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Project-Based Learning Model in Learning to Write Explanation Text for Vocational High School

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Abstract

The purpose of this study is to describe and explain the ability to write explanatory texts of vocational school students, the implementation of the project-based learning (PjBL) model in improving the ability to write explanatory texts, and the strengths and weaknesses faced by teachers and students in implementing the project-based learning model. This research is crucial for enhancing the quality of writing instruction in vocational high schools. The research approach uses a qualitative descriptive approach. The subjects of this research were vocational high school students in Madiun. Data collection techniques were carried out through documentation, passive role observation, and) in-depth interviews. Data analysis was done using an interactive analysis model, carried out through 3 activity flows: data reduction, data presentation, and conclusion. This study revealed various problems in learning to write explanatory texts in vocational high schools. The results of the research show that: (1) students' ability to write explanatory texts is not by the structure of explanatory texts; (2) the direct impact of implementing the PjBL model is increasing students' ability to write explanatory texts; (3) the advantage of this model is that it provides experience for students that emphasizes practice in completing assignments and projects according to real-world conditions, while the disadvantages are that it requires the skills and activity of teachers and students, and quite time consuming especially in completing the project.

Keywords Project-Based Learning Model; Write Explanatory Text; Vocational High School

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1. INTRODUCTION

Writing skills are one of the language skills that is essential in their intellectual life. Writing is a creative thinking process involving many students' thinking abilities. Writing skills are very complex skills; maximum writing can be achieved if mastery of other language skills (listening, speaking, and reading) has been mastered (Haliq, 2020). Writing skills are acquired naturally but require continuous practice and a gradual process (Kemper et al., 1995). Hill (Hill, 1973) It was stated that every person can communicate (communicative competence). This ability is obtained through cultural transmission, which is obtained through a learning process and not as an inheritance. Apart from linguistic elements, writing requires knowledge and experience outside of linguistics, which is the material for writing as

consistent writing practice (DePorter, 2000).

According to Trismanto's (2017) survey, students find writing sessions to be the least enjoyable aspect of learning Indonesian. Many pupils are unwilling to write because they believe they lack writing ability. This results from teachers' lack of encouragement to write and an unsupportive family and community setting (Graves (1978). Smith (1981) asserts that students' school-based writing experiences are inextricably linked to the quality of their teachers, which lends credence to this. Writing requires creative teachers and learning models that encourage student activity in class.

Writing abilities are necessary for pupils to comprehend ideas and communicate their thoughts orally and in writing. Writing ability is directly proportional to students' academic achievement at school and is very much needed in the world of work because all economic activities are codified in the form of written documents (Fakhriyah et al., 2017). Learning writing skills in schools must encourage students to use coherent reasoning, see the relationship between concepts and materials, communicate in writing, and solve problems they are facing. Therefore, teachers must train students to master effective writing skills (Kellogg & Raulerson, 2007).

Students enrolled in text-based language learning programs must be able to compose various texts, including argumentative, procedural, narrative, explanatory, and descriptive texts. Wagirun and Irawan (2019) state that every kind of literature has a distinct goal and structure. Students will select a text structure for their writing that best fits the assignment's goal. Students' cognitive understanding will be indirectly enhanced as they become more proficient in different text forms and thinking patterns.

Explanatory text material is taught in class XI of the Indonesian language curriculum for vocational schools, specifically in Basic Competency 3.22 (analyzing the structure and language of explanatory texts relating to the sector of work) and Core Competency 4.22 (producing explanatory texts related to the field of work orally or in writing while paying attention to structure and language). The learning materials selected are (1) the structure of explanatory texts, (2) linguistic elements of explanatory texts, (3) denotative sentences, (4) causal conjunctions and chronological conjunctions, (5) explanatory text development techniques, (6) cause and effect development patterns, and (7) process development patterns.

A text that aims to explain how a natural or social phenomenon occurs is called an explanatory text (Andyani et al., 2016; Kosasih & Kurniawan, 2018), which explains the logical relationship between natural and social events (Priyatni, 2014). In addition to explaining, explanatory writings examine the mechanism behind something happening (Mahsun, 2014). This type of text must be able to explain the background of various phenomena in the world (Barwick, 2007). Fauzi (2019) argues that explanatory texts and procedural texts are similar in that they both seek to give readers a background knowledge of social and natural processes. Everything in this world, natural and social, happens through processes and interconnected cause-and-effect linkages rather than in a "vacuum." Humans can investigate these phenomena since processes and cause-and-effect linkages cause them; science advances from this point (Apriyani, 2019).

Based on teacher interviews and observations at the study site**,** many vocational school students still experience difficulties creating explanatory texts. One of the factors is that students need help arranging the stages of phenomena in explanatory texts. The research results of Andyani (Andyani et al., 2016) show that students' explanatory text-writing skills still need to improve. This is shown by data on students' explanatory text writing skills, where 80.77% of students gained below the classical completeness score. According to teachers, one of the factors causing students' low explanatory text-writing skills is the inappropriate selection of learning models and methods. Several factors need to be improved in writing explanatory texts for students. Students need help constructing sentences when writing since most have a limited vocabulary. When it comes to selecting educational materials, educators also need more creativity. The strategies and learning models chosen are mostly still traditional, so they can less stimulate students' interest in writing (Al Amin, 2021).

Writing explanatory texts is a difficult assignment for pupils. Pupils must be able to gather information about the events they will write about and recognize the steps involved in forming or occurring a natural or social phenomenon. The quality of the explanatory text they write depends on the accuracy of the facts collected and the language rules used. Creative teachers will select and implement the best learning approach to encourage student's enthusiasm and critical attitudes while they are learning to produce explanatory texts. One of the learning models considered appropriate in learning explanatory texts is the project-based learning model.

Project-based learning is an instructional strategy that gives students issues to solve or create products to contextualize their learning (Fried-Both, 2002; Mills, 2009; Ardianti et.al., 2017). In project-based learning, students ask questions and are guided through research under teacher supervision (Bell, 2010). This learning model provides a basic investigation of a topic worthy of further study (Harris & Katz, 2001) and develops effective research and learning skills (McGrath, 2003; Markham et al., 2003). Students participating in project-based learning collaborate to solve real-world, curriculum-based, and frequently interdisciplinary problems (Solomon, 2003; Bilgin et al., 2015).

Project-based learning has been empirically proven to improve academic achievement (Thomas, 2000). The results of other studies show that project-based learning models focus on the basic concepts and principles of discipline, involve students in problem-solving and other meaningful tasks, allow them to organize their learning, and ultimately produce real work (Fitzmaurice &Donnely, 2005). According to Wagirun&Irawan's (2019) research, students' capacity to produce explanatory texts can be developed through the project-based learning model, which can foster self-confidence, higher-order thinking, and problem-solving skills. Research by Bambang et al. (2023) demonstrated that students' explanatory text writing may be made better using project-based learning approaches. Based on student writing, this satisfies the requirements for an explanatory text, which include being based on a phenomenon, having a clear structure, and utilizing language conventionally.

This research aims to describe and explain the ability to write explanatory texts of vocational school students, the implementation of the project-based learning model in improving the ability to write explanatory texts, and the strengths and weaknesses teachers and students face in implementing the project-based learning model in writing explanatory texts. This study is crucial because it offers suggestions for enhancing students' writing abilities in career-training programs, particularly when creating explanatory texts. Project-based learning was selected to address the issue because it fosters students' critical thinking and creative writing abilities. Project-based learning models can also provide students with direct learning experiences through in-depth analysis before creating a product.

2. METHODS

Research Design

This research was conducted for 6 months at SMKN 3 Madiun and SMK Cendekia Madiun. The research approach uses a descriptive qualitative approach. Descriptive qualitative research is a research design that guides the researcher in providing a comprehensive summary of the topic, an accurate description of the event that most people observing the event will agree with, and an explanation of the subjective meaning that participants attribute to the event (Sandelowski, 2000). This research was conducted with greater emphasis on observing interactions between teachers and students in learning to write explanatory texts using a project-based learning model.

The subjects of this research were 36 students in the XI grade of Madiun 3 State Vocational High School majoring in Industrial Chemistry and 34 students in class XI of Madiun “Cendekia” Vocational High School majoring in Banking. The data in this research consists of information related to the conditions of learning explanatory text writing classes at the research location. The types of data sources used in this research are (1) 6 main informants, namely 2 Indonesian language subject teachers and 2 XI

grade students in each school, (2) events or learning activities in explanatory texts writing class, and (3) documents or archives in the form of the curriculum and its tools, teaching materials used by teachers, assignments, and other related documents by the characteristics and type of data required, data collection techniques are carried out through (1) documentation, (2) passive role observation, and (3) in-depth interviews.

Data analysis was carried out using an interactive analysis model (Miles et al., 2014; Sutopo, 2006), which was done in two stages, namely during and after data collection. An interactive analysis model was used for the data analysis, and it was put into practice both during and after the data was collected (Miles dan Huberman, 1992; Sutopo, 2002). After classifying the gathered data by the study topic, the data analysis findings are presented descriptively as the foundation for the research conclusions. To ensure that the data gathered accurately represents the phenomenon, observations are meticulously and properly carried out to verify the integrity of the data. Furthermore, a triangulation of theory and data sources was also performed by contrasting the findings of observations with theory and interview data.

3. FINDINGS AND DISCUSSIONS

Result

Based on school documents, the curriculum used in the two research locations, State Vocational High School 3 Madiun and "Cendekia" Vocational High School Madiun, is the 2013 Indonesian Language Curriculum. Explanatory text material is taught in XI grade, namely in Basic Competency 3.21 (analyzing information/knowledge and sequence events in explanatory text related to the field of oral and written work) and Basic Competency 4.21 (constructing information/knowledge and sequence of events in explanatory text related to the field of oral and written work). Specifically, writing explanatory texts is regulated by Basic Competency 3.22 (analyzing the structure and language of explanatory texts related to the field of work) and Basic Competency 4.22 (producing explanatory texts related to the field of work orally or in writing by paying attention to structure and language). The learning materials chosen are (1) explanatory text structure, (2) linguistic elements of explanatory text, (3) denotative sentences, (4) causality conjunctions and chronological conjunctions, (5) explanatory text development techniques, (6) cause and effect development patterns, and (7) patterns of process development.

Before implementing the project-based learning model in the classroom, observations were made for writing explanatory texts during two meetings. In classroom learning, Indonesian language teachers at State Vocational School 3 Madiun and "Cendekia" Vocational High School Madiun use lecture and modeling methods in delivering explanatory text material. At the first meeting, the teacher explained the meaning of explanatory text, the characteristics of explanatory text, the structure of explanatory text, the linguistic elements of explanatory text, and techniques for developing explanatory text, as well as giving examples of explanatory text. The material refers to the 2013 Indonesian Language Curriculum syllabus: Basic Competencies 3.22 and 4.22. At the end of the lesson, the teacher closes the lesson by giving students the task of writing an explanatory text on the topic of natural and social phenomena. In doing the task, students can refer to the example of an explanatory text the teacher gave.

At the second meeting, the teacher asked students to present the results of their writing to get input from their friends and the teacher. At State Vocational High School 3 Madiun, three students presented their writings, namely those entitled "DemamBerdarah" [Dengue Fever], "Covid-19 Virus", and "BanjirBandang" [Deluge]. At the same time, at "Cendekia" vocational high school Madiun, there were three written explanatory texts presented, namely with the titles "Longsor di Kare" [Landslide in Kare], "PutingBeliung" [waterspout], and "Hujan Es" [Hail]. Because the teacher is still using a lecture style of instruction, which makes it harder to motivate students to participate actively in their learning, the learning in this class is less effective. Learning becomes monotonous when it is primarily one-way

(teacher-student). This causes students' ability to write explanatory texts to be poor.

After evaluating the student's writing, it was found that most of the students' explanatory text writing fell into the sufficient and poor categories. Table 1 below shows the relevant data.

Table 1. Ability to Write Explanatory Text for Research Subject Students

School Name	The number of students	Category/Frequency				
		Very Good (85-100)	Good (70-84)	Sufficient (56-69)	Low (45-55)	Very Low (0-44)
State Vocational High School 3 Madiun	36	1	7	20	8	0
"Cendekia" Vocational High School Madiun	34	0	4	17	12	1
Total	70	1	11	37	20	1
Percentage		1,43%	15,71%	52,86%	28,57%	1,43%

Based on the results of the data analysis, it is known that there are several areas for improvement in students' written explanatory texts. Some students need help understanding the meaning of the explanatory text, especially the characteristics and structure of the explanatory text. They can explain definitions related to explanatory texts but need help to apply them in their writing. Most students can write titles in short, concise, clear language and relate to the essence of what is being described; however, in writing explanatory text structures, most students need help. In writing the general statement section, students needed help to provide information about the phenomena that had been identified. This is seen from the limited phenomena identified by students, so the quality of the writing in the general statement section needs to be deeper. This section should explain why this happens or is only now, not yesterday or in the future.

In the explanation section, the most obvious area for improvement is the students' inability to explain the sequence of cause and effect, even though the writing should be done using a causal explanation pattern in this section. This is the point at which the procedure is explained in more detail. Lack of opportunity to create explanatory texts contributes to the pupils' poor reasoning and incapacity to explain cause-and-effect linkages. The assignment of producing explanatory texts is limited to two sessions per week for grade XI vocational high school students, and this needs to be revised. The review or interpretation section's writing was discovered to be another area for improvement. This section should contain the author's assessment, opinions, and perspectives based on the existing data and phenomena description, then close with a conclusion. This section is only filled with repetitions of the previous section. Students' ability to provide opinions and perspectives still needs to be improved.

The linguistic part of the data analysis revealed deficiencies in word choice, spelling, and sentence structure or arrangement. The majority of students need help with sentence construction. Simple sentences are used in most produced sentences; longer ones are used infrequently. Many sentences are found to be ineffective, non-cohesive, and incoherent. The weakness in constructing these sentences is related to the need for more vocabulary. The terminology and word choice differ from the subjects covered, particularly regarding technical phrases. When writing explanatory texts, students use causal and chronological conjunctions less precisely and frequently make spelling mistakes.

The teacher implements a project-based learning model using the Learning Implementation Plan that has been prepared. The teacher implements a project-based learning model for writing explanatory texts with the following syntax: First, determine the basic questions. At this stage, the teacher begins learning by asking essential questions that can assign students to carry out an activity. The question asked by the teacher was, Are there any interesting natural or social phenomena around you? Do you

know some suitable jobs after you graduate? The questions related to students' understanding of the nature of explanatory text, its characteristics, and its structure. In the first project (first week), the teacher gave students assignments to write explanatory texts on natural or social phenomena. The teacher gave topics in certain work areas in the second project (third week). In determining topics, teachers used the basic competencies in the curriculum and adapted to real-world realities. The teacher gave instructions before writing explanatory text, requiring students to investigate in-depth.

They were second in designing the project plan. At this stage, the teacher and students collaboratively prepare a project plan according to the topic determined in the first stage. Based on observations, students were enthusiastic about preparing project plans and were impressed that they felt they "owned" the project they were working on. Together, teachers and students determined the rules of the game and selected activities that can support answering essential questions by integrating various aspects used to complete the project. Planning also contains investigative steps for identifying phenomena related to the project topic.

The third stage is preparing a schedule. At this stage, the teacher and students collaboratively prepared a schedule of activities to complete the project. Concretely, the activities carried out include creating a timeline for completing the project within 1 week and determining a deadline for project completion. In the classroom, the teacher can be seen guiding students to plan new methods, directing students when they make methods unrelated to the project, and discussing ways to complete the project.

After the schedule preparation, the fourth stage is monitoring students and project progress. According to the informant, monitoring student activities while completing the project is done at this stage. Monitoring involves helping students through each step and setting up a consultation space via a WhatsApp group or in-person meetings at the school. According to the researcher's observations, both informants can act as mentors for student activities. The teacher established a rubric that allowed all student activities related to finishing the assignment to be recorded to make the monitoring process easier.

The fifth stage is testing the results. Students submitted their completed explanatory text project assignments the following week, and the teacher conducted an assessment. Assessments were performed to measure the achievement of basic competencies, evaluate each student's progress in completing the project, provide feedback on student understanding of explanatory texts, and determine subsequent learning strategies. Based on the documents owned by the informant, the assessment of the student's explanatory text includes the suitability of the title to the predetermined topic, the suitability of the content of the text to the title, the accuracy of expressing ideas in each part (general statement, explanation, interpretation), and aspects related to language, such as sentence construction, word choice, and spelling.

The sixth stage is evaluating the experience. Teachers and students participated in a group and individual self-reflection exercise during the most recent meeting. Reviewing every phase of the project that has been finished is part of the reflection process. At this point, students can share their thoughts while working on the project. Additionally, discussions are held to decide how to improve the next lesson.

Based on the results of the data analysis, it can be concluded that the teacher can implement the project-based learning model in learning explanatory texts according to the syntax. Teachers can also provide learning motivation to students so that they learn enthusiastically and have fun. In interviews, informants revealed that the project-based learning model applied over four meetings could generate a sense of joy, meaning, and cooperative learning for students. Students were also more courageous when expressing themselves than using conventional learning models. Students' minds will be fresher, and they can draw on parts of nature and their experiences in the field regarding natural and social phenomena, which will be used as a source of ideas in writing explanatory texts.

Quantitatively encouraging results were obtained from the assessment results of explanatory texts written by students, especially when compared with students' abilities before the project-based learning model was implemented. Of the 36 students at State Vocational School 3, Madiun, 32 (88.89%) achieved the minimum completion criteria of 75, and 15 (41.67%) achieved scores above 90. At "Cendekia" Vocational High School Madiun, of the 34 students, 28 (82.35%) reached the minimum completion criteria of 75. Qualitatively, there is a significant increase in students' ability to write explanatory texts. The prepared titles are more varied and refer to predetermined topics and the development of text structure. Most students can develop explanatory text according to its structure: general statement, explanation, and interpretation. Their ability to compose effective sentences is developing well, but their scientific vocabulary and spelling mastery still need improvement. The informant stated that the things discussed in the explanatory text were phenomena of a scientific nature or related to science; therefore, a rich scientific vocabulary was needed according to the topics discussed.

According to teacher informants, applying the project-based learning model has advantages and disadvantages. The advantage of this model is that it provides students with learning experiences that emphasize practice to complete assignments and projects that involve students and are designed according to real-world conditions. The disadvantage is that implementing the project-based learning model requires the skills and activity of teachers and students and requires much time to complete the project. Another interesting finding is that female students have better motivation than male students to complete projects. The quality of students' writing at the Banking and Microfinance department of SMK Cendekia Madiun, most female, exhibited better outcomes.

Likewise, at State Vocational High School 3 Madiun, students in the Industrial Chemistry and Analytical Chemistry departments, the majority of whom are female, tend to be more serious about completing projects compared to classes dominated by men, such as those in the Petroleum and Drilling departments.

Based on interviews with teacher and student informants, there are several obstacles experienced by teachers and students in implementing the project-based learning model in writing explanatory texts. For students, completing projects requires much time outside of class hours. Students who participate in mandatory extracurricular activities need help managing time, especially if project assignments are given in multiple lessons. Students not used to working hard and needing more time management skills tend to look for shortcuts, namely, taking explanatory texts from the internet. Likewise, teachers implementing project-based learning means having to devote much time to monitoring and guiding students outside school hours. Teachers whose job is only to teach do not experience problems, but teachers with administrative duties outside of class hours will experience difficulty in dividing their time. Another obstacle experienced by teachers is limited time in implementing the project-based learning model because Indonesian language lesson was only given 3 periods a week.

This study has demonstrated that the project-based learning model can enhance students' explanatory text-writing abilities despite several challenges educators and learners encounter. This can be observed qualitatively in the improvement of students' writing in terms of linguistic features and textual coherence, as well as quantitatively in the rise in students' explanatory text writing skills scores following the implementation of the project-based learning model.

Discussion

According to (Friani et al., 2017)Teachers feel more suited to the “Kurikulum 2013” curriculum because it emphasizes active student involvement in the learning process so that students can gain direct experience and be trained to discover for themselves the various knowledge they learn. There are several weaknesses in students' writing of explanatory texts, including that some students do not understand the nature of explanatory texts well, and their ability to write them is not by the structure of explanatory texts.

The study results showed that most students needed help writing explanatory texts well. There are several areas for improvement in students' explanatory text writing, including the fact that some students need help understanding the nature of explanatory texts well and that their ability to write explanatory texts is based on something other than the structure of explanatory texts. Apriyani (2019) asserts that producing explanatory text is a difficult task. A person needs to be able to explain how a natural or social phenomenon that is all around him came to be. It's difficult for students just starting to produce explanatory texts; they must gather information on the events they will write about. Numerous facts and assertions in the explanatory text have a causal link (quality). Their ability to produce clear explanations depends on how well they gather information and adhere to grammatical standards. According to Fauzi&Wikanengsih (2019), students' inability to organize the stages of phenomena when making explanatory texts is one of the issues contributing to their poor capacity to write explanatory writings.

Based on the results of observations, it is known that the explanatory text learning carried out by the teacher could be more effective because the teacher used a lecture method, which is less effective in encouraging students to be active in learning. Learning that tends to be one-way (teacher-student) causes learning to be boring. This causes students' ability to write explanatory texts to be poor. In his research, (Adim & Al Amin, 2021) Revealed several causes for students' low ability in writing explanatory texts, resulting in class averages and classical completeness not being achieved, namely: (1) students' lack of or limited vocabulary, (2) less than optimal usage of inadequate learning media, (3) the strategies were ineffective in stimulating students' interest in writing activities, and (4) the learning model was still conventional. According to Government Regulation Number 19 of 2005 Article 19 Paragraph 1, the learning process in each educational unit must be carried out in an interactive, inspiring, fun, and challenging manner, motivating students to participate actively and providing sufficient space for initiative, creativity, and independence by their talents, interests, and physical and psychological development.

The teacher applies a project-based learning model to write explanatory texts based on the above facts. The observations show that the teacher has implemented the learning model well and with correct syntax. The syntax of the project-based learning model consists of 6 steps, namely: (1) Begin with the essential question, (2) design a plan for the project, (3) create a schedule, (4) monitor the students and the progress of the project, (5) assess the outcome, and (6) evaluate the experience. According to (Mahanal, 2009) The project-based learning model generally consists of 3 steps: planning, creating, and processing.

The project-based learning model was chosen for several reasons. Initially, the project-based learning approach gives students plenty of chances to reconstruct their knowledge as a foundation for finishing the project. It is based on open-ended contextual activity-based learning, developed from constructivist learning theory. Second, the project-based learning model strongly emphasizes problem-solving as a collaborative effort that provides real experience from problem identification to the evaluation of project results. Hence, reflection and abstraction can influence efforts to build conceptual and procedural structures (Reynolds, 2019). Third, the project-based learning model is an innovative strategy emphasizing contextual learning through complex activities (Cord, 2001; Mergendoller et al., 2006). The project-based learning model focuses on the main concepts and principles of the discipline, involves students in problem-solving and other meaningful tasks, provides opportunities for students to regulate their learning, and ultimately produces real work (Donnelly & Fitzmaurice, 2005). With a project-based learning model, students can enrich their knowledge through their findings. Furthermore, this learning model also requires students to work independently to determine the process for implementing a project collaboratively (Zajkov & Mitrevski, 2012). Project-based learning can increase autonomy, cooperation, motivation, problem solving, and improve students' language skills (Crook & Nixon, 2021; Mccarthy, 2010; Tsiplakides & Fragoulis, 2009), especially writing skills (Kovalyova et al., 2016; Poonpon, 2011).

The direct impact of implementing the project-based learning model is increasing students' ability to write explanatory texts. Quantitatively, encouraging results were obtained, namely that more than 82% of students achieved the minimum completeness criteria. Penilaian secara kualitatif menunjukkan adanya peningkatan kualitas teks eksplanasi yang ditulis siswa. Hal ini ditunjukkan dengan pengembangan struktur teks yang semakin padu dan prningkatan aspek kebahasaan, meliputi perbendaharaan kata dan penyusunan kalimat.

Several relevant studies support the results of this research. Research conducted by (Yusmaniar et al., 2022) The project-based learning model effectively improves high school students' ability to write explanatory texts. Observation results also show that 95% of students are more motivated to write explanatory texts using project-based learning. Research by (Sadeghi et al., 2016) Conducted on high school students in Iran provides confidence that implementing project-based learning improves students' writing skills. According to the Center of Excellence in Leadership of Learning at the University of Indianapolis (Sadeghi et al., 2016)Implementing project-based learning positively increases student achievement in content knowledge, collaborative skills, participation, motivation, and thinking skills. Critical and problem-solving. Compared with traditional classes, students in project-based learning classes have better abilities in assessing content knowledge (Bilgin et al., 2015; Boaler, 1997; Mergendoller et al., 2006; Mioduser & Betzer, 2008; Penuel et al., 2012).

Researchers Fauzi&Wikanengsih (2019) found that pupils at Batujajar High School's grade XI experimental class had an average posttest score of 71.38, compared to 66.61 in the control group. Therefore, students' capacity to create explanatory texts increases noticeably after implementing the project-based learning model. The results & Irawan's (2019) study on SMA Negeri 1 Labuhan Deli class XI students were consistent; students' capacity to create explanatory texts may be effectively improved using the project-based learning model.

According to Arwan& Oya's (2023) classroom action research, the project-based learning approach is a great way to help students in class XI at SMA Negeri 2 Lambu, Bima Regency, become better writers of explanatory texts. A project-based learning model can optimize pupils' potential to complete explanatory text at the required standard. Before adopting the project-based learning model, the average class score fell short of the 75-point minimum completion requirement. However, cycle two saw a noticeable rise when the project-based learning paradigm was adopted. Solissa (2021) carried out a classroom action study on SMA Negeri 14 Maluku Tengah's class XI MIA-1 students, achieving essentially the same outcomes regarding students' increased capacity to produce explanatory texts through a project-based learning model. Bambang et al. (2023) employed a case study to investigate the class XI MIPA 2 pupils of SMAN 6 Batanghari. The study's findings provide insight into how the project-based learning model might address the issue of student's incapacity to produce explanatory texts. The findings of the student's explanatory text writing assignment, which met the minimal completion requirements objective, demonstrate this. The syntax of the project-based learning model is followed by Indonesian language instructors while creating lesson plans, implementing lessons, and evaluating lessons.

Based on empirical evidence, there are benefits and drawbacks to implementing a project-based learning model. This approach has the advantage of giving students practice in finishing assignments and projects and of offering learning opportunities that are student-centered and created with real-world circumstances in mind. Its drawbacks are that it takes a long time to finish and necessitates instructors' and pupils' involvement and talent. The study's findings support those of Almulla (2020), who claimed that two benefits of the project-based learning model are that it teaches students how to manage information for projects and assists them in creating a method to achieve an output. Students might create a genuine product of their labor presented in class to boost their confidence and public speaking abilities. This learning style has the drawback of making teachers and students work harder and require more time. Poerwati and Cahaya (2018) state that unfriendliness among group members may also arise throughout the interaction process, which could lead to bad experiences for all students.

The tendency of students to work alone might lead to nervousness or challenges when collaborating with others. Because of the absence of individual experience, working in groups all the time might lead to losing confidence in independent learning (Almulla, 2020). Because less intellectual students tend to remain quiet or bother other students, teachers also need help encouraging them to participate actively in project preparation (Friani et al., 2017).

The Ministry of Education and Culture (2013) states that completing a project requires significant time and funding, which is one of the challenges in implementing a project-based learning model. Implementing this technique will present challenges for educators who need to be proficient in technology. Using a project-based learning model improves students' problem-solving skills and motivates them to study more. Project-based learning models can also increase student activity and collaboration in group learning and involve students in learning to process information and implement it in the real world.

A teacher must be able to address the shortcomings above of project-based learning by helping students solve problems, setting deadlines for projects, minimizing and providing basic equipment that is readily available in the community, selecting a research location that is accessible and doesn't require a lot of time or money, and fostering a welcoming environment in the classroom so that both teachers and students feel comfortable participating in the learning process.

The teacher's role is critical to successfully implementing this project-based learning model. According to Megendeller& Thomas (in Kokotsaki et al., 2016), educators proficient in project-based learning models can create project management and implementation strategies to optimize student outcomes. According to Hmelo-Silver & Barrows (2006), educators using project-based learning models play the role of facilitators. They must watch their students while they discuss, decide on, and put the necessary techniques into practice. Students can gain real-world experience through this project work, increasing the significance of their education.

According to Borich's (2011) theory, the effectiveness of the project-based learning model is contingent upon how teachers prioritize three areas: (1) assisting students in defining their learning objectives, (2) emphasizing the value of communication with students throughout the learning process rather than just concentrating on the final product, and (3) utilizing study groups to secure collaboration from peers to complete projects. Explanatory texts are produced as part of the project-based learning model, which requires students to learn concepts and be able to conduct in-depth investigations to relate them to the real world. This will benefit students' attention and efforts in working together to complete the project.

4. CONCLUSION

The research results show that most students need help writing explanatory texts well. There are several areas for improvement in students' writing of explanatory texts, including the fact that some students need help understanding the nature of explanatory texts, and their ability to write explanatory texts differs from the structure of explanatory texts. The explanatory text learning carried out by the teacher was less effective because the teacher mostly used the lecture method, which was less able to encourage students to be active in learning. Learning that tends to be one-way (teacher-student) causes learning to be boring; this causes students' ability to write explanatory texts to be poor. Based on the facts above, the teacher then applies a project-based learning model for learning explanatory texts. The observations show that the teacher has implemented the learning model well and with correct syntax. The direct impact of implementing the project-based learning model is increasing students' ability to write explanatory texts. Quantitatively, satisfying results were obtained, namely that more than 82% of students achieved the minimum completeness criteria. Qualitatively, there is a significant increase in students' ability to write explanatory texts, which is indicated by writing varied writing titles,

developing appropriate text structures, and improving their language skills. Research shows that applying the project-based learning model has advantages and disadvantages. The advantages of this model are that it provides students with learning experiences that emphasize practice to complete assignments and projects, involve students, and are designed according to real-world conditions. The disadvantages are that it requires the skills and activity of teachers and students and requires much time to complete the project. To overcome the weaknesses of project-based learning, teachers must be able to overcome them by facilitating students in facing problems, limiting time in completing projects, minimizing and providing simple equipment found in the surrounding environment, choosing research locations that are easy to reach so that they do not require a lot of time and money, and creating a pleasant learning atmosphere so that teachers and students feel comfortable in the learning process.

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