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Integration Of Project-Based Learning (PJBL) Learning Model And Kahoot Media In Learning To Writing Argumentation Texts For Students Of Grade XI SMA Negeri 1 Tompaso

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Abstract

This study aims to improve the argumentative writing skills of eleventh-grade students at SMA Negeri 1 Tompaso through the integration of the Project Based Learning (PjBL) model and Kahoot media in learning to write argumentative texts. This research employed Classroom Action Research. The subjects of this study were 36 students of class XI at SMA Negeri 1 Tompaso. The research was conducted in two cycles, with each cycle consisting of four stages: planning, acting, observing, and reflecting. The data collection techniques used in this research included observation, interviews, argumentative writing tests, and documentation. The collected data were analyzed using descriptive qualitative and quantitative analysis techniques. The results of this study indicate that the implementation of the integration of the Project Based Learning (PjBL) model and Kahoot media can improve students' argumentative writing skills in terms of both process and product for the eleventh-grade students of SMA Negeri 1 Tompaso. The improvement in the quality of the learning process can be seen from the increased roles of both teachers and students in the learning activities. This improvement is reflected in the emergence of positive responses, such as cooperation, enthusiasm among students, and a more conducive learning atmosphere. The improvement in the learning process ultimately had a positive impact on the improvement of the learning product. The improvement in the product can be seen from the increase in students' argumentative writing scores from Cycle I to Cycle II. The average score in Cycle I was 63.55%, while in Cycle II it increased to 88.22%. The increase in the average score from Cycle I to Cycle II was 24.67%.

Keywords: improvement, learning, writing, argumentative text, Project Based Learning (PjBL).

INTRODUCTION

In addition, the learning model also functions as a guideline for learning designers and teachers in planning and implementing teaching and learning activities so that learning objectives can be achieved.
achieved. The purpose of using a learning model as a strategy for how learning is implemented can help students develop themselves in the form of information, ideas, skills, values, and ways of thinking in increasing the capacity to think clearly and wisely and build social skills and commitment (Joice & Wells).

Furthermore, Djamarah (1996) stated that conventional learning methods are traditional learning methods, also known as lecture methods, because this method has long been used as a means of verbal communication between teachers and students in the teaching and learning process. Learning

using the lecture method or classical learning approach is a learning pattern that emphasizes the authority of the educator in learning. This learning pattern is a learning pattern where students mostly listen to the teacher's explanations at the front of the class and carry out assignments when the teacher gives practice questions. The teacher holds full control in the learning process while students only play a role as objects in learning. Therefore, the learning activities felt by students are less than optimal. Students also seem to be limited in their space to be creative and express all their creative thinking processes during the learning activities. This is certainly not in line with the current curriculum guidelines because the current curriculum emphasizes student-centered learning.

At SMA Negeri 1 Tompaso, the use of digital media like Kahoot has not been optimal. Initial observations indicate that students tend to be more enthusiastic when learning uses interactive, technology-based media. However, the implementation of these media has not been integrated into innovative learning models like PjBL. Yet, the school's conditions and student characteristics indicate great potential for the success of PjBL supported by Kahoot. This provides a strong foundation for researchers to conduct a more in-depth study.

The school context is also a crucial factor in the successful implementation of this learning model. SMA Negeri 1 Tompaso has the potential to implement innovative learning because it is supported by adequate facilities and infrastructure, such as internet access, computers or devices available for students, and the school's readiness to integrate technology into learning. Furthermore, the school's curriculum provides teachers with the opportunity to innovate in their learning to maximize learning objectives.

In initial observations, students showed a high level of interest in the use of digital technology in learning. When media like Kahoot was used, students appeared more focused, enthusiastic, and eager to participate in the learning process. However, this use was not consistent and was not combined with learning models capable of enhancing higher-order thinking skills, such as PjBL. Therefore, this research is highly relevant for improving the effectiveness of learning that is not only oriented towards learning outcomes, but also towards the student learning process.

Based on the problem limitations, the problem formulation in this research is:

1. What are the results of improving the argumentative text writing skills of class XI students at SMA Negeri 1 Tompaso after implementing the integration of the Project Based Learning model and Kahoot media?
2. How is the process of implementing the integration of the Project Based Learning model and Kahoot media in learning argumentative text writing skills for class XI students of SMA Negeri 1 Tompaso?

1.1 Research purposes

This research aims to:

1. Analyzing the results of improving the argumentative text writing skills of class XI students of SMA Negeri 1 Tompaso after implementing the integration of the Project Based Learning learning model and Kahoot media.
2. Describes the process of implementing the integration of the Project Based Learning model and Kahoot media in learning to write argumentative texts for class XI students of SMA Negeri 1 Tompaso.

2.1 Learning model

2.1.1 Understanding Learning Models

A learning model is a conceptual framework used to design, implement, and evaluate the learning process. Therefore, a learning model can also be defined as a conceptual framework that describes systematic procedures for organizing learning experiences to achieve learning objectives (Banawi, 2019). Joyce, Weil, and Calhoun (1980) stated that a learning model functions as a pattern or plan that can be used to shape the curriculum, design learning materials, and direct classroom learning activities.

Therefore, selecting the right learning model directly influences the quality of the learning process and student learning outcomes.

In this regard, Udin (in Hermawan, 2006) stated that a learning model is a conceptual framework that describes a systematic procedure for organizing learning experiences to achieve specific learning objectives. Learning models serve as guidelines for learning designers and teachers in planning and implementing learning activities.

Learning models have a broader meaning when compared to approaches, strategies, methods and techniques. Therefore, a learning design can be called a learning model if it has four special characteristics, namely a logical theoretical rationale compiled by its creator or developer, a basis for thinking about what and how students learn (learning objectives to be achieved), the behavior required for the model to be implemented successfully, and the learning environment required for the learning objectives to be achieved (Kardi and Nur in Trianto, 2007).

Octavia (2020) explains that in general, good teaching models have characteristics or traits that can be generally recognized, namely as follows:

1. Having a systematic procedure. So a teaching model is a systematic procedure for modifying student behavior, which is based on certain assumptions.
2. Learning outcomes are specifically defined. Each teaching model defines specific learning objectives that students are expected to achieve, detailed in the form of observable performance. What students should demonstrate after completing the teaching sequence is outlined in detail and specifically.
3. Determining the specific environment. Determining the specific environmental conditions in the teaching model.

2.1.2 Classification of Learning Models

Learning models can be classified based on the roles of educators and students, the characteristics of the learning process, and the desired goals. This classification helps educators determine the learning model that best suits their learning needs, student characteristics, and curriculum requirements (Joyce, Weil, & Calhoun, 2015).

1. Teacher-Centered Learning Model

The teacher-centered learning model is a learning model that positions the teacher as the primary source of information and controller of the learning process. In this model, the teacher plays a dominant role in delivering the material, while students act as relatively passive recipients of information (Sanjaya, 2016).

Expository learning and lecture methods are examples of learning models that fall into this category. Teacher-centered learning models are considered effective for conveying factual and conceptual information in a limited time, but they are less than optimal for developing critical thinking skills and student creativity when used excessively (Trianto, 2015).

2. Student-Centered Learning Model

The student-centered learning model emphasizes active student involvement in the learning process. Students are viewed as learning subjects who actively construct knowledge through experience, social interaction, and reflection (Hosnan, 2014).

In this model, the teacher acts as a facilitator, directing and guiding the learning process. Learning models included in this category include Discovery Learning, Inquiry Learning, Problem-Based Learning, Project-Based Learning, and cooperative learning. These models align with the constructivist learning paradigm and the demands of 21st-century learning (Kemdikbudristek, 2022).

3. Discovery-Based Learning Model

*Discovery Learning*is a learning model that encourages students to discover concepts, principles, or relationships independently through exploration and observation. Bruner emphasized that learning through discovery enables students to gain deeper and more lasting understanding than verbal learning (Bruner, 1961).

In Discovery Learning, teachers design learning situations that allow students to observe, group, and draw conclusions. This model is effective for developing critical thinking skills and curiosity, but it requires student readiness and thorough learning planning (Hosnan, 2014).

4. Problem Based Learning Model

Problem Based Learning(PBL) is a learning model that uses real-world problems as the starting point for learning. According to Arends, PBL is designed to help students develop critical thinking, problem-solving, and independent learning skills through direct engagement with authentic problems (Arends, 2012).

In PBL, students work collaboratively to analyze problems, seek information, and formulate solutions. This model is highly relevant for learning that demands reasoning and decision-making skills, including language learning that emphasizes argumentation and logical reasoning (Hmelo-Silver, 2004).

2. Cooperative Learning Model

The cooperative learning model emphasizes collaboration among students in small, heterogeneous groups to achieve shared learning goals. Slavin states that cooperative learning is effective in improving academic learning outcomes, social skills, and positive attitudes toward learning (Slavin, 2015).

Some frequently used types of cooperative learning include Student Teams Achievement Division (STAD), Jigsaw, and Think Pair Share. These models require individual and group responsibility so that students support each other in the learning process (Trianto, 2015).

3. Project Based Learning Model

Project Based Learning(PjBL) is a learning model that places projects at the core of learning activities. Thomas (2000) states that PjBL involves students in in-depth investigations of complex problems or questions that produce tangible products as learning outcomes.

Bell (2010) emphasized that Project Based Learning provides authentic learning experiences that integrate 21st-century knowledge and skills, such as critical thinking, creativity, communication, and collaboration. Hosnan (2014) also stated that PjBL is very effective when applied to learning that requires complex thinking skills and authentic products.

The Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia recommends Project-Based Learning as one of the main learning models in the Independent Curriculum because it is able to create meaningful, contextual learning and supports the strengthening of the Pancasila Student Profile (Kemdikbudristek, 2022).

4. Project Based Learning (PjBL) Learning Model

Project-Based Learning (PjBL) is a learning approach that emphasizes active student involvement in solving real-world problems through complex and meaningful projects. In PjBL, students don't simply receive information but become the center of the learning process: they design projects, work collaboratively, and produce products or solutions relevant to real life. This aligns with Thomas's (2000) definition, which describes PjBL as a systematic method that engages students in an in-depth investigative process based on authentic questions and carefully designed tasks.

The main principles of PJBL include connection to real-world contexts, student-centered learning, collaboration between students, ongoing processes, and authentic assessment. Larmer et al. (2015) emphasize the importance of a "driving question" as a project guide, which motivates students to actively explore and find answers independently.

Thomas (2000) explains that PjBL is a learning model that organizes learning around projects, where students actively explore, interpret, synthesize, and evaluate to produce tangible products. This view is reinforced by Bell (2010), who states that PjBL encourages students to build knowledge through deep learning experiences and trains 21st-century skills, such as critical thinking, collaboration, creativity, and communication.

2.2 Instructional Media

2.2.1 Understanding learning media

Understanding Learning Media Smaldino, Lowther & Russel (2012: 7) state that media is anything that carries information between the source and the recipient of information. This means that the role of teachers and media here is as the source of information, while students are as recipients of information. So in this case, the interaction and activities of students and teachers can be assisted by using media. Similarly, Heinich, Mollenda and Russel (1989: 6) stated that "medium is a channel of communication. Derived from the Latin word "for between", the term refers to anything that carries information between a source and a receiver." If a medium carries information or messages with instructional purposes and contains teaching intentions, then the media can be said to be a learning medium.

2.2.2 Kahoot digital-based learning media

Kahoot is a game-based learning platform that utilizes digital technology to create a fun learning environment. Wang and Tahir (2020) suggest that Kahoot effectively increases student motivation, engagement, and participation in learning because it provides immediate feedback and a positive, competitive atmosphere. Furthermore, Kahoot can also be used as a formative assessment tool to monitor student understanding in real time.

Kahoot is also one of the applications used in learning or what is called an educational platform based on interesting learning quizzes that can be accessed using the internet. If simplified, kahoot is a website-based educational game that is easy to access online and is free of charge for use, can be played using a laptop or PC by teachers and students via smartphone, the hope of this application is to make the learning atmosphere feel fun and not boring because students can play and learn. So the Kahoot media is a tool in the form of a quiz game application that can be used in learning to convey messages and achieve a goal that has been made.

RESEARCH METHODOLOGY

3.1 Types and Models of Research

3.1.1 Types of research

This research is a type of classroom action research. Classroom action research (CAR) is a reflective research. Research activities start from real problems faced by teachers in the teaching and learning process, then reflect on alternative solutions to the problems and followed up with concrete actions that are planned and measured (Sutama, 2011: 134). There are four important steps in classroom action research according to Sukardi (2011: 212-213): plan, act, observe, and reflect. Sukardi argues that there are at least four models of action research, namely: the Ebbut model, the Elliot, McNiff model (1992), and the Kemmis and Taggart model (2011: 214).

According to Mc Niff (1992) (in Kusumah and Dwitagama, 2012, p. 8) the essence of CAR is as a form of reflective research conducted by teachers themselves, the results of which can be used as a tool for developing teaching skills. CAR is research about, for, and by the community or target group by utilizing interaction, participation, and collaboration between researchers and target groups.

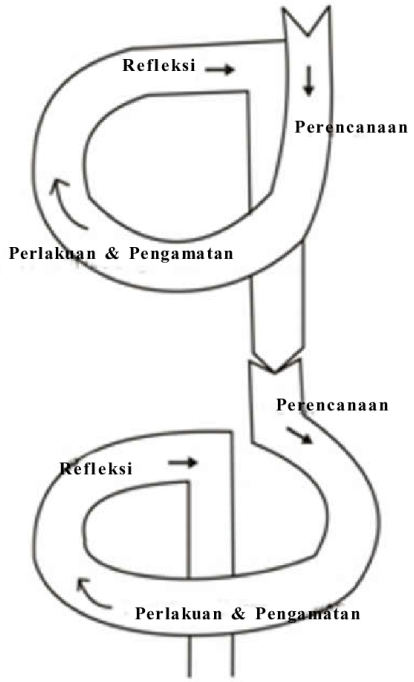
According to John Elliot, what is meant by CAR is the study of social situations with the aim of improving the quality of actions within them (Elliot, 1982). The entire process, review, diagnosis, planning, implementation, monitoring, and influence create the necessary relationship between self-evaluation of professional development. A nearly similar opinion was expressed by Kemmis and Mc Taggart, who said that CAR is a form of collective self-reflection carried out by participants in social situations to improve the reasoning and fairness of those practices and the situations in which those practices are carried out (Kemmis and Taggart, 1988) in Sunendar, (2012).

Justien R. Wuisang (2021) in the journal Implementation of Quick on the Draw Strategy in Learning to Understand Description Text Information Design (PTK) is used as an effort to improve the quality of learning, both process and results.

3.1.2 Research Model

The research model used in this study is the Kemmis and McTaggart model. According to Wijaya Kusumah and Dedi Dwitagama (2011:21), the model proposed by Kemmis & Taggart is a cycle. Each device consists of four components: planning, action, observation, and reflection. The two

components of action and observation are two inseparable activities because they must be carried out simultaneously. The research model to be used is as follows:



Cycle 1

1 = Action planning cycle 1
2 = Action and Observation 1
3 = Reflection 1

Cycle II

4 = Revision of Plan II
5 = Action and Observation II
6 = Reflection II

The downward arrow means that if the criteria are not met in cycle II, it will continue to the next cycle.

Figure 9 Kemmis and Mc Taggran Spiral Model Action Research

(Source: Susilo, et al. (in Fatimah, 2017)

Based on the image above, these components can be described as follows:

a. Planning
The steps taken before the action are as follows:

1. Determine the theme and sub-theme of learning activities.
2. Prepare a learning plan in the form of a daily activity plan (RKH).
3. Preparing learning media (tools and materials)
4. Compiling an observation sheet
5. Creating an assessment rubric

b. Implementation of Action
The implementation stage involves carrying out the learning process according to the plan. This activity is also accompanied by observation and interpretation, followed by reflection.

c. Reflection
The reflection stage involves analyzing observations and interpretations to draw conclusions about areas that need improvement and areas that have achieved the research objectives. These conclusions can be used to determine whether the research was successful or not.

3.2 Location and Time of Research

The research was conducted at SMA Negeri 1 Tompaso in Minahasa Regency, North Sulawesi. This school was chosen because it has suitable conditions for implementing project-based learning and using digital media, including Kahoot.

Observation data was used to obtain information on student activities and learning implementation during the implementation of the Kahoot-integrated PjBL model. Test data was used to determine students' improvement in understanding the structure and linguistic rules of argumentative texts and their ability to write simple argumentative texts. Meanwhile, documentation was used to strengthen and supplement the data obtained from observations and tests, such as project results, screenshots of Kahoot activities, and student writing products.

3.6 Data Analysis Techniques

The data analysis technique in this study uses the Miles & Huberman (2014) model, which consists of three stages:

3.6.1 Data Reduction

Data collected from observations, interviews, and documentation are selected, focused, and simplified according to research needs.

The data analysis steps in this study are as follows:

a. Providing scores for students' argumentative text writing test resultsbased on an assessment rubric that includes aspects of the structure of the argumentative text, clarity and completeness of the argument, accuracy of use of linguistic rules, and accuracy of spelling and punctuation.

2. Questions/Tests:
Question Type Combination: Use Multiple Choice or True/False quizzes to test your understanding of argumentative text structure (thesis, argument, reiteration), then use Open-Ended to practice writing the argument.

- Table 1. Aspects assessed in writing argumentative texts

Rated aspect	Maximum Score
a. Writing an argument statement	30
b. Completeness of arguments	20
c. Write with a complete structure	20
d. Include data evidence	15
e. Include sources and literature	15
Amount	100

(Ministry of Education and Culture, 2017:214)

3. Interview Questions

a. What is your impression before and after using the PjBL learning model
b. What was your impression before using Kahoot learning media?
c. Are you interested and understand the material on writing argumentative texts?
d. What difficulties did you encounter in learning?

a. Calculating the class average, with the formula:

1. Individual Values

X=∑A + B + C + D + E

Note: (See table 1)

2. Class average grade(ṅ)

$$\bar{X} = \frac{\sum X}{N}$$

$\bar{X}$= Average grade of the class
∑X = Total number of student scores
N = Number of Students

The criteria for student learning completion are as follows:

Table 2. Student Learning Completion Criteria

Value / Scale	Predicate	Category
86 ± 100	A	Very good
81 ± 85	A -	
76 ± 80	B+	Good
71 ± 75	B	
66 ± 70	B -	
61 ± 65	C+	Enough
56 ± 60	C	
51 ± 55	C -	
46 ± 50	D +	Not enough
0 ± 45	D	

(Ministry of Education and Culture, 2013: 131)

RESEARCH RESULTS AND DISCUSSION

4.1 Description of Initial Conditions

Based on the implementation of the designed classroom action research, this section systematically presents the research data and its discussion regarding learning to write argumentative texts using Kahoot learning media integrated in the Project Based Learning (PjBL) model. This research was conducted at SMA Negeri 1 Tompaso with a total of 36 students, consisting of 17 male students and 19 female students.

Research data was obtained through the implementation of actions in each cycle, which included planning, action implementation, observation, and reflection. The data collected included the results of argumentative text writing ability tests and observations of teacher and student activities during the learning process. All of this data was analyzed to determine improvements in student writing skills and the effectiveness of the implementation of the PjBL model with the assistance of Kahoot media.

To provide a clear picture of learning development, data is presented separately for each cycle. This presentation per cycle aims to identify differences, similarities, and developments in student learning outcomes from Cycle I to Cycle II. Furthermore, reflections on each cycle are used as a basis for improving actions in the following cycle.

This classroom action research was conducted in two cycles. Each cycle consisted of two meetings with a time allocation of 4 x 45 minutes. The material taught was argumentative texts with a primary focus on argumentative text writing skills, including understanding text structure, using linguistic rules, and developing ideas logically and systematically through simple writing projects according to the steps of the Project Based Learning model.

Thus, through structured action stages in each cycle, it is hoped that there will be a real increase in students' ability to write argumentative texts after the implementation of the PjBL model integrated with Kahoot media.

4.2 Implementation of Cycle I Actions

4.2.1 Planning

In the planning stage of cycle I:

1. Researchers developed a project-based learning tool integrated with Kahoot. The material focused on understanding the structure and linguistic rules of argumentative texts and developing simple writing projects.
2. Prepare facilities and infrastructure such as laptops, projectors, cell phones, markers, slides, PowerPoint, assessment rubrics and teaching materials
3. Preparing Kahoot application learning media
4. Compiling an observation sheet

4.2.2 Implementation of Actions

The implementation of this cycle of actions was carried out in two meetings.

The first meeting

- ✓ Preliminary Stage

1. The teacher greets the students
2. The teacher invites students to pray
3. The teacher checks the students' attendance
4. The teacher stimulates students with several questions:
    - Have you ever written an argumentative text using facts and data as a source for developing ideas?
    - In your opinion, what elements determine the attractiveness of an argumentative text?

- ✓ Core

1. The teacher presents material about argumentative texts
2. The teacher forms groups, each group consists of 4 people.
3. The teacher continues to deepen the material on writing argumentative texts.
4. Students are asked to open the Kahoot application on their respective devices.
5. The teacher guides students to be able to use the Kahoot application
6. The teacher provides keywords about writing argumentative texts, which will then be developed by students.

7. Students discuss choosing the theme of the argumentative text that will be used as a reference in writing.
8. The teacher and students together determine the title of the argumentative text that will be written.
9. The teacher gives students the opportunity to ask questions if there is something they don't understand.

✓ Closing

1. Teachers and students together draw conclusions about the material studied earlier.
2. The teacher motivates students to continue reading and practicing writing argumentative texts.
3. The teacher asked to close with a prayer.

During the process, it was seen that some students began to show active involvement, although there were still some students who were passive and did not dare to express their opinions.

Next, students are divided into several groups to design argumentative text writing projects based on predetermined themes.

The results of the argumentative text writing test using the Project Based Learning model in Cycle I can be seen in the following table:

No.	Element	K1	K2	K 3	K 4	K 5	K 6	K 7	K 8	K 9
1	A	16	16	12	20	12	12	16	16	12
2	B	5	5	15	13	13	5	15	5	5
3	C	15	18	16	15	18	16	16	18	18
4	D	10	14	12	12	10	12	11	10	12
5	E	10	14	13	10	10	12	9	14	14
6	Amount	56	67	68	70	63	57	67	63	61

Table 3. Students' Ability to Write Argumentative Texts in Cycle I

Notes :

K = group.

Element A = Writing an argumentative statement

Element B = Completeness of argumentation

Element C = Write with a complete structure

Element D = include evidence or data

Element E = include sources and literature

4.2.3 Cycle I Observation Results

Based on observations of student activity, it was found that student activity was in the adequate category. Several indicators, such as discussion participation and enthusiasm for Kahoot, showed improvement compared to previous levels, but were not yet optimal.

4.2.4 Cycle I Test Results

The results of the argumentative text writing test in cycle I showed that each group's argumentative text writing ability, assessed based on its elements, achieved less than satisfactory results.

The number of groups achieving the Minimum Competency (KKM) increased, but there were still groups that had not yet completed the process.

4.2.5 Cycle I Reflection

The results of the reflection show that learning has gone better, but there are still several weaknesses, including:

1. Some students have not actively participated in group discussions.
2. Project execution time has not been managed optimally.
3. Some students still have difficulty developing arguments in depth.

Based on this reflection, improvements were made to actions in cycle II, namely by clarifying the division of roles in groups, providing more varied examples of argumentative texts, and maximizing the use of Kahoot as a medium for strengthening concepts.

Table 4. Group Review Text Writing Ability Based on Minimum Completion Criteria in Cycle I

No.	Group name	Minimum Competency (KKM)	Mark	Information	
				Completed	Not Completed
1	Group 1	70	56		✓
2	Group 2	70	67		✓
3	Group 3	70	68		✓
4	Group 4	70	70	✓	
5	Group 5	70	63		✓
6	Group 6	70	57		✓
7	Group 7	70	67		✓
8	Group 8	70	63		✓
9	Group 9	70	61		✓

Based on the results depicted in the table above, it can be seen that four people in group 1 got a score of 56 which has not reached the Minimum Completion Criteria. Then four students in Group 2 got a score of 67, has not reached the Minimum Completion Criteria. Furthermore, four students in Group 3 got a score of 68, has not reached the Minimum Completion Criteria. Four people in Group 4 got a score of 70, has reached the Minimum Completion Criteria. Furthermore, four students in Group 5 got a score of 63, has not reached the Minimum Completion Criteria. Then four people in Group 6 got a score of 57, has not reached the Minimum Completion Criteria. A total of four students in Group 7 got a score of 67, has not reached the Minimum Completion Criteria. A total of four students in Group 8 got a score of 63, has not reached the Minimum Completion Criteria. A total of four students in Group 9 got a score of 61, has not reached the Minimum Completion Criteria.

Thus, it can be concluded that of the 9 groups with a total of 36 students, only 1 group consisting of 4 students obtained a passing score of 70.

The classical value obtained based on the total score of the student group is calculated as follows.

$$\overline{X} = \frac{\Sigma X}{n}$$

$$\overline{X} = \frac{572}{9} = \mathbf{63.55\%}$$

Based on the results of the data calculations above, the classical value of the ability to write review texts using the Project Based Learning model in Cycle I was 63.55%, which is in the Sufficient category.

Table 5. Grades, Predicates and Writing Categories of Students in Cycle I

Value / Scale	Predicate	Category
86 ± 100	A	Very good
81 ± 85	A -	
76 ± 80	B+	Good
71 ± 75	B	
66 ± 70	B -	
61 ± 65	C+	Enough
56 ± 60	C	
51 ± 55	C -	

In cycle IStudents are still less focused on the material that has been taught because they are too enthusiastic about sitting in groups so that their concentration on learning to listen to the material and teacher's instructions begins to be divided. In addition, many students also do not have the time quota to use the "Kahoot" application, so some students ask their peers for help to provide hotspots or tethering so they can download the "Kahoot" application. This makes the classroom atmosphere start to be noisy and students forget important things in composing an argumentative text, including the elements included in the assessment points.

Another drawback in cycle I was that students' writing speeds varied, resulting in some groups completing their work while others had not. This slowed the learning process somewhat than planned.

The improvement made was that the teacher reminded the group to diligently seek out information and write according to the argumentative text theme they had agreed upon to create an argumentative text. The teacher advised them to read whenever and wherever, especially during literacy activities, both at home and at school, to increase vocabulary and information to help students compose argumentative texts.

4.3 Implementation of Cycle II Actions

4.3.1 Planning

Cycle II planning focused on refining learning strategies. Teachers designed more challenging writing projects, provided more structured writing guidance, and increased the intensity of student feedback.

4.3.2 Implementation of Actions

2nd meeting

- ✓ Preliminary Stage

1. The teacher greets the students

2. The teacher invites students to pray
3. The teacher checks the students' attendance
4. The teacher delivers apperception

✓ Core

1. The teacher asked students to sit in the groups that had been determined at the first meeting.
2. The teacher emphasized the importance of writing argumentative texts as an effort to develop students' understanding and argumentation so as to strengthen students' character in accordance with the profile of Pancasila students.
3. The teacher invites students to identify the elements of argumentative text based on its structure.
4. The teacher guides students in working on LKPD
5. The teacher distributes LKPD to students
6. Students work on and report the results of the LKPD

✓ Closing

4. Teachers and students reflect on learning meetings
5. The teacher closes the learning activity
6. Students return to their original seats

The teacher begins the lesson with apperception using Kahoot to explore students' initial understanding.

In cycle II, students appeared more familiar with the PjBL model and the use of Kahoot. Group discussions were more active, students expressed their opinions more confidently, and the collaboration process was more effective. The writing projects produced by students also showed an improvement in quality compared to the previous cycle.

4.3.3 Observation Results of Cycle II

Observations show a significant increase in student activity. The majority of students are classified as active and very active in participating in learning. Enthusiasm for using Kahoot is also growing.

4.3.4 Cycle II Test Results

The results of the argumentative text writing test in Cycle II showed more significant improvement. Most students achieved scores above the Minimum Competency (KKM).

Table 6. Argumentative Text Writing Ability of Cycle II Students

No.	Element	K1	K2	K 3	K 4	K 5	K 6	K 7	K 8	K 9
1	A	30	24	30	18	24	24	27	23	25
2	B	20	20	20	20	20	20	20	20	18
3	C	20	20	19	17	18	19	19	19	18
4	D	13	13	12	13	13	13	13	13	14
5	E	11	13	13	12	11	10	10	11	14
Amount		94	90	94	80	86	86	89	86	89

Notes :

K = Group.

Element A = Writing an argumentative statement

Element B = Completeness of arguments

Element C = Write with a complete structure

Element D = Include evidence or data

Element E = Include sources and literature

The data shows that there was a consistent increase in learning outcomes from cycle I to cycle II.

The improvement in the results of writing argumentative texts using the Project Based Learning learning model above when compared with the Minimum Completion Criteria is depicted in the following table.

Table 7. Students' Ability to Write Argumentative Texts Based on Minimum Completion Criteria

No.	Group name	Minimum Competency (KKM)	Mark	Information	
				Completed	Not Completed
1	Group 1	70	94	✓	
2	Group 2	70	90	✓	
3	Group 3	70	94	✓	
4	Group 4	70	80	✓	
5	Group 5	70	86	✓	
6	Group 6	70	86	✓	
7	Group 7	70	89	✓	
8	Group 8	70	86	✓	
9	Group 9	70	89	✓	

The classical value obtained based on the total score of the student group is calculated as follows.

$$\overline{X} = \frac{\Sigma X}{n}$$

$$\overline{X} = \frac{794}{9} = \mathbf{88.22\%}$$

Based on the results of the data calculations above, the classical value of the ability to write argumentative texts using the Project Based Learning learning model in Cycle II was 88.22%, which is in the Very Good category.

So based on the calculation results from cycle I and cycle II, there was an increase of 24.67%.

Table 8. Values, Predicates and Categories of Students' Argumentative Text Writing

Cycle II

Value / Scale	Predicate	Category
86 ± 100	A	Very good
81 ± 85	A -	
76 ± 80	B+	Good
71 ± 75	B	
66 ± 70	B -	

4.4 Discussion of Research Results

The results of the study indicate that the integration of the Project Based Learning model and Kahoot media can improve the quality of the process and learning outcomes of argumentative text writing. This increase in student activeness during learning aligns with the characteristics of PjBL, which emphasizes active student involvement in every stage of learning.

The use of Kahoot has been shown to positively impact student motivation and participation. Students become more enthusiastic about learning, more confident in answering questions, and more motivated to understand the material. This has resulted in an increase in the quality of the argumentative texts they produce, both in terms of content, structure, and language.

Pedagogically, the findings of this study confirm that innovatively designed learning utilizing digital technology can create a more meaningful learning environment. Therefore, the integration of Project-Based Learning (PjBL) and Kahoot media can be used as an effective alternative learning strategy in Indonesian language learning, particularly in writing argumentative texts.

4.5 Achievement of Success Indicators

Based on the research results, the success indicators set out in Chapter III have been achieved, namely:

1. Students achieve scores above the KKM.
2. There was an increase in the average value from cycle I and cycle II.
3. Student activity and motivation showed significant improvement.

Thus, it can be concluded that learning actions through the Integration of Project Based Learning (PjBL) and Kahoot media succeeded in improving the argumentative text writing skills of class XI students of SMA Negeri 1 Tompaso.

CONCLUSION AND SUGGESTIONS

5.1 Conclusion

Based on the results of classroom action research regarding the integration of the Project Based Learning (PjBL) learning model and Kahoot media in learning to write argumentative texts for class XI students of SMA Negeri 1 Tompaso, several things can be concluded as follows:

1. The process of integrating the Project-Based Learning model and Kahoot media can be carried out systematically through planning, implementation, observation, and reflection stages in each learning cycle. This model can create more active, collaborative, and student-centered learning.
2. The integration of Project-Based Learning and Kahoot media has been proven to improve students' argumentative writing skills. This is demonstrated by the increase in average class scores from cycle I (63.55%) to cycle II (88.22%), as well as the increase in the percentage of students' learning completion, ranging from adequate to excellent.
3. The integration of PjBL and Kahoot also had a positive impact on student motivation and participation in learning. Students became more enthusiastic, more active in discussions, and more confident in expressing opinions and constructing arguments.

Thus, the integration of the Project Based Learning model and Kahoot media can be declared effective as an innovative learning strategy to improve the quality of the process and learning outcomes of writing argumentative texts.

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