I. Summary of Improvement in Student Creativity

Referring to the data presented in the table, there is a tendency for a gradual increase in the average student creativity score at each phase of the study. In the pre-cycle stage, the average score was at 2.2, then rose to 2.8 in cycle I, and continued to grow to 3.3 in cycle II. This pattern of successive increases in each cycle illustrates that the use of smart cards in the learning process contributes to the measurable development of student creativity. Further explanation of the results at each stage is outlined in the following subsections:

3.1 Pre-cycle Results

Before students gained access to the smart card learning media, observations were conducted during the pre-cycle phase. The results of the observations and questionnaires indicated that the overall level of student creativity was still in the "moderate" category, with an average score of 2.2, indicating that the previous learning process had not optimally encouraged the development of students' creative thinking skills. Of the four indicators observed, the "dare to take risks" indicator recorded the lowest score, at 1.5, which is included in the "poor" category. During the observations, students appeared reluctant to provide responses without certainty of the correct answer. This condition indicates that students are still influenced by the fear of making mistakes, thus inhibiting their creative expression. The "imaginative" indicator obtained a score of 2.0, indicating that students' ability to generate unique and diverse ideas is still very limited. There was a tendency for answers given during the learning session to be consistent and follow a predetermined pattern.

The curiosity indicator scored 2.5, indicating that students had not yet demonstrated the initiative to explore the material independently. The questions that arose were still confirmatory and only emerged when directed by the educator. The indicator of respecting others' opinions scored the highest at this stage, namely 2.8, indicating that students' basic ability to listen to educators' explanations had been formed, although the ability to respond constructively to fellow students' ideas still needed further development. These pre-cycle results became the starting point for implementing actions in cycle I. The low scores on most indicators, especially on the aspects of courage and imagination, indicated the need for learning media that could create a more active, enjoyable learning atmosphere and encourage direct student involvement. Based on this, the smart card learning media were designed and implemented as an intervention in the next cycle.

3.2 Results of Cycle I

In cycle I, the learning process was carried out in three meetings using smart card learning media directly in the classroom. This media implementation was carried out as an effort to increase student creativity through more interactive, active learning activities and involving group collaboration. At the initial meeting of cycle, I, the smart card media was first introduced to students, so most students still appeared confused and did not fully understand the mechanism of its use. Students appeared to be still adjusting to a learning pattern that was different from previous lessons that

focused more on reading books and listening to teacher explanations. This condition caused some students to appear hesitant when participating in learning activities. However, amidst this confusion, students began to feel curious and enthusiastic about the learning media used. Students showed interest in learning how to use the smart card and how the game was played in the learning process.

Based on the results of observations and questionnaires obtained, the average student creativity score increased from 2.2 in the pre-cycle stage to 2.8 in cycle I. This increase indicates that the use of smart cards has begun to increase student engagement in learning, although several indicators are still in the "sufficient" category and require improvement in the next cycle. The curiosity indicator experienced the largest increase in Cycle I, rising from 2.5 to 3.4. While in the pre-cycle stage, students tended to be passive and only asked questions after being directed by the educator, in cycle I, students began to show the initiative to ask spontaneous questions related to the material and the mechanism of the smart card game. Students' curiosity about the newly used media encouraged them to be more active in finding out and understanding the ongoing learning process. Students' more frequent questions during the learning process demonstrated this change. This situation indicates that the learning media used can create a more interesting learning atmosphere and encourage students to actively learn the subject matter. This is in line with the idea that learning media can increase students' attention and desire to learn (Hamalik, 2017).

The indicator for respecting others' opinions also increased from 2.8 to 3.3. This increase was influenced by group discussion activities that were part of the use of smart cards. In these activities, students began to become accustomed to listening to each other's opinions, providing feedback, and considering the ideas of other group members before making joint decisions. Interactions between students appeared more active than in the pre-cycle stage, resulting in a more collaborative learning atmosphere. Meanwhile, the imaginative indicator increased from 2.0 to 2.3. Although the increase was not significant, changes in student behavior began to be seen during the learning process. Some students began to dare to arrange cards with various answers or patterns that differed from the examples given by the teacher. This indicates initial development in creative thinking skills and independent idea development. The indicator for risk-taking increased from 1.5 to 2.1. Students who had previously tended to be quiet began to show courage in answering questions, expressing opinions, and speaking in front of the class when presenting the results of group discussions. However, some students still needed motivation and encouragement from the teacher to be more confident in expressing their ideas. This condition shows that developing courage in expressing oneself requires a gradual process of habituation and cannot develop instantly in one learning cycle.

Although the results of cycle I showed an increase in student creativity, the implementation of the action still encountered several obstacles that needed to be addressed. In the first meeting, some students still did not understand the mechanism for optimal use of smart cards, so learning time was not running efficiently. Furthermore, the division of roles within the group was also not evenly distributed. Some students appeared to dominate group activities, while others tended to be passive and dependent on more active peers. Therefore, the results of the reflection on cycle I were used as the basis for developing improvements to the action in cycle II so that the learning process could be more effective and involve all students equally.

3.3 Results of Cycle II

Referring to the results of the reflection on cycle I, actions in cycle II were refined through adjustments to the card game mechanism, strengthening instructions on role-sharing within groups, and providing more intensive motivation to students who still appeared passive. These improvements proved effective, as reflected in the significant increase in the average creativity score, from 2.8 in cycle I to 3.3 in cycle II, or in the good category. All creativity indicators recorded a more significant increase compared to the previous cycle. The curiosity indicator reached a score of 3.7, which was the highest achievement among all indicators. Students were no longer simply asking confirmatory questions, but were now able to ask analytical questions and connect the material to their daily experiences independently. This development indicates that the smart card media successfully created a learning environment that stimulates deeper curiosity.

The imaginative indicator recorded a significant increase, from 2.3 to 3.1. Students demonstrated significantly improved ability to generate original ideas. When asked to construct stories or sentences based on images on cards, most students produced unique and distinct works. This indicates that the gradual repetition of the use of smart cards successfully stimulated students' imaginations, which had previously been hampered by a less varied learning pattern. The most significant improvement throughout the study occurred in the risk-taking indicator, which rose from an initial score of 1.5 in the pre-cycle to 3.0 in the second cycle, for a total increase of 1.5 points. Students no longer waited for a definitive answer before speaking. They appeared more confident in expressing their opinions and showed less concern about making mistakes. This significant change aligns with the statement (Beghetto, 2016) that student creativity develops through a learning environment that provides opportunities to try new things and new ideas.

The indicator of respecting others' opinions achieved a score of 3.5 in cycle II, which is considered very good. The dynamics of group discussions in this cycle were much more conducive than in previous cycles. Students consistently listened, did not interrupt their peers, and provided constructive responses to ideas put forward. This indicates that repeated collaborative experiences through the smart card game gradually formed a culture of mutual respect in the classroom. The results of cycle II indicated that the research's success target had been achieved, namely that the average overall student creativity score had exceeded the minimum score of 3.0 set as the success criterion. Thus, the research was declared successful and did not need to be continued to the next cycle.

Overall, the implementation of smart card learning media in the teaching and learning process has had a significant impact on the development of creativity of eighth-grade students at SMP Negeri 9 Sampit in each of the established indicators. The data shows a progressive increase in the average creativity score, namely from 2.2 in the pre-cycle stage, then rising to 2.8 in cycle I, and continuing to grow to 3.3 in cycle II. This gradual increase pattern indicates that direct student involvement through interactive media can create a livelier learning climate, attract attention, and simultaneously foster creativity more optimally. Before the implementation of this media, learning activities still relied on conventional patterns that position students as passive recipients of information, either through reading books or listening to explanations from educators. As a result, many students were not actively involved in learning, and their creative potential was not well developed. When smart card media was introduced in cycle I, some students still did not fully understand how to

use it. However, their curiosity and enthusiasm to try and ask questions began to be seen from the beginning of this media implementation.

Development across each creativity indicator was uneven. The imaginative and risk-taking indicators experienced slower growth in cycle I than the other indicators. This is understandable, given that both indicators are closely related to students' psychological dimensions, such as self-confidence, courage to express different ideas, and mental readiness to face the possibility of mistakes. Therefore, in the initial stages of implementing the intervention, it was understandable that some students were reluctant to offer answers that differed from those of their peers. Improvements to the strategies implemented in cycle II, including strengthening group work, providing more targeted motivation, and creating a more structured learning environment, proved to have a more significant impact on the development of all creativity indicators. Students showed increased confidence in expressing their opinions, were more actively involved in group discussions, and began to generate a wider variety of answers and ideas. These findings are relevant to research findings (Sailer & Homner, 2020), which concluded that a collaborative learning environment facilitated by game-based media proved effective in increasing students' courage to express original ideas. Moreover, the social interactions that are built during the smart card game process encourage students to respect differences of opinion and build more effective cooperation.

The interactive, concrete, and game-based characteristics of smart card media can provide meaningful learning experiences, so that students feel freer and encouraged to express their creative ideas. In addition to these positive achievements, this study also found that every improvement in learning can give rise to new challenges that need to be anticipated. Increased student creativity has an impact on the growth of more active classroom dynamics, but also presents challenges in classroom management, especially when discussions and games take place simultaneously. (Suprijono, 2016) warns that active learning that is not balanced with good classroom management has the potential to reduce the effectiveness of achieving learning objectives. Therefore, educators are required to continue to develop responsive classroom management strategies without stifling student activity and creativity.

Based on the above findings, it can be concluded that the structured implementation of smart card learning media during two cycles of classroom action research has proven effective in enhancing the creativity of eighth-grade students at SMP Negeri 9 Sampit, especially in terms of curiosity, imagination, risk-taking, and respect for others' opinions. Furthermore, the achievements and challenges found in this study provide valuable material for educators to consider when creating learning strategies that can be adapted to students' ever-changing needs.

4. CONCLUSION

This research stems from the problem of low creativity of eighth-grade students at SMP Negeri 9 Sampit in the economics learning process, which is characterized by the dominance of conventional one-way learning patterns and minimal active student involvement in exploring ideas and concepts. Initial observations noted that only around 42.5% of students were able to demonstrate adequate creativity indicators, so an intervention action is needed through the application of more innovative and contextual learning media.

This study successfully demonstrated that smart card learning media consistently increased students' creativity across the four measured indicators. This media was used

within the framework of Classroom Action Research conducted over two cycles. The average creativity score increased gradually from 2.2 in the pre-cycle to 2.8 in Cycle I and 3.3 in Cycle II; both were in the "good" category and exceeded the minimum success criterion of 3.0. The risk-taking willingness indicator experienced the highest increase of 1.5 points, and the curiosity indicator reached its highest score of 3.7 at the end of Cycle II.

Reflective improvements made in each cycle, including adjustments to the card game mechanism, strengthening group role allocation, and providing more targeted motivation, proved to be a determining factor in the success of more optimal improvements in cycle II. The interactive, concrete, and game-based characteristics of smart card media are able to create a more enjoyable, collaborative learning atmosphere and encourage students to express their creativity without pressure. Thus, smart card learning media can be recommended as an alternative, innovative media that is worthy of being applied in learning economics and other subjects to encourage the development of student creativity comprehensively and measurably.

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6. BIBLIOGRAPHY

Beghetto, R. A. (2016). Creative learning: A fresh look. *Journal of Cognitive Education and Psychology*, *15*(1), 6–23. https://doi.org/10.1891/1945-8959.15.1.6

Chen, C.-M., Liu, H., & Huang, H. (2021). Effects of Game-Based Learning on Students' Creativity and Learning Motivation. *Interactive Learning Environments, 29*(6), 1015–1030. https://doi.org/10.1080/10494820.2019.1628781

Desmita. (2017). *Psikologi perkembangan peserta didik*. Remaja Rosdakarya.

Fan, M., & Cai, W. (2022). How does a creative learning environment foster student creativity? An examination on multiple explanatory mechanisms. *Current Psychology*, *41*(7), 4667–4676. https://doi.org/10.1007/s12144-020-00974-z

Hamalik, O. (2017). *Media pendidikan*. PT Citra Aditya Bakti.

Sailer, M., & Homner, L. (2020). The gamification of learning: A meta-analysis. *Educational Psychology Review*, *32*(1), 77–112. https://doi.org/10.1007/s10648-019-09498-w

Henriksen, D., Mishra, P., & Fisser, P. (2016). Infusing creativity and technology in 21st century education: A systematic view for change. *Educational Technology & Society*, *19*(3), 27–37. https://www.jstor.org/stable/jeductechsoci.19.3.27

Kupers, E., Lehmann-Wermser, A., McPherson, G., & van Geert, P. (2019). Children's creativity: A theoretical framework and systematic review. *Review of Educational Research*, *89*(1), 93–124. https://doi.org/10.3102/0034654318815707

Mertler, C. A. (2020). *Action research: Improving schools and empowering educators* (6th ed.). SAGE Publications. https://doi.org/10.4135/9781071909713

Munandar, U. (2016). *Pengembangan kreativitas anak berbakat*. Rineka Cipta.

Nurrita, T. (2018). Pengembangan media pembelajaran untuk meningkatkan hasil belajar siswa. *MISYKAT: Jurnal Ilmu-Ilmu Al-Quran, Hadist, Syari'ah dan Tarbiyah*, *3*(1), 171–187. https://doi.org/10.33511/misykat.v3n1.171

Qian, M., & Clark, K. R. (2016). Game-based learning and 21st century skills: A review of recent research. *Computers in Human Behavior*, *63*, 50–58. https://doi.org/10.1016/j.chb.2016.05.023

Rohani. (2021). *Media pembelajaran*. CV Pusdika Mitra Jaya.

Sanjaya, W. (2016). *Penelitian tindakan kelas*. Kencana.

Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan R&D* (Edisi ke-2). Alfabeta.

Suprijono, A. (2016). *Cooperative learning: Teori dan aplikasi PAIKEM* (Edisi revisi). Pustaka Pelajar.

Thornhill-Miller, B., Camarda, A., Mercier, M., Burkhardt, J. M., Morisseau, T., Bourgeois-Bougrine, S., Vinchon, F., El Hayek, S., Augereau-Landais, M., Mourey, F., Feybesse, C., Sundquist, D., & Lubart, T. (2023). Creativity, critical thinking, communication, and collaboration: Assessment, certification, and promotion of 21st century skills for the future of work and education. *Journal of Intelligence*, *11*(3), 54. https://doi.org/10.3390/jintelligence11030054